Work against Gender Violence: The Effect of Employment Incentives to Victims Hosted by Anti-Violence Centers[1]

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Abstract

This study analyzes whether active policy measures aimed at improving employment opportunities for women who are victims of violence might lead to a reduction in gender-based violence. The empirical study exploits an Italian policy that incentivizes the permanent hiring of women who are victims of violence in some specific type of firms. Crimes are measured through the number of cases registered in almost 1/3 of the existing anti-violence centers operating in Italy. The impact of the reform is examined by using a Two-Way Fixed Effects model with continuous treatment, given that the firms that receive the subsidy are distributed across Italian provinces with a high degree of heterogeneity. The results show that after the reform *i)* the probability of being employed in incentivized positions rose significantly for women; *ii)* the number of both new and existing cases registered in anti-violence centers decreased most where there is a greater presence of incentivized firms.

Keywords: Gender-Based Violence, Victims' Labor Market Participation.

JEL Codes: D13, J08, J16, H51.

1 Introduction

According to recent World Health Organization (2020) statements, one third of the world's female population has been victim of gender-based violence, physical, sexual or both. This is confirmed by Italian national statistics (ISTAT, 2014) which report that 31.5% of women aged 16 to 75 have experienced some form of violence. Victims are often, but not only, women with low levels of education who live in disadvantaged social contexts, are unemployed or work in unstable occupations.[1] These women often do not have sufficient financial resources in order to escape from their domestic lives where many of these crimes are committed or to avoid the occurrence of violence by making a credible threat to leave their homes. It is important to understand whether economic policy might have a role in limiting the extent of crimes against women and economic research has not, so far, given enough attention to this phenomenon.

Women's labor market participation has recently been related to gender-

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[1] According to ISTAT (2014), 55% of women who report sexual or physical violence are unemployed, retired or employed in undeclared occupations while the rest are students (10%) or women employed in skilled occupations (35%). However, since different groups may have different propensities to report, the percentages associated with less educated women are likely to be underestimated. A similar picture is depicted by the Italian Ministry for Equal Opportunities report (2018) - available at www.pariopportunita.gov.it/wp-content/uploads/2018/01/relazioneannuale-2016.pdf - which shows that 65% of victims who phone the National help-line 1522 are either unemployed or out of the labor force. Furthermore, among those who declared their education, 80% had, at most, an upper secondary level of schooling.

based violence on the basis of the consideration that an importance of women's employment status is that it could render them autonomous enough to extricate themselves from violent situations. However, the empirical literature on this topic is divided. On the one hand, some studies claim that economic autonomy and active working status reduce the probability of abuse (Bowlus and Seitz, 2006; Choi and Ting, 2008; Chegere and Karamag, 2020). Furthermore, Bhalotra et al. (2023) highlight that both male and female unemployment may be related to the occurrence of domestic violence because wage loss can generate stressful situations within the domestic environment and also because females are more exposed to potential violence when males are at home. On the other hand, others find that if women work, the likelihood of violence may increase since men can perceive this as a threat to their dominant role within the family (Heath, 2012). In a very recent paper, Adams-Prassl et al. (2023) develop a dynamic theory where they discuss how abusive men have an incentive to use coercive control to sabotage women's labor market outcomes and their ability to exit the relationship. These authors reconcile the existing literature by showing that the effect of employment on household violence is, in principle, ambiguous and depends on the agents involved in the domestic relationship since both the decision to break-up and/or the one to use violence can be taken

strategically. This implies that the effect of policy aimed at improving labor market outcomes of victims is also ambiguous.

The present study is aimed at shedding some light on this topic by evaluating whether active labor market policies specifically aimed at improving the employment conditions of women who have been victims of violence might actually lead to a reduction in crimes against them. To this aim, we consider the effects of a policy implemented in Italy to give incentives to firms to hire women who have been victims of violence. We assess whether this policy has affected the number of victims hosted by the anti-violence centers scattered around the Italian territory. Our study considers centers which are members of the D.i.Re. (*Donne in Rete*) association which is the largest association of this sort in Italy with about 105 centers and shelters, about a third of all existing centers in Italy, that host and provide care for about 12,000 women per year. These data provide information on the number of victims hosted quarterly by each center, distinguishing between types of case (new/existing victim), victims' occupational status, type of violence suffered (sexual, physical, psychological, economic-related) and the victim's relationship to the perpetrator (family member, partner, stranger), which we use in order to evaluate the impact of the implemented policy. Considering that, on average, only 20% of women hosted in these centers have

reported the crime to the legal authorities, this is the first study that sheds some light on the effect of economic policy on the largely unknown area of the gender violence which goes unreported in official legal complaints.

Our empirical framework considers law n. 205 of 2017, which established a fund of 1 million euros for the hiring of female victims of gender violence in Italy in open-ended contracts for the 3 years 2018, 2019 and 2020. These funds were only accessible by firms which were social cooperatives and were guaranteed relief from the compulsory social security and welfare insurance rates due to the aforementioned hired women.[2] In order to have access to these funds, firms can only employ female victims of violence who have reported the violence experienced to an anti-violence center, which has to certify not only the occurrence of an act of abuse, but also that the particular woman is involved in a recovery-program. This law came into force on 1st January 2018, so these funds were immediately available from this date on. This policy represents the first direct intervention in Italian jurisprudence aimed at increasing the labor market participation of women who have been victims of gender violence.

The empirical evidence is presented in two steps. First, we focus on

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[2] A social cooperative is particular legal form of firm. Thanks to this form, all members of the cooperative have the same rights and the same votes in assembly independently of their share of the social capital. Furthermore, in case of legal complaints, all the members are legally responsible and not only the CEO.

the impact of the law on the recruitment of women in social cooperatives by using ISTAT Quarterly Labor Force Survey data. This analysis is to evaluate whether the reform has had a tangible effect on the movement of women into incentivized positions. Identification is achieved by exploiting the heterogeneous presence of social cooperatives across Italian provinces and by carrying out a Two-Way Fixed Effect analysis (TWFE).

After that, we evaluate whether there has been a reduction in the number of women housed in anti-violence centers located in those provinces where the policy has had a large effect on women's employment. This analysis also applies a TWFE.

In order to support and to enhance the interpretation of our findings, we evaluate the effect of the reform on national help-line phone calls, whose data are also available quarterly at provincial level.

Our results can be summarized as follows. First of all, the policy generated a significant increase in permanent female employment in social cooperatives. Moreover, entry to anti-violence centers diminished significantly in the post-reform period in provinces where social cooperatives are widespread. This was true for both new and recurring cases. Interestingly, this effect mainly arose from a reduction in the number of admitted women who were either unemployed or working in the shadow economy, while cases of al-

ready employed victims seem to have been unaffected. Crimes perpetrated within the domestic environment or by partners showed a significant reduction while violence committed by strangers remained constant over the considered time period. This evidence is consistent with the idea that the policy had an effect on reducing violence against recurrent and potential victims. This effect could arise through an improvement in the woman's bargaining power within a couple's relationship and the household which may be able to deter perpetrators. Finally, our analysis of help-line phone calls confirms that there has been a general reduction in requests for help from both victims and their relatives/friends since the reform. This last finding supports the hypothesis that the reduction in admissions into anti-violence centers is not due to a change in victims' habits, but to a decrease in incidents of violence.

The paper is divided as follows. In the next Section, we discuss the existing literature on gender-based violence and the female labor market. In Section 3, we analyze the Italian framework of reforms aimed at increasing the employment of women who are victims of violence. In Section 4, we describe data and, in Section 5, we discuss our identification strategy. We show the results along with our robustness check and falsification tests in Section 6. Finally, in Section 7, we draw our conclusions.

2 Literature Review

Socio-economic determinants of violence against women have been conceptualized in different theoretical models, most of which consider its occurrence in domestic environments. In this context, the Household Bargaining and the Backlash models lead to contradictory predictions. In the former, women 's risk of experiencing violence is a function of their relative bargaining power within the household, which increases with their employment status (McElroy and Horney 1981; McElroy, 1990; Panda and Agarwal, 2005; Aizer, 2011). In the latter model, as women's economic power and prospects raise relative to those of men, the possibility of their experiencing violence increases since their male partners feel that their traditional gender role is threatened (Engle Merry, 2009; Macmillan and Gartner, 1999; Anderberg and Rainer, 2011).

In general, theoretical models of domestic violence focus on incidents which arise in bargaining between an abuser with a preference for violence and a victim (Aizer, 2010; Lewbel and Pendakur, 2019). Bloch and Rao (2002) and Calvi and Keskar (2021) consider violence as a sign of dissatisfaction with some aspect of the relationship that cannot be perfectly communicated, while Card and Dahl (2011) assume it is driven by emotional cues that protagonists cannot completely suppress. Anderberg and Rainer (2013)

7

develop a theoretical model of economic abuse in which abusers engage in acts of economic sabotage to cause their spouses to concentrate on domestic work. Anderberg et al. (2018) present a dynamic model of women 's behavior in violent relationships, including a potential breakup decision, where they learn about their partner's character over time. Abuse is non-strategic in this framework and is modeled as arising in a probabilistic manner. Anderberg et al. (2016) develop a dynamic model in which abusive men may make an effort to suppress their urge to be physically violent and women will decide whether to stay in the relationship or not. Adams-Prassl at al. (2023) model abusers who may engage in acts of coercive control, as well as physical violence, for both strategic and instinctive reasons. Therefore, this model highlights how perpetrators may react differently when there is an improvement in their wives' economic conditions on the basis of a set of individual and socio-economic parameters which shape their behavior.

Empirically, the issue of how labor market participation affects the occurrence of violence has been addressed by looking at the effect of some exogenous economic shocks to the labor market on the prevalence of reported violence (Aizer and Dal Bo, 2009; Heath, 2014; Anderberg et al., 2016; Sanin, 2021).[3] Bhalotra et al. (2023) indicate that the occurrence

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[3]Important empirical research on the occurrence of gender violence - not directly relat-

of domestic violence can be related to both male and female unemployment since wage loss can generate stressful situations within the domestic environment and because females are also more exposed to potential violence when males are at home. These authors look at crimes reported to the authorities in Brazil and also evaluate the impact of unemployment benefits on males, showing that they can actually reduce the occurrence of the phenomenon despite this effect being counter-balanced by increased opportunity for domestic violence. Brassiolo (2016) considers the issue in a setup where the cost of divorce influences the bargaining position of spouses and their violent behavior within the marriage. This author reports that spousal violence decreased after a major and unexpected reduction in divorce costs in Spain, suggesting an important effect of changes in bargaining within the marriage when divorce becomes a cheaper option.[4] Adams-Prassl et al. (2023) suggest that analyzing changes in women's economic outcomes in just a brief period around the time of a report of physical domestic violence can lead

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ing to employment and labor market participation - can be found in Adam-Prassl et al. (2022) and Bochenkova et al. (2023). The former links every police report in Finland to administrative data to identify assaults between work colleagues and economic outcomes for victims, perpetrators and firms. The authors document large, persistent labor market consequences of between-colleague violence on victims and perpetrators. The latter looks at the role that local politicians can have in limiting the phenomenon in Brazilian municipalities, finding that the presence of a female mayor tends to lead to a reduction in gender violence of about 50% over a four-year period. Furthermore, several papers have analyzed the impact of Covid-19 lockdowns and social distancing restrictions on the prevalence and reporting of domestic violence (Leslie and Wilson, 2020; Arenas-Arroyo et al., 2021; Berniell and Facchini, 2021; Hsu and Henke, 2021).

