

Empowerment or Indoctrination?

Women Centers Under Dictatorship*

Felipe González

Mounu Prem

Cristine von Dessauer

Abstract

Autocrats aim to control social organizations to suppress dissent and spread their ideology. We investigate the case of women centers under the Pinochet dictatorship in Chile (1973-1990). Centers were controlled by conservative military to promote the role of women as mothers and housewives, but also offered training programs to generate income. We find that the centers incentivized women to join the labor market without affecting their political or religious identities. Decades after dictatorship, these centers are still associated with higher female labor force participation, both among directly exposed women and also among their daughters.

Keywords: women, centers, labor force participation, empowerment, dictatorship.

*March 2024. We would like to thank Juan Andrés Castro, Jordi Domènech, Anna Raute, and seminar participants at Brunel University London and Universidad Adolfo Ibañez for comments and suggestions. González: Queen Mary University of London, School of Economics and Finance; contact email: f.gonzalez@qmul.ac.uk. Prem: Einaudi Institute for Economics and Finance, and CEPR. Von Dessauer: MIT. Declarations of interest: none

1 Introduction

Dictatorships aim to control the population to achieve subordination, shape the distribution of economic resources, and maintain political power (Slovik, 2012). However, the way through which dictatorships achieve this dominance is more complex. A tight grip on information is becoming a pervasive strategy among autocrats (Guriev and Treisman, 2019). Historically, authoritarian control was pursued with repression and by benefiting powerful individuals to build a stable coalition of supporters (Davenport and Armstrong, 2004; Bueno de Mesquita et al., 2005).¹ Autocrats also face the challenge to dismantle, monitor, or control social organizations to their advantage. Despite frequently resisting authoritarian power and being fertile ground to build political support (Satyanath et al., 2017), the role of social organizations has been relatively overlooked.

We study the case of women organizations under the Pinochet regime in Chile (1973–1990), a 20th century dictatorship exhibiting censorship, state-led repression, cronyism, and distribution of economic resources (González and Prem, 2018; Esberg, 2020; González et al., 2020; Bautista et al., 2023a). Importantly for the purpose of our study, the dictator also attempted to control social organizations, most notably women centers, to build political support and spread their ideology. Managed by the First Lady since the mid-1950s, these centers were the most important social activity for women in low- and middle-income neighborhoods. The dictatorship, under the tight leadership of Pinochet’s wife, Lucía Hiriart, radically transformed the activities at these centers, promoting the role of women as “mothers and housewives” and discouraging them from joining the labor force because, as Pinochet emphatically said, it “brings problems to families.”²

With the explicit goal of promoting conservative gender roles, the dictatorship outstandingly delivered more than two million training programs, the majority during their last years in power (Valdés et al., 1989). Using data from the 1982 census, we calculate that approximately 10 percent of working-age women were given training in these women centers. The programs were delivered by renowned higher education institutions and designed to provide skills that women could use to generate additional income at home in case it was needed, e.g., weaving and cooking. Crucially,

¹In a recent survey of the literature, Hassan et al. (2022) defines political control as “tactics engineered by political leaders to ensure widespread compliance with state policies and to minimize political resistance.”

²Similar gender roles were promoted in Nazi Germany, fascist Italy, and Francoist Spain (De Grand, 1976; Stephenson, 1978; Richmond, 2003). In fact, the nationalistic and conservative transformation of women centers under the Pinochet dictatorship was partially inspired by the Franco regime (Tessada, 2012, p. 272).

the centers also became breeding grounds for patriarchal order, and political talks were routinely given at the onset of important referendums (Lechner and Levy, 1984). The impressive scale of the training, together with the regular indoctrination taking place, suggests that the centers could have affected female labor participation, conservative values, and support for the dictatorship.

To test for the impact of women centers under dictatorship, we collect new information on the location of buildings used by the organization to train women across the country. The list of buildings was recently revealed by investigations that began shortly after the US Senate found a network of US bank accounts linked to dictator Pinochet. Then, we track marriage rates, fertility, and labor force participation by gender in more than 330 municipalities using six population censuses, from 1960 until 2017. In addition, we measure gender-specific preferences for the