[4]See also Stevenson and Wolfers (2006) on this topic.

to an under-evaluation of the full economic costs of abusive relationships, since these estimates fail to capture the full labor market costs of coercive control.

Another area of the literature has focused on the evaluation of policies and programs that are specifically designed to improve female labor market outcomes and how these may have modified the occurrence of gender violence (Tenkorang, 2018; Vyas and Watts, 2009; Ismaylova et al., 2017; Enswaran and Malhotra, 2011; Heath, 2012; Amaral et al., 2015). Some of these studies show that programs aimed at increasing women's empowerment can reduce violence by intimate partners, while others claim that an increase in job opportunities for women in developing countries can lead to an increase in domestic violence.

To the best of our knowledge, no study investigates the impact of policies aimed at improving the labor market outcomes of victims of gender violence. Furthermore, we are not aware of any study that uses anti-violence center data which provide a more realistic measure of the extent of the phenomenon. The present study is aimed at filling these gaps in the economic literature.

3 The Italian Framework

Legislation against gender violence has increased in Italy since the Istanbul Convention of 2011, which forced European countries to adopt policies aimed at preventing and combating violence against women. The institutional set-up dedicated to the protection of women focuses on anti-violence centers, which have a prominent role in providing support for victims of abuse. For years, these centers were regulated exclusively by regional laws. This led to uneven levels of service provision throughout the country due to a series of factors: differences between the regional laws, varying levels of local public support and funding, and the availability of volunteer organizations to run them. To remedy these shortcomings, Law No. 119/2013 introduced the principle of state funding for anti-violence centers. The law also laid the foundation for harmonizing the provision of specialist services for victims and led to the State-Region agreement on minimum requirements for access to state funding. Under the terms of this agreement, both local public entities and non-governmental organizations may set up anti-violence centers and shelters. To this end, they must be listed in the relevant regional registries and their statutes must set out, as their exclusive or main goal, protection and support for victims of gender-based violence against women and their children, in line with the objectives of the Istanbul Convention,

or, alternatively, they must possess a proven and consolidated experience of at least five years in the area of preventing and combating violence against women. Moreover, their personnel must be exclusively female and composed of trained operators who possess the necessary specialist skills. According to the Council of Europe (see GREVIO, 2020), the Italian network named D.i.Re. accounts for about one third of the total number of anti-violence centers operating in Italy and these are run by non-governmental organizations which support abused women.[5]

In 2014, the so-called "Jobs Act" introduced greater protection for female workers: of particular interest was the introduction of a 3-month leave period for female employees who were victims of gender-based violence and included in protection programs. In 2017, the Italian government set a provision for female victims of gender-based violence and this new law had the goal of providing some stimulus for the employment opportunities of the women in this category. Comma 220, article 1 of Law no. 205, 27th December 2017 established a fund of 1 million euros for the permanent employment by social cooperatives of female victims of gender-based violence for three

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[5]Victims are supported by means of short and long-term psychological counselling, trauma care, legal counselling, empowerment and support towards achieving economic independence, legal support and outreach services, telephone help lines and specific services for children as victims or witnesses. Immediate, round-the-clock access to safe accommodation for victims and their children is also ensured by some anti-violence centers, a number of which, therefore, further qualify as shelters.

years (2018-2020). These funds were guaranteed in the form of relief from the compulsory social security and welfare insurance contributions due for the above-mentioned recruited women. The violence experienced had to be certified either by an anti-violence center or by a shelter. This meant that, in order to be hired and to use this fund, there was no need for long drawn-out legal proceedings for any crime involving gender-based violence.[6] This law came into force on 1st January 2018, so these funds were immediately available for social cooperatives from this date. In practice, ever since then, there has been tax relief for social cooperatives that decided to hire on permanent contracts women who have been victims of gender-based violence and started a program in a shelter or an anti-violence center. Moreover, the decree of 11th May 2018, issued by the Ministry of Labor, provided further criteria for provision of the funds.

This reform led to a considerable widening of employment expectations for female victims of violence, but only in those provinces where the presence of social cooperatives is extensive. In this paper, we evaluate the effect of this reform, which provides a useful quasi-experimental set-up to investigate the relationship between job opportunities and the abuse of women.

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[6]A report to the police is not required to access the funds. What is needed is certification by an anti-violence center stating that the woman is involved in a specific program designed to prevent the occurrence of new episodes of violence.

Our point is to evaluate whether, by improving women's employment conditions, the amount of recorded violent episodes diminishes. This might happen because of an exposure-effect, relating to less time spent at home, as well as an income-effect, which may deter domestic partners from using physical or psychological violence. Furthermore, an additional mechanism that could lead to a reduction in abuse may be the concrete opportunity that economically independent women might well acquire to escape from unhealthy intimate relationships and domestic environments. Besides these direct channels, an improvement in labor market opportunities might also have an indirect effect leading to a reduction in the occurrence of violence affecting all women who are potentially exposed to domestic violence by means of an increase in their bargaining power within the household.

4 Data and Descriptive Statistics

Our research is based on data from three different sources. First of all, we use a never explored data set consisting of a 4-year (2016-2019) unbalanced quarterly panel of 103 anti-violence centers located in 100 Italian provinces (out of 105). This data set is used to evaluate the effect of the policy on women's admittance to anti-violence centers.

In Table 1, we present some descriptive statistics on the number of quar-

14

terly admissions to these centers, Cases Hosted in Anti-Violence Centers (henceforth, *CHIAC*), for the 2016-2019 period divided by typology of crime. In Table 2, we describe the characteristics of hosted women. All in all, about 12,000 victims were hosted every year, so we are able to exploit information deriving from 48,178 cases in the 2016-2019 period. According to Table 1, women who had already entered the antiviolence center and had been exposed to new violence episodes (henceforth, we will refer to these cases as recurring access) constituted about 27% of admissions every quarter: 24.62% of victims were employed in regular occupations, while 7.48% worked without a regular contract. 24.42% of the abused women were unemployed, while retired, students and housewives made up 2.71%, 2.43% and 6.30% of total cases respectively. Notice, however, that 32% of victims did not report their occupational status so the percentage of those who worked in the shadow economy is likely to have been much larger. The vast majority of victims were aged between 30 and 59 years.

In Figure 1, we present a histogram of the share of violence reported to the police over the total number of *CHIAC*. It is worth noting that on average only 20% of *CHIAC* in the 2016-2019 period reported the crime experienced to the authorities. This highlights the fact that we can provide more insights into the extent of the phenomenon and set up a more comprehensive policy

15

evaluation by looking at data from these centers.

Data about phone calls to the National Help-line 1522 as provided by the Department for Equal Opportunities of the Italian Ministry for the Family and Equal Opportunities are also employed in this study. These data record the number of phone calls received quarterly by the National Help Line 1522 at provincial level (105 provinces) for the 2016-2019 period and include information about the number of valid phone calls made per quarter during the period.[7] These calls were either made directly by the victims (35%) or by someone who was close to a victim (48%), parents, neighbors, friends etc., whose aim was to signal new episodes of violence and ask to be connected with anti-violence centers in order to obtain information about legal support.[8] Table 3 contains some descriptive statistics on the frequency of these calls per quarter in Italian provinces.

Finally, we take advantage of the ISTAT Quarterly Labor Force Survey for the years from 2016 until 2018 in order to *i)* set a measure of how widespread social cooperatives are in Italian provinces and *ii)* evaluate the impact of the reform on women's occupational perspectives. These data are

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[7]This help-line is intended to provide completely anonymous help to women who are victims of violence. Indeed, the victim can fully maintain her anonymity as well as that of the perpetrator and still receive assistance and support and be referred to a shelter or an anti-violence center. Furthermore, support and assistance will be provided even if the victim does not intend to proceed with a formal report of the violence to the authorities.

[8]The remining 17% of calls are classified as wrong-target calls.

repeated cross sections of a representative sample of the Italian labor force that was interviewed in each quarter of the year and provided relevant information at the individual level. The sample consists of 96,112 individuals who were either unemployed or had just found a job during that particular quarter. It is important to state that, although it would have been undoubtedly useful to consider data covering the quarters of 2019, information on the legal form of the employer is unfortunately only provided for the 2016-2018 waves. However, since incentives were available until funds ran out, this should not be a concern since it is reasonable to expect that the largest use of incentives will have taken place during the first year of application. Table 4 provides the definition of variables while Table 5 shows some descriptive statistics of our sample. Remarkably, about 6% of the total of employed individuals were employed in social cooperatives.

In Figure 2, we present the distribution of employees within social cooperatives against the total amount of employees per province for 2017, i.e., the year immediately before the reform. The huge heterogeneity in the relevance of social cooperatives in determining employment at provincial level, ranging from almost 0% to 22% of total employment, is remarkable. This evidence is important since our identification strategy is based on this continuous-treatment measure. In this setup, it is reasonable to assume that, all else

being equal, the reform would have had a different impact on employment across provinces depending on how common social cooperatives were.

In Figure 3, we plot the number of $CHIAC$ at provincial level, separating the pre- (2016-2017) and post-reform (2018-2019) periods, which are regressed against the share of employment in social cooperatives over total employment. This is just rough preliminary evidence of the potential impact of the policy. In general, there is a negative correlation between the number of social cooperatives in a territory and the number of $CHIAC$. This could be due to several unobserved factors which are likely to be fixed in the short run. If we look at the post-reform period, we observe a change in the slope of the reported correlation. In practice, the number of $CHIAC$ fell more where social cooperatives were more common. This evidence is crucial in our setting. In Figure 4 and 5, we show the same correlation by using new- and recurring-$CHIAC$ respectively. These correlations show that recurring admissions recorded the most relevant decline after the reform. Furthermore, in Figure 6, we consider admissions of already employed women in order to analyze a category which should be substantially unaffected by the policy measure. Indeed, the reported correlation appears to be constant across the pre- and post-reform period, which is strongly consistent with the idea that the detected change in slope is due to the applied policy measure. The

econometric strategy set in next Session is aimed at shedding some light on the causal interpretation of this preliminary evidence.

5 Empirical Strategy

Our empirical strategy is divided into two parts. In the first, we investigate whether the policy was able to help more unemployed women find permanent occupation in social cooperatives. In the second part, we evaluate whether this generated a reduction in admissions into anti-violence centers.

5.1 The effect of the policy on movement of unemployed women toward incentivized positions

Our first aim is to assess whether the policy gave a boost to the women's permanent employment in social cooperatives by using a TWFE setup with continuous treatment that was constructed as follows. Using the ISTAT data set, we consider all individuals who in quarter t ($t = [1; 12]$) were either unemployed or employed under contracts which started in quarter t and were unemployed at $t-1$. In this way, we can estimate the employment probability at time t of those who were unemployed until then. We start by estimating the following linear probability model by considering only women in our sample:

$$Incentivized\_Job_{ipt} \quad = \quad \alpha + \theta_p + \eta_t + \beta X_i + \gamma_0 Post_t + \qquad (1)$$

$$\gamma_1 Post_t \cdot Intensity_p + \varepsilon_{ipt}$$

In equation (1), the dependent variable $Incentivized\_Job$ takes value 1 if woman i in province p in quarter t is employed in an incentivized position, i.e., with a permanent contract in a social cooperative, and value 0 if she is unemployed. α is a constant, θ and η indicate provincial fixed effects (105 provinces) and time fixed effects (12 quarters) respectively while ε are the residuals clustered at provincial level. X indicates independent control variables (age, marital status, number of kids, education) and β is their parameter vector. $Post$ is a dummy variable which takes value 1 for quarters in the year 2018 only, while $Intensity$ is a continuous variable measuring the share of employment in social cooperatives in each province (given by the ratio of employment in these firms over total employment) in the year immediately before the reform (2017). This variable is crucial since we expect that the occupational effect will increase in line with the relevance of social cooperatives in the industrial structure of a province.[9]

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[9]According to our data, the share of women employed in social cooperatives who were resident in a different province before being employed is less than 1%. For this reason,

In order to enhance the causal interpretation of our results, we also consider male workers and we estimate the following model:

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\begin{aligned}
Incentivized\_Job_{ipt} \quad = \quad & \alpha + \theta_p + \eta_t + \beta X_i + \gamma_0 Post_t + \\
& +\gamma_2 Post_t \cdot Female_i + \\
& \gamma_3 Post_t \cdot Female_i \cdot Intensity_p + \varepsilon_{ipt}
\end{aligned}
\tag{2}
$$

In eq. (2), we consider women and men who were either unemployed in quarter t or employed in social cooperatives on a permanent contract which started in that quarter. Since men were not affected by the reform, we can consider them as an appropriate control group in order to untangle the effect of the policy on women's employment opportunities. Our parameter of interest in eq. (2) is γ_3 which captures the impact of the reform on the employment probability of women with respect to that of men according to the density of social cooperatives in the province.

Finally, falsification exercises are carried out by re-estimating eq. (1) and (2) and considering individuals who were employed in job positions not incentivized by the policy.

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we do not address the issue of mobility. However, it should be borne in mind that the presence of mobility could bias toward zero the policy effect on employment.

5.2 The effect of the policy on admissions into anti-violence centers

Once it has been evaluated if the heterogeneous distribution of social cooperatives across provinces generated variability in terms of women' employment, we try to find an answer to our main research question, that is, whether or not greater employment for victims of violence generates a reduction in the number of admissions into anti-violence centers. The estimation of this effect is again based on the fact that the presence of social cooperatives was very heterogeneous across provinces so we can estimate the following TWFE model:

$$CHIAC_{cpt} = \alpha + \theta_p + \eta_t + \delta \cdot Intensity_p \cdot Post_t + \xi_{cpt} \qquad (3)$$

where the dependent variable is the number of cases hosted in center c located in province p in quarter t according to the information provided by anti-violence centers for the 2016-2019 period. It should be noted that, in this case, we can exploit a 4-year period around the reform and we have a considerable length of time in order to observe any meaningful short-run effect on the employment condition of hosted victims. On the RHS of eq. (3), besides constant α, province and time fixed effects (θ and η respectively),

we include the interaction term between the post-reform period and the *Intensity* variable, derived at the provincial level as discussed in the previous paragraph. The parameter we are interested in is δ, which indicates the impact of the increase in victims' employment opportunities in each province (it rises along with the *Intensity* variable) on the number of admissions to anti-violence centers located in that province. Eq. (3) is estimated by using several dependent variables so that we can consider not only the total number of women hosted in each center, but also their characteristics in terms of the number of times they had requested admission to the center (new and recurring admissions), typology of perpetrator (e.g. intimate partner, family member, etc.), labor market status (employed/unemployed) and so on.

Finally, the same empirical strategy indicated in eq. (3) is adopted to estimate the policy impact on the number of help-line phone calls, information which is available for all provinces and for each quarter of the 2016-2019 period. In the present study, these data are used to obtain a clearer picture of the impact of the policy on admissions into anti-violence centers. Indeed, a reduction of the number of admissions into anti-violence centers does not necessarily imply that victims are actually less exposed to episodes of violence, but it may mean that victims become less willing to be hosted

by anti-violence centers once they are employed. However, we believe that this is unlikely and we investigate whether victim-friends phone call records decline after the reform in the provinces where social cooperatives are more present. The idea is that these phone calls should not be affected by the victim's employment position since they come from a third party. In this case, the alarm should only reflect a real cry for help following an episode of violence so it should be independent of any change in a victim's financial circumstances.

6 Results

6.1 The Employment Impact of the Law

We start by estimating eq. (1) for a sample of 33,807 women who, in each quarter, were either unemployed or employed in social cooperatives on a permanent contract which started in that quarter. The dependent variable takes value 1 if the woman was employed. In column I of Table 6, we present estimates obtained after including provincial fixed effects (105) and time fixed effects (12), and no control variables. Standard errors are clustered at provincial level. The parameter we are mainly interested in shows a significant increase in women's employment in incentivized positions in the

24

post-reform period in provinces where social cooperatives are widespread. This result turns out to be robust to the inclusion of individual controls (column II). In column III and IV, we report estimates obtained by following the procedure proposed by Callaway et al. (2021), which was designed to address concerns relating to parameter interpretation. Our findings are robust to this additional check.

Although this evidence is consistent with a policy-induced effect of the reform, it must be reckoned that, since employment could anyway be increasing more in areas where social cooperatives are more common, we need to move a step forward in order to derive a causal interpretation. In Table 7, we present estimates of eq. (2) that were derived by considering male and female workers. In this way, we can directly test whether there was a general increase in employment in social cooperatives or if this increase was gender-specific. The estimates in column I are obtained without the inclusion of individual characteristics, while these variables are included in column II. These specifications are re-estimated in column III and IV respectively, where we apply the Callaway et al. (2021) method. The effect on the probability of being employed in an incentivized position only increased for women after the reform, together with the intensity of social cooperatives in the province ($Post \cdot Female \cdot Intensity$). This is true in all reported

specifications. This evidence is important since it shows that the fact that women's employment probability increased after the reform is not the result of a general increase in employment in that specific type of firm.

Finally, we show that the detected effect does not arise from a generic rise in the female employment rate in the post reform period. Indeed, if the employment rate for women grows more than that for men, we would not catch the causal effect of the reform. To deal with this caveat, we re-estimate our previous models by only considering individuals who, in each quarter, were either unemployed or were employed in permanent positions in firms that were not legally established as social cooperatives. In Table 8 and 9, we report estimates of the models illustrated in eq. (1) and eq. (2) respectively. Results show no significant improvement in women's employment probability after the reform. Therefore, according to the numbers reported so far, the policy only had a tangible impact on female employment in terms of job positions for victims of violence. In the next paragraph, we attempt to evaluate the impact of this policy-induced increase in employment on the number of *CHIAC*.

6.2 The Impact of the Law on *CHIAC*

Here we provide evidence of the effect of the law on *CHIAC* by estimating eq. (3). Indeed, the number of social cooperatives in each province provides us with a credible measurement of the intensity of the policy and we have data on the number of *CHIAC* in these provinces, so we can provide an estimate of the causal impact of the reform after controlling for provincial fixed effects, time fixed affects and by clustering standard errors at provincial level.

In column I of Table 10, we show the estimated effect on total *CHIAC*. Panel A refers to the TWFE specification while Panel B regards the Callaway et al. (2021) estimation procedure. We detect a reduction of about -343 units meaning that in the two years after the policy implementation, a 1% increase in the employment ratio in cooperatives, with respect to total employment, leads to a 1.5% reduction in the average number of cases hosted in anti-violence centers in that period. In column II and III, we show the impact of the reform on new- and recurring-*CHIAC* respectively. Reported estimates show that both measurements were affected by the reform (1.3% and 1.7% respectively). This evidence implies that not only did women who had already been victims of violence benefit from the reform, but also those who were potentially exposed to violence. This indirect effect could arise

from a change in domestic equilibria within families in which women were subject to the risk of violence.

In column I of Table 11, we look at admissions of employed women. In this case, we do not find any statistical variation on *CHIAC*. This means that the policy had no impact, either direct or indirect, on women who were already employed. In column II, we consider admissions of women who were unemployed or employed in the informal sector and, in this case, a significant impact is estimated. In column III, the dependent variable is the number of admissions that were reported to the police and we do not find any effect of the improvement in employment opportunities on the willingness to report the suffered crime.

In column I-III of Table 12, we consider *CHIAC* according to the type of perpetrator, i.e., intimate partner, family member or unknown respectively. Results show that admissions relating to violence by intimate partners and family members have the most significant reduction while those committed by perpetrators who are not a part of the domestic environment are not affected. This evidence is important since it identifies employment as a tool that can reduce crimes committed within the family environment. The reduction in exposure time, the improvement in family income and the concrete opportunity to escape from unhealthy domestic relationships are

all channels through which the policy may have led to this effect.

In Table 13, we consider admissions due to four specific types of violence, that is, psychological (column I), sexual (column II), physical (column III) and economic (column IV). According to our estimates, the policy only induced a significant reduction in physical and sexual violence. Finally, in Table 14, we look at *CHIAC* divided by age. Only admissions of women between 20 and 49 years old show a reduction after the policy implementation while those of older women appear to be uninfluenced. This is consistent with an employment effect of the reform for those women who were most exposed to employment incentives.

6.3   Looking at Help-line Phone Calls

Findings reported so far point toward *i)* an increase in the employment of women in jobs incentivized by the reform and *ii)* a reduction of *CHIAC* in those centers that were located in the areas where application of the reform was most intense. In this part of the paper, we improve the interpretation of our results relating the decrease in admissions to anti-violence centers to an actual fall of episodes of violence. With this in mind, we consider data at provincial level from national help-line phone calls, available quarterly at provincial level for the period we have considered, i.e., 2016-2019. These

data are useful since they provide information not only about the total number of calls, but also about who made the call, so untangling those made by victims from those made by their friends or relatives. Since the latter are often made to signal new episodes of violence and since friends/relatives' behavior is unlikely to be affected by a change in the victim's employment status, we can investigate whether there was a reduction in the overall number of calls and, in particular, in the number of calls made by victims' friends and relatives in those provinces where the policy had the largest effect.

Results reported in Table 15 are derived from the same specification presented in eq. (3), where the dependent variables in column I, II and III are total calls, victims' calls and victims' friends/relatives' calls respectively. Panel A and B refer to the TWFE and Callaway et al. (2021) procedure respectively. In column I, it appears that, overall, the policy had a negative effect on the number of phone calls. This evidence is fully consistent with what we discussed in the previous paragraph. This represents an important robustness exercise since, even though the two data sets are closely connected, this evidence comes from a different source of data on violence. When looking at victims calls, the reduction in the post-reform period is only statistically significant at a 10% level (P-value 0.078). Actually, this result is not really surprising since about 93% of victims' calls were made

by women who were asking for a help for the first time, hence women who could not benefit from the employment subsidy. This implies that the reduction in the share of calls was due to the fall in friends and relatives' calls, as is actually shown in column III. This evidence supports the idea that the reduction of $CHIAC$ is consistent with a reduction in the occurrence of violence and not merely due to a change in victims' attitude to reporting.

7   Conclusions

In this paper, we have argued that labor policies specifically aimed at victims of gender violence can have an effect on reducing the need of these victims to ask for help and support from anti-violence centers. Our research question is to evaluate whether there has been a reduction in admissions into anti-violence centers in the presence of an improvement in labor market outcomes. The main process that might be at work is one where the sudden improvement in victims' economic conditions can actually change the bargaining power of those women who are potentially exposed to domestic and intimate-partner violence and, indeed, may eventually reduce it.

We investigate the effects of an Italian law that came into force on 1st January 2018 and provided incentives for companies established as social cooperatives to hire victims of gender violence permanently. We show that,

in the post-reform period, the likelihood of having an open-ended contract in these firms increased and the admission into anti-violence centers decreased according to the relevance of cooperatives in the provincial industrial structure. Results are robust and show that the policy affected both recurring and new victims, so that we also underline an indirect effect on women who were not explicit targets of the measures but were potentially exposed to violence. We discuss how a reduction in crime might arise because of an improvement in family income as well as because of a reduction in exposure time. In general, we argue that our findings are consistent with the beneficial effects of increasing the labor market opportunities and economic autonomy of abused women and potential victims.

Our study makes a contribution to the empirical literature since it evaluated the short run effect of an exogenous shock to the employment opportunity of victims of violence who did not necessarily report the crime they experienced to the police. This is important for two reasons. The first one is that papers considering the employment-violence relationship by looking at exogenous firings and evaluating their consequences on reported violence, have very little to say about the consequence of improving outside options for women who are systematically victims of violence. This policy evaluation moves in the same direction as what has recently been theorized, i.e., it

is important to improve victims' employment prospectives, to enable them to escape from their violent domestic relationships. The second important contribution by this paper is that the empirical evidence is not based on violence reported to the police, which makes up less than 25% of the total cases hosted by anti-violence centers. The reported evidence is, indeed, based on a new source of data which comes directly from a sample of anti-violence centers that constitutes about a third of all such centers in Italy. In this sense this is the first paper to shed some light on the grey area of legally unreported violence.

A final point that needs to be mentioned relates to the fact that those who actually exploited the reform were not a random sample of the whole pool of victims. Indeed, we cannot exclude the possibility that an increase in the economic independence of those women who, in spite of the reform, remained unemployed could have led to a different outcome in terms of abuse they experienced. This may happen if improved autonomy is perceived as a threat by perpetrators. This topic is worthy of further investigation and requires evaluation of the effects of a general subsidy to unemployed women who are victims of abuse. This is in our research agenda.

References

Adams-Prassl, A., Huttunen, K., Nix, E. and Zhang, N., 2022. Violence against women at work. The Quarterly Journal of Economics, forthcoming.

Adams-Prassl, A., Huttunen, K., Nix, E. and Zhang, N., 2023. The dynamics of abusive relationships. The Quarterly Journal of Economics, forthcoming.

Aizer, A., 2010. The gender wage gap and domestic violence. *American Economic Review*, *100* (4), pp. 1847-1859.

Aizer, A. and Dal Bo, P., 2009. Love, hate and murder: Commitment devices in violent relationships. *Journal of Public Economics*, *93* (3-4), pp. 412-428.

Aizer, A., 2011. Poverty, violence, and health: The impact of domestic violence during pregnancy on newborn health. *Journal of Human Resources*, *46* (3), pp. 518-538.

Amaral, S., Bandyopadhyay, S. and Sensarma, R., 2015. Employment programmes for the poor and female empowerment: The effect of NREGS on gender-based violence in India. *Journal of Interdisciplinary Economics*, *27*(2), pp. 199-218.

Anderberg, D. and Rainer, H., 2011. Domestic abuse: instrumental violence and economic incentives. CESifo Working Paper Series 3673, CESifo.

Anderberg, D. and Rainer, H., 2013. Economic abuse: A theory of intrahousehold sabotage. *Journal of Public Economics*, *97*, pp. 282-295.

Anderberg, D., Rainer, H., Wadsworth, J. and Wilson, T., 2016. Unemployment and domestic violence: Theory and evidence. *The Economic Journal*, *126* (597), pp. 1947-1979.

Anderberg, D., Mantovan, N. and Sauer, R., 2018. The Dynamics of Domestic Violence: Learning About the Match. IZA Discussion Papers, No. 14442

Arenas-Arroyo, E., Fernandez-Kranz, D. and Nollenberger, N., 2021. Intimate partner violence under forced cohabitation and economic stress: Evidence from the COVID-19 pandemic. *Journal of Public Economics*, *194*, p.104350.

Berniell, I. and Facchini, G., 2021. COVID-19 lockdown and domestic violence: Evidence from internet-search behavior in 11 countries. *European Economic Review*, *136*, pp.103775.

Bhalotra, S., Britto, D., Pinotti, P. and Breno, S., 2023. Job Displacement, Unemployment Benefits and Domestic Violence. *Review of Economic Studies*, forthcoming.

Bloch, F. and Rao, V., 2002. Terror as a bargaining instrument: A case study of dowry violence in rural India. *American Economic Review*, *92*(4), pp.1029-1043.

Bochenkova, A., Buonanno, P. and Galletta, S., 2023. Fighting violence against women: The role of female political representation. *Journal of Development Economics*, *164*, p.103140.

Bowlus, A.J. and Seitz, S., 2006. Domestic violence, employment, and divorce. *International Economic Review*, *47*(4), pp.1113-1149.

Brassiolo, P., 2016. Domestic violence and divorce law: When divorce threats become credible. *Journal of Labor Economics*, *34*(2), pp.443-477.

Callaway, B., Goodman-Bacon, A. and Sant'Anna, P. (2021) Difference-in-Differences with a Continuous Treatment. Working paper available at https://arxiv.org/abs/2107.02637.

Calvi, R. and Keskar, A., 2021. Til Dowry Do Us Part: Bargaining and violence in Indian families, CEPR Discussion Paper No. 15696.

Card, D. and Dahl, G.B., 2011. Family violence and football: The effect of unexpected emotional cues on violent behavior. *The Quarterly Journal of Economics, 126*(1), pp.103-143.

Chegere, M.J. and Karamagi, I.J., 2020. Intimate partner violence and labour market outcomes in Tanzania. *African Journal of Economic Review, 8*(2), pp.82-101.

Choi, S.Y. and Ting, K.F., 2008. Wife beating in South Africa: An imbalance theory of resources and power. *Journal of Interpersonal Violence, 23*(6), pp.834-852.

Eswaran, M. and Malhotra, N., 2011. Domestic violence and women's autonomy in developing countries: theory and evidence. *Canadian Journal of Economics 44*(4), pp.1222-1263.

GREVIO, 2020. Evaluation Report on legislative and other measures giving effect to the provisions of the Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence. Available at https://rm.coe.int/grevio-report-italy-first-baseline-evaluation/168099724e.

Heath, R., 2012. Women's access to labor market opportunities, control of household resources, and domestic violence. *World Bank Policy Research Working Paper*, (6149).

Heath, R., 2014. Women's access to labor market opportunities, control of household resources, and domestic violence: Evidence from Bangladesh. *World Development, 57*, pp.32-46.

Hsu, L.C. and Henke, A., 2021. COVID-19, staying at home, and domestic violence. *Review of Economics of the Household*, *19*, pp.145-155.

Ismayilova, L., Karimli, L., Gaveras, E., Tô-Camier, A., Sanson, J., Chaffin, J. and Nanema, R., 2018. An integrated approach to increasing women's empowerment status and reducing domestic violence: Results of a cluster-randomized controlled trial in a West African country. *Psychology of Violence*, *8* (4), p. 448.

ISTAT, 2014. Violence against women in and outside the family. Available at https://www.istat.it/it/files//2019/11/Violence-against-women-_2014.pdf

Leslie, E. and Wilson, R., 2020. Sheltering in place and domestic violence: Evidence from calls for service during COVID-19. *Journal of Public Economics*, *189*, p. 104241.

Lewbel, A. and Pendakur, K., 2019. Inefficient collective households: Abuse and consumption. Boston College Unpublished Manuscript.

Macmillan, R. and Gartner, R., 1999. When she brings home the bacon: Labor-force participation and the risk of spousal violence against women. *Journal of Marriage and the Family*, pp. 947-958.

McElroy, M.B. and Horney, M.J., 1981. Nash-bargained household decisions: Toward a generalization of the theory of demand. *International Economic Review*, pp. 333-349.

McElroy, M.B., 1990. The empirical content of Nash-bargained household behavior. *Journal of Human Resources*, pp. 559-583.

Merry, S.E., 2009. *Human rights and gender violence: Translating international law into local justice*. University of Chicago Press.

Panda, P. and Agarwal, B., 2005. Marital violence, human development and women's property status in India. *World development*, *33*(5), pp.823-850.

Sanin, D., 2021. *Paid work for women and domestic violence: Evidence from the rwandan coffee mills*. Technical report, Working Paper.

Stevenson, B. and Wolfers, J., 2006. Bargaining in the shadow of the law: Divorce laws and family distress. *The Quarterly Journal of Economics*, *121*(1), pp. 267-288.

Tenkorang, E.Y., 2018. Women's autonomy and intimate partner violence in Ghana. *International Perspectives on Sexual and Reproductive Health*, *44* (2), pp. 51-61.

Vyas, S. and Watts, C., 2009. How does economic empowerment affect women's risk of intimate partner violence in low and middle income countries? A systematic review of published evidence. *Journal of International Development, 21* (5), pp. 577-602.

World Health Organization. (2020), *COVID-19 and violence against women*, Geneva, World Health Organization, WHO/SRH/20.04.
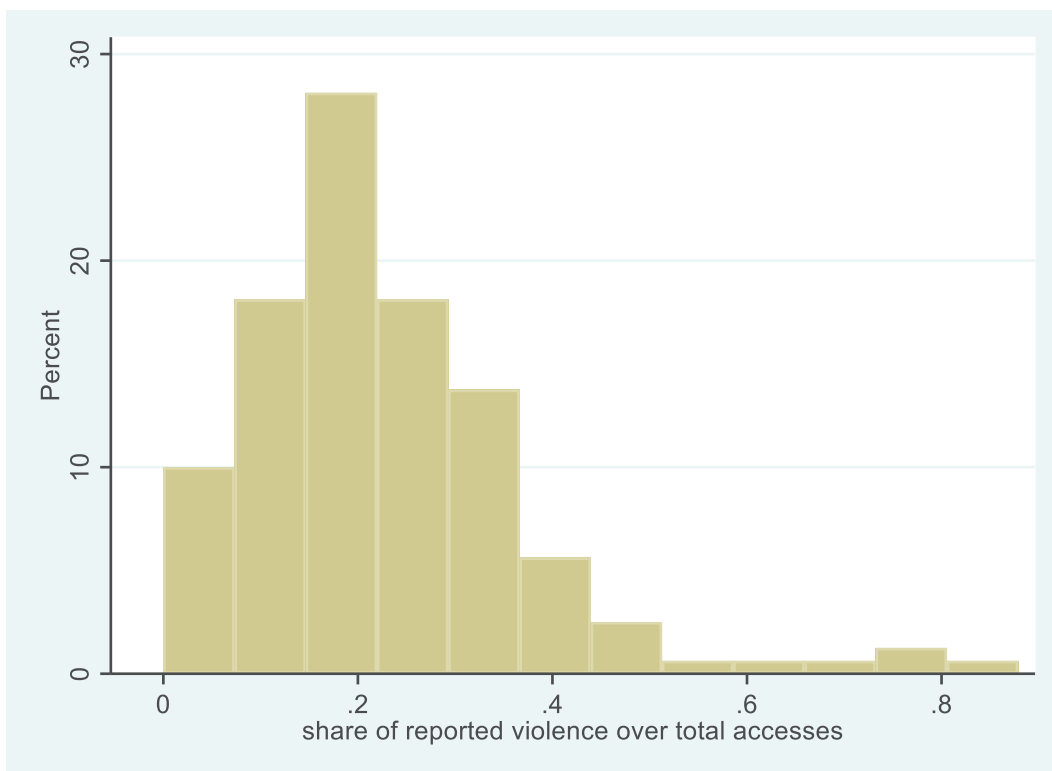
Figure 1: Distribution of the share of violence reported to the authorities over the total number of cases recorded by anti-violence centers, years 2016-2019. Source: Our elaboration on data from anti-violence centers.
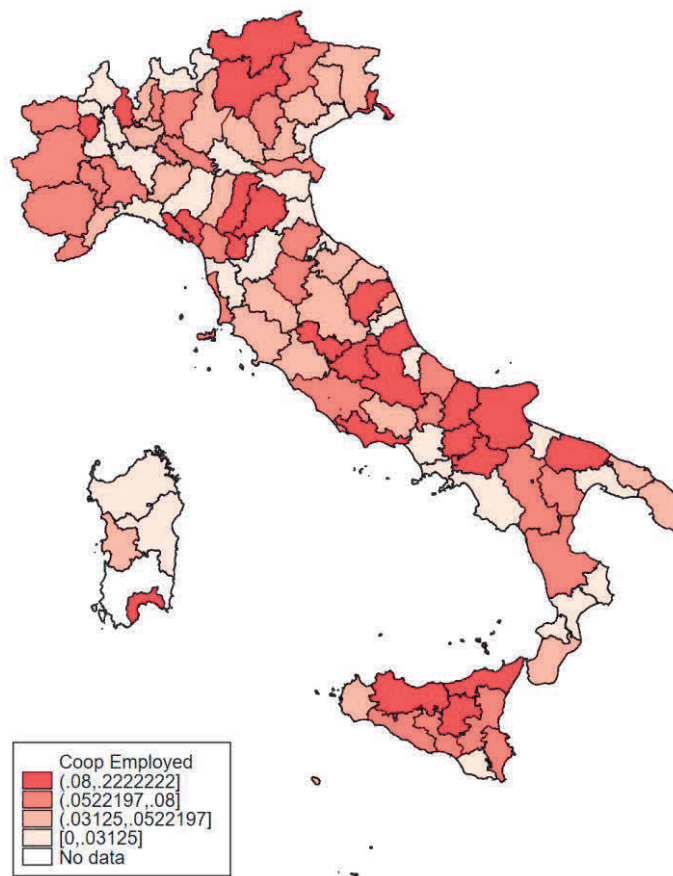
Figure 2: Share of workers employed in social cooperatives over total employment in Italian provinces, year 2017. Source: ISTAT Quarterly Labor Force Survey

Coop Employed
(.08,.2222222]
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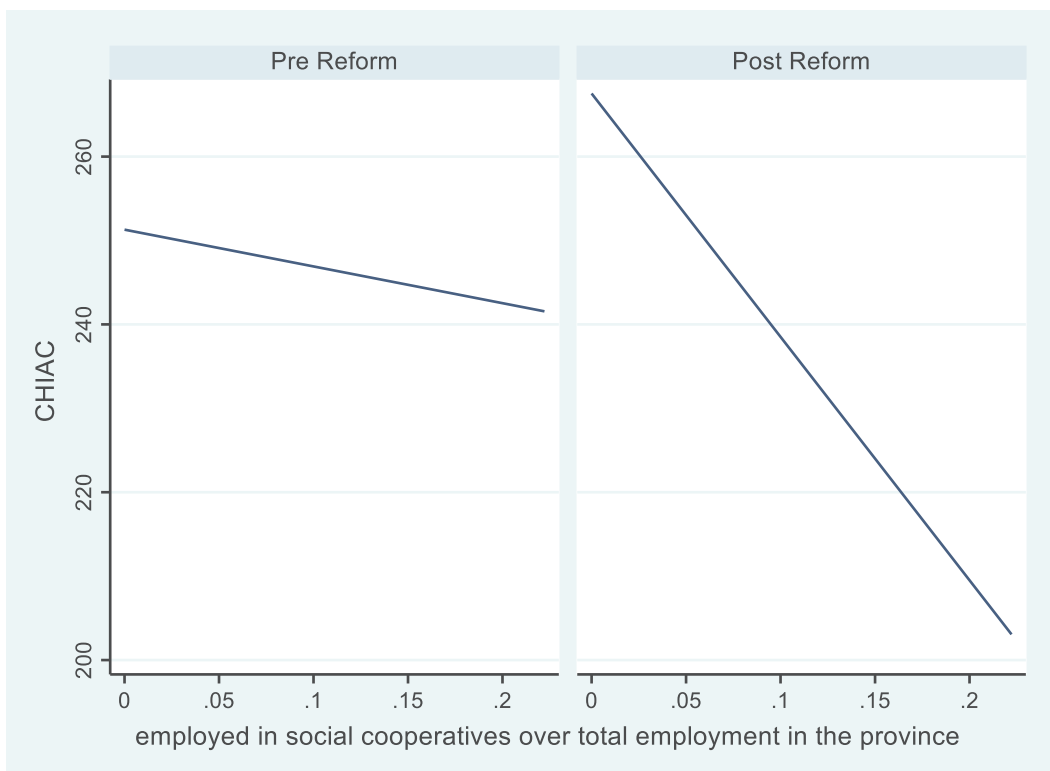
Figure 3: Cases hosted into anti-violence centers (*CHIAC*) against employment in social cooperatives over total employment in the province where the center is located by pre- (2016-2017) and post-reform (2018-2019) period. Notes: data covers 103 antiviolence centers located in 100 Italian provinces.
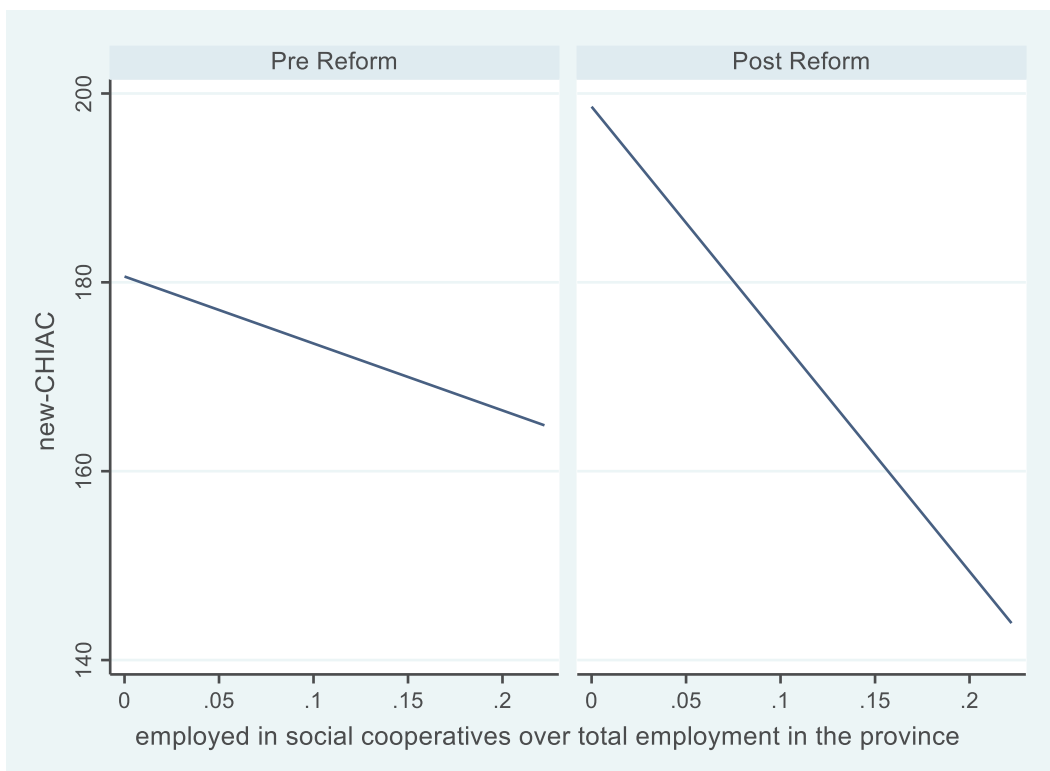
Figure 4: New cases hosted into anti-violence centers (new-*CHIAC*) against employment in social cooperatives over total employment in the province where the center is located by pre- (2016-2017) and post-reform (2018-2019) period. Notes: data covers 103 antiviolence centers located in 100 Italian provinces.
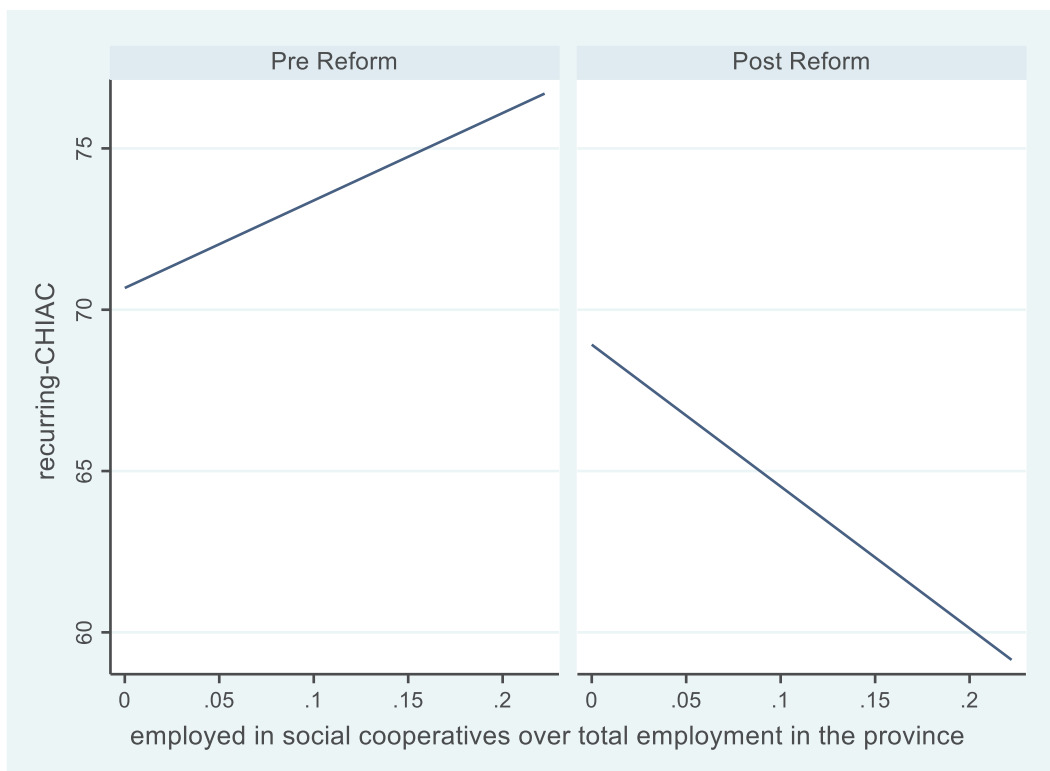
Figure 5: Cases of women already hosted in anti-violence centers (recurring-*CHIAC*) against employment in social cooperatives over total employment in the province where the center is located by pre- (2016-2017) and post-reform (2018-2019) period. Notes: data covers 103 antiviolence centers located in 100 Italian provinces.
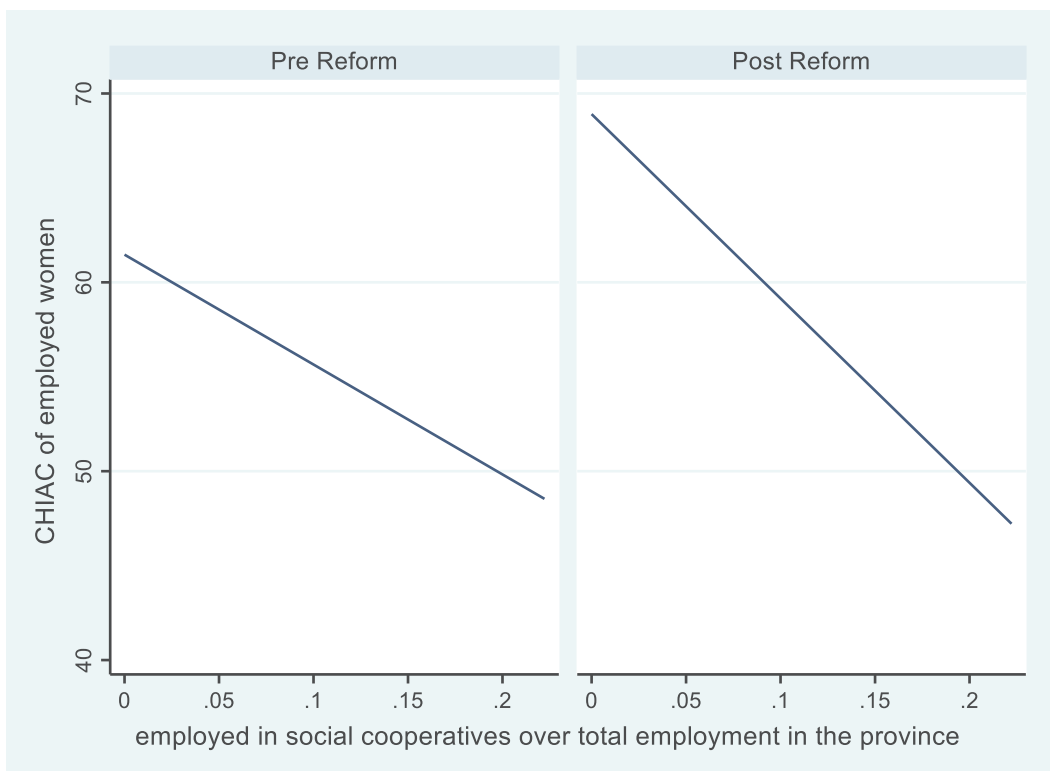
Figure 6: Cases of employed women hosted into anti-violence centers (*CHIAC of employed women*) against employment in social cooperatives over total employment in the province where the center is located by pre- (2016-2017) and post-reform (2018-2019) period. Notes: data covers 103 antiviolence centers located in 100 Italian provinces.

Table 1: Summary statistics for quarterly access into anti-violence centers for the period 2016-2019

| Type of Access	Obs.	Mean	Std. Dev.	Min	Max	Percentage
All	1,608	250.43	122.64	14	811	100
New	1,608	181.13	98.07	12	666	72.40
Recurring	1,608	69.29	43.91	0	248	27.60
Age: 20-29	1,608	27.37	17.10	1	124	10.88
Age: 30-39	1,608	43.05	22.74	3	150	17.28
Age: 40-49	1,608	48.96	27.49	2	179	19.26
Age: 50-59	1,596	27.08	25.59	0	214	10.85
Age: more than 60	1,596	11.47	8.33	0	58	4.64
Unemployed	1,608	61.52	37.94	3	297	24.62
Employed	1,596	61.03	39.59	1	225	24.42
Retired	1,596	6.87	4.87	0	27	2.71
Students	1,596	6.10	3.54	0	21	2.43
Illegal workers	1,596	18.76	17.98	0	137	7.48
Housewives	1,596	15.79	14.69	0	86	6.30
Hosted overnight	1,605	14.22	6.65	1	39	5.61
Hosted kids	1,605	14.89	7.85	0	39	3.14
Physical violence	1,608	111.45	59.76	6	373	44.44
Psychological violence	1,596	137.15	86.43	0	495	54.87
Sexual violence	1,608	26.77	17.84	0	166	10.45
Economic violence	1,596	60.94	41.33	0	240	24.40
Family member violence	1,608	15.65	11.00	0	75	6.13
Intimate partner violence	1,608	102.21	53.34	8	348	40.80
Violence from unknown	1,596	16.03	14.26	0	120	6.40

Notes: Observations refer to anti-violence centers (103) observed quarterly (16 quarters, 2016-2019). Percentage are with respect to the total number of access in a quarter. For some categories (e.g. employment status), percentage do not sum to 100 because victims may decide not to disclose some information. Percentages for type of violence sum to more than 100 since different type of violence may occur simultaneously.

Table 2: Recorded cases in anti-violence centers in our sample by year and type of access

Type of access	Year	Total cases	s.d.
All			
	2016	12,386	1441.907
	2017	12,151	1552.382
	2018	12,448	1305.031
	2019	11,188	1471.549
New			
	2016	9,384	1123.208
	2017	8,350	1157.782
	2018	9,781	1013.483
	2019	7,908	931.5046
Recurring			
	2016	3,002	455.4904
	2017	3,801	751.6974
	2018	2,667	417.3433
	2019	3,280	761.7341
Age: 18-29			
	2016	1,387	171.3906
	2017	1,897	211.8724
	2018	1,551	201.1744
	2019	1,100	147.7933
Age: 30-39			
	2016	2,226	264.3089
	2017	2,726	273.0104
	2018	2,486	292.0061
	2019	1,653	203.7776
Age: 40-49			
	2016	2,529	306.7396
	2017	2,836	293.6761
	2018	2,763	305.6363
	2019	2,065	254.4833
Age: 50-59			
	2016	1,443	240.4027
	2017	1,503	148.1732
	2018	1,447	159.4815
	2019	1,102	139.2396
Age: more than 60			
	2016	676	112.537
	2017	676	81.43664
	2018	614	76.90918
	2019	533	74.37646
Unemployed			
	2016	3,037	410.5789
	2017	3,808	554.7806
	2018	3,320	500.7506
	2019	2,566	345.1694
Employed			
	2016	3,369	473.6016
	2017	3,846	427.8338
	2018	3,673	453.7936
	2019	3,066	418.7187

	Year	Total cases	s.d.
Hosted overnight			
	2016	483	62.76318
	2017	662	76.84593
	2018	489	76.48457
	2019	527	88.82694
Hosted kids			
	2016	685	82.20256
	2017	903	100.3822
	2018	731	106.7243
	2019	813	124.3990
Physical violence			
	2016	8,120	833.8537
	2017	8,392	831.5547
	2018	7,843	790.2816
	2019	8,133	831.3194
Psychologic violence			
	2016	9,795	975.115
	2017	9,979	958.3984
	2018	10,533	1105.495
	2019	10,270	1142.939
Sexual violence			
	2016	2,039	300.7895
	2017	1,824	263.9917
	2018	2,020	295.9044
	2019	2,137	352.7932
Economic violence			
	2016	4,283	454.9442
	2017	4,153	408.5466
	2018	4,626	519.8696
	2019	5,006	676.0758
Intimate partner violence			
	2016	7,248	808.1561
	2017	7,850	770.409
	2018	7,137	697.9236
	2019	7,542	783.6692
Family member violence			
	2016	1,002	131.5447
	2017	1,223	138.8026
	2018	1,186	139.6146
	2019	1,145	134.5493
Violence from unknown			
	2016	170	32.15816
	2017	251	36.44246
	2018	176	27.83075
	2019	183	33.90403

Table 3: Descriptive statistics of help-line (1522) phone calls per quarter at provincial level

	Year							
	2016		**2017**		**2018**		**2019**	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Quarterly Victim Calls								
Absolute Value	17.48	29.82	16.14	26.49	19.90	32.75	18.30	30.21
Per inhabitant	.000028	.000012	.000026	.000013	.000032	.000014	.00003	.000013
Quarterly Friends/Relatives Calls								
Absolute Value	36.725	60.98	33.82	55.90	45.261	74.75	43.36	71.22
Per inhabitant	.0000591	.000025	.000054	.000024	.000072	.000031	.000070	.000029

Data Source: ISTAT: *Il numero di pubblica utilità 1522.* Available at: www.istat.it/it/archivio/273774

Table 4: Description of the variables from ISTAT Quarterly Labor Force Data (2016-2018)

Variable	Description	Value
Family Members	Number of the individual's family members.	Discrete variable ranging from 1 to 13.
Age Groups	Individual's age class.	1= from 15 to 24, 2= from 25 to 34, 3= from 35 to 44, 4= from 45 to 54, 5= from 55 to 64.
Married	Individual's marital status.	1 if married; 0 otherwise.
Education	Individual's education level.	1 = primary school; 2 = secondary school; 3 = high school; 4 = university or higher.
Children	Dummy variable specifying whether the individual has children.	1 if at least one child; 0 otherwise.
Citizenship	Italian citizenship.	1 if yes; 0 otherwise.
Female	Individual gender.	1 if female; 0 otherwise.
Employed	Individual occupational status.	1 if employed; 0 if unemployed.
Full-Time	Individual's type of contract.	1 if full-time; 0 if part-time.
Open Ended	Individual's type of contract.	1 if open-ended contract; 0 if fixed-term contract.
Social Cooperative	Dummy identifying the type of company in which the individual has been employed.	1 if employed in social cooperative; 0 if other type of firms.
Region	Individual's Region of residence	ISTAT code
Province	Individual's Province of residence.	ISTAT code
Post	Dummy variable for the pre- and post-reform period.	1 if post-reform period; 0 otherwise.
Year	Dummy variable for years.	Years available 2016, 2017, 2018.
Quarter	Dummy variable indicating the quarter of each year.	4 dummy variables, one for each quarter of the year.
Time fixed effect	Time measured since first quarter of 2016 till last quarter of 2019.	16 dummy variables, one for each quarter.
Province fixed effect	Dummy variables for each province	105 dummy variables, one for each province.

Table 5: Descriptive statistics of ISTAT Quarterly Labor Force Data (2016-2018)

	2016		2017		2018	
	Observations	**Mean**	**Observations**	**Mean**	**Observations**	**Mean**
Family members	31,302	3.110	33,017	3.094	30,805	3.081
Age groups	31,302	3.042	33,017	3.098	30,805	3.178
Married	31,302	0.548	33,017	0.552	30,805	0.563
Education	31,302	2.645	33,017	2.640	30,805	2.639
Children	31,302	0.717	33,017	0.715	30,805	0.702
Citizenship	31,302	0.843	33,017	0.859	30,805	0.860
Female	31,302	0.527	33,017	0.519	30,805	0.531
Employed	31,302	0.226	33,017	0.234	30,805	0.282
Full-time	7,083	0.658	7,739	0.678	7,868	0.688
Open-ended	7,083	0.286	7,739	0.276	7,868	0.280
Social cooperative	7,083	0.058	7,739	0.058	7,868	0.056

Notes: Observations for Full-Time, Open Ended and Social Cooperatives refer to employed workers. Mean indicates the mean value of each variable according to the definition provided in Table 4

Table 6: Estimates of the effect of the policy on the employment probability of women in incentivized positions, women only.

Independent Variables	Column I TWFE	Column II TWFE	Column III CBS	Column IV CBS
Post · Intensity	.068***	.068***	.068**	.068**
	(.021)	(.033)	(.021)	(.033)
Post	.005**	.005**	.005**	.005**
	(.002)	(.002)	(.002)	(.002)
Year 2017	.007***	.007***	.007***	.007***
	(.001)	(.001)	(.001)	(.001)
Age 35-44		.001		.001
		(.001)		(.001)
Age: 45-54		.001		.001
		(.001)		(.001)
Age: 55-64		-.002*		-.002*
		(.001)		(.001)
Education: Secondary school		-.001		-.001
		(.001)		(.001)
Education: High school		-.001		-.001
		(.001)		(.001)
Education: University degree		.009***		.009***
		(.001)		(.001)
Children		-.001		-.001
		(.001)		(.001)
Citizenship		-.001		-.001
		(.001)		(.001)
Family members		-.001		-.001
		(.001)		(.001)
Married		-.001		-.001
		(.001)		(.001)
Provincial fixed effects. (105)	Yes	Yes	Yes	Yes
Time fixed effects (12)	Yes	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes	Yes
Observations	33,807	33,807	33,807	33,807

Notes: Linear probability model. Standard errors in parenthesis. The sample includes only women who are either unemployed in a quarter or have found a job in that quarter in an incentivized position (permanent contract in a social cooperative). The dependent variable takes value 1 when a woman is employed in an incentivized position, zero otherwise. Control variables defined in Table 4. Post · Intensity is the interaction between the post-reform period (quarters in 2018) and the share of employment into social cooperatives over total employment in the province where the individual is resident evaluated in 2017, i.e., before the reform implementation. In column III and IV estimates derived from the Callaway et al. (2021) procedure (CBS) reported. * 10%, ** 5%, *** 1% significant.

Table 7: Estimates of the effect of the policy on the employment probability of women in incentivized positions, women and men.

Independent Variables	Column I TWFE	Column II TWFE	Column III CBS	Column IV CBS
Post · Gender · Intensity	.060***	.060***	.060**	.060*
	(.016)	(.017)	(.030)	(.031)
Post · Gender	-.003**	-.003**	-.003*	-.003*
	(.001)	(.001)	(.002)	(.002)
Gender	.002***	.001***	.001***	.001**
	(.000)	(.000)	(.000)	(.000)
Post	.006***	.007***	.007***	.007***
	(.001)	(.001)	(.001)	(.001)
Year 2017	.005***	.005***	.005***	.005**
	(.001)	(.001)	(.001)	(.002)
Age 35-44		.001		.001
		(.001)		(.001)
Age: 45-54		.001		.001
		(.001)		(.001)
Age: 55-64		-.002*		-.002*
		(.001)		(.001)
Education: Secondary school		-.001		-.001
		(.001)		(.001)
Education: High school		-.001		-.001
		(.001)		(.001)
Education: University degree		.010***		.009***
		(.001)		(.001)
Children		-.001		-.001
		(.001)		(.001)
Citizenship		-.001		-.001
		(.001)		(.001)
Family members		-.001		-.001
		(.001)		(.001)
Married		-.001		-.001
		(.001)		(.001)
Provincial fixed effects. (105)	Yes	Yes	Yes	Yes
Time fixed effects (12)	Yes	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes	Yes
Observations	61,446	61,446	61,446	61,446

Notes: Linear probability model. Standard errors in parenthesis. The sample includes men and women who in a quarter are either unemployed or have found a job in that quarter in an incentivized position (permanent contract in a social cooperative). The dependent variable takes value 1 when the individual is employed in an incentivized position, zero otherwise. Control variables defined in Table 4. Post · Gender · Intensity is the interaction between the post-reform period (quarters in 2018), gender and the share of employment into social cooperatives over total employment in the province where the individual is resident evaluated in 2017, i.e., before the reform implementation. In column III and IV estimates derived from the Callaway et al. (2021) procedure (CBS) reported. * 10%, ** 5%, *** 1% significant.

Table 8: Falsification exercise. Estimates of the effect of the policy on the employment probability of women in not- incentivized positions, women only.

Independent Variables	Column I TWFE	Column II TWFE	Column III CBS	Column IV CBS
Post · Intensity	.010	.010	.010	.010
	(.077)	(.078)	(.077)	(.081)
Post	.113***	.112***	.113***	.112***
	(.009)	(.009)	(.008)	(.009)
Year 2017	.087***	.086***	.007***	.086***
	(.006)	(.001)	(.006)	(.002)
Age 35-44		.003		.003
		(.003)		(.003)
Age: 45-54		.004		.004
		(.004)		(.004)
Age: 55-64		-.030*		-.030*
		(.003)		(.003)
Education: Secondary school		.016***		.016***
		(.006)		(.005)
Education: High school		.018***		.018***
		(.006)		(.005)
Education: University degree		.050***		.050***
		(.006)		(.007)
Children		-.008***		-.008**
		(.003)		(.004)
Citizenship		-.042***		-.042***
		(.003)		(.005)
Family members		-.006***		-.006***
		(.001)		(.001)
Married		.001		.001
		(.001)		(.001)
Provincial fixed effects. (105)	Yes	Yes	Yes	Yes
Time fixed effects (12)	Yes	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes	Yes
Observations	36,097	36,097	36,097	36,097

Notes: Linear probability model. Standard errors in parenthesis. The sample includes only women who are either unemployed in a quarter or have found a job in that quarter in a job position that was not incentivized by the reform (permanent contract in a firm that is not legally established as social cooperative). The dependent variable takes value 1 when a woman is employed, zero otherwise. Control variables defined in Table 4. Post · Intensity is the interaction between the post reform period (quarters in 2018) and the share of employment into social cooperatives over total employment in the province where the individual is resident evaluated in 2017, i.e., before the reform implementation. In column III and IV estimates derived from the Callaway et al. (2021) procedure (CBS) reported. * 10%, ** 5%, *** 1% significant.

Table 9: Falsification exercise. Estimates of the effect of the policy on the employment probability of women in not-incentivized positions, women and men.

Independent Variables	Column I TWFE	Column II TWFE	Column III CBS	Column IV CBS
Post · Gender · Intensity	.068	.066	.068	.066
	(.076)	(.075)	(.080)	(.081)
Post · Gender	-.027***	-.027**	-.027***	-.027**
	(.006)	(.006)	(.005)	(.006)
Gender	-.026***	-.040***	-.026***	-.040***
	(.002)	(.002)	(.002)	(.002)
Post	.167***	.007***	.167***	.007***
	(.005)	(.001)	(.005)	(.001)
Year 2017	.097***	.005***	.097***	.005***
	(.004)	(.001)	(.004)	(.001)
Age 35-44		-.004		-.004
		(.002)		(.002)
Age: 45-54		-.014***		-.014***
		(.001)		(.002)
Age: 55-64		-.067***		-.067***
		(.001)		(.002)
Education: Secondary school		.011***		.011***
		(.001)		(.002)
Education: High school		.023***		.023***
		(.001)		(.001)
Education: University degree		.070***		.070***
		(.001)		(.001)
Children		-.005**		-.005*
		(.002)		(.003)
Citizenship		-.022***		-.022***
		(.003)		(.003)
Family members		-.002**		-.002**
		(.001)		(.001)
Married		.010***		.010***
		(.001)		(.002)
Provincial fixed effects. (105)	Yes	Yes	Yes	Yes
Time fixed effects (12)	Yes	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes	Yes
Observations	61,446	61,446	61,446	61,446

Notes: Linear probability model. Standard errors in parenthesis. The sample includes men and women who in a quarter are either unemployed or have found a job in that quarter in a job position not incentivized by the policy (permanent contract in a firm not legally established as social cooperative). The dependent variable takes value 1 when the individual is employed, zero otherwise. Control variables defined in Table 4. Post · Gender · Intensity is the interaction between the post-reform period (quarters in 2018), gender and the share of employment into social cooperatives over total employment in the province where the individual is resident evaluated in 2017, i.e., before the reform implementation. In column III and IV estimates derived from the Callaway et al. (2021) procedure (CBS) reported. * 10%, ** 5%, *** 1% significant.

Table 10: Effect of the policy on total, new, and recurring cases hosted in anti-violence centers *(CHIAC)*.

	Panel A: TWFE		
Independent Variables	**Column I** **All**	**Column II** **New**	**Column III** **Recurring**
Post · Intensity	-343.770***	-242.725***	-101.045**
	(123.841)	(86.978)	(50.421)
Provincial fixed effects. (103)	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes
Observations	1,608	1,608	1,608
	Panel B: CBS		
Post · Intensity	-341.110***	-242.0555***	-99.045*
	(133.333)	(94.120)	(46.221)
Provincial fixed effects. (103)	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes
Observations	1,608	1,608	1,608

Notes: Linear regression model. Standard errors in parenthesis. The sample includes 103 anti-violence centers whose admissions are registered quarterly over the period 2016-2019. The dependent variable is the number of cases restricted as indicated in each column. Post · Intensity is the interaction between the post reform period (quarters in 2018 and 2019) and the share of employment into social cooperatives over total employment in the province where the anti-violence center is located evaluated in 2017, i.e., before the reform implementation. Standard errors are clustered at provincial level. Panel A contains TWFE estimates, while Panel B reports estimates obtained after applying the Callaway et al. (2021) procedure (CBS). * 10%, ** 5%, *** 1% significant.

Table 11: Effect of the policy on *CHIAC* by victim's occupational status and on reported violence.

Independent Variables	Panel A: TWFE		
	Column I Employed victims	Column II Unemployed victims	Column III Reported violence
Post · Intensity	-31.734	-72.872**	18.068
	(34.396)	(30.889)	(11.080)
Provincial fixed effects. (103)	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes
Observations	1,608	1,608	1,608
	Panel B: CBS		
Post · Intensity	-41.100	-78.000**	20.045
	(33.337)	(29.120)	(14.201)
Provincial fixed effects. (103)	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes
Observations	1,608	1,608	1,608

Notes: Linear regression model. Standard errors in parenthesis. The sample includes 103 anti-violence centers whose admissions are registered quarterly over the period 2016-2019. The dependent variable is the number of cases restricted as indicated in each column. Post · Intensity is the interaction between the post reform period (quarters in 2018 and 2019) and the share of employment into social cooperatives over total employment in the province where the anti-violence center is located evaluated in 2017, i.e., before the reform implementation. Standard errors are clustered at provincial level. Panel A contains TWFE estimates, while Panel B reports estimates obtained after applying the Callaway et al. (2021) procedure (CBS). * 10%, ** 5%, *** 1% significant.

Table 12: Effect of the policy on *CHIAC* by type of persecutor.

Independent Variables	Panel A: TWFE		
	Column I Intimate Partner	Column II Family member	Column III Stranger
Post · Intensity	-106.093**	-28.862***	-0.989
	(42.526)	(9.370)	(12.623)
Provincial fixed effects. (103)	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes
Observations	1,608	1,608	1,608
	Panel B: CBS		
Post · Intensity	-104.110**	-26.190**	-0.151
	(43.117)	(10.110)	(14.111)
Provincial fixed effects. (103)	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes
Observations	1,608	1,608	1,608

Notes: Linear regression model. Standard errors in parenthesis. The sample includes 103 anti-violence centers whose admissions are registered quarterly over the period 2016-2019. The dependent variable is the number of cases restricted as indicated in each column. Post · Intensity is the interaction between the post reform period (quarters in 2018 and 2019) and the share of employment into social cooperatives over total employment in the province where the anti-violence center is located evaluated in 2017, i.e., before the reform implementation. Standard errors are clustered at provincial level. Panel A contains TWFE estimates, while Panel B reports estimates obtained after applying the Callaway et al. (2021) procedure (CBS). * 10%, ** 5%, *** 1% significant.

Table 13: Effect of the policy on *CHIAC* by type of violence.

Independent Variables	Column I Psychological	Column II Sexual	Column III Physical	Column IV Economic
Panel A: TWFE				
Post · Intensity	-25.708	-39.476**	-154.929***	-24.961
	(91.098)	(16.501)	(54.343)	(43.806)
Provincial fixed effects. (103)	Yes	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes	Yes
Observations	1,608	1,608	1,608	1,608
Panel B: CBS				
Post · Intensity	-24.492	-36.130**	-144.331***	-21.222
	(83.122)	(17.112)	(64.111)	(42.113)
Provincial fixed effects. (103)	Yes	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes	Yes
Observations	1,608	1,608	1,608	1,608

Notes: Linear regression model. Standard errors in parenthesis. The sample includes 103 anti-violence centers whose admissions are registered quarterly over the period 2016-2019. The dependent variable is the number of cases restricted as indicated in each column. Post · Intensity is the interaction between the post reform period (quarters in 2018 and 2019) and the share of employment into social cooperatives over total employment in the province where the anti-violence center is located evaluated in 2017, i.e., before the reform implementation. Standard errors are clustered at provincial level. Panel A contains TWFE estimates, while Panel B reports estimates obtained after applying the Callaway et al. (2021) procedure (CBS). *10%, ** 5%, *** 1% significant.

Table 14: Effect of the policy on *CHIAC* by age groups.

	Panel A: TWFE				
Independent Variables	**Column I** **less than 29**	**Column II** **30-39**	**Column III** **40-49**	**Column IV** **50-59**	**Column V** **more than 60**
Post · Intensity	-51.000***	-75.695***	-69.365***	13.910	8.598
	(16.955)	(25.427)	(24.235)	(28.280)	(8.051)
Provincial fixed effects (103)	Yes	Yes	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes	Yes	Yes
Observations	1,608	1,608	1,608	1,608	1,608
	Panel B: CBS				
Post · Intensity	-54.498***	-76.177***	-73.381***	-11.222	-21.222
	(13.122)	(27.192)	(24.011)	(32.113)	(42.113)
Provincial fixed effects. (103)	Yes	Yes	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes	Yes	Yes
Observations	1,608	1,608	1,608	1,608	1,608

Notes: Linear regression model. Standard errors in parenthesis. The sample includes 103 anti-violence centers whose admissions are registered quarterly over the period 2016-2019. The dependent variable is the number of cases restricted as indicated in each column. Post · Intensity is the interaction between the post reform period (quarters in 2018 and 2019) and the share of employment into social cooperatives over total employment in the province where the anti-violence center is located evaluated in 2017, i.e., before the reform implementation. Standard errors are clustered at provincial level. Panel A contains TWFE estimates, while Panel B reports estimates obtained after applying the Callaway et al. (2021) procedure (CBS). *10%, ** 5%, *** 1% significant.

Table 15: Effect of the policy on National help-line phone calls.

Independent Variables	Panel A: TWFE		
	Column I Total Calls	Column II Victims calls	Column III Friends/Relatives calls
Post · Intensity	-36.125** (14.961)	-9.530* (5.286)	-26.580** (10.670)
Provincial fixed effects. (105)	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes
Observations	1,683	1,683	1,683
	Panel B: CBS		
Post · Intensity	-33.000** (13.007)	-7.990* (4.309)	-24.111** (11.101)
Provincial fixed effects. (103)	Yes	Yes	Yes
Time fixed effects (16)	Yes	Yes	Yes
Clustered standard errors	Yes	Yes	Yes
Observations	1,683	1,683	1,683

Notes: Linear regression model. Standard errors in parenthesis. The sample considers quarterly calls at the national help-line number 1522 by 105 Italian provinces for the period 2016-2019. The dependent variable is the number of phone calls restricted as indicated in each column. Post · Intensity is the interaction between the post reform period (quarters in 2018 and 2019) and the share of employment into social cooperatives over total employment in the province where the anti-violence center is located evaluated in 2017, i.e., before the reform implementation. Standard errors are clustered at provincial level. Panel A contains TWFE estimates, while Panel B reports estimates obtained after applying the Callaway et al. (2021) procedure (CBS). * 10%, ** 5%, *** 1% significant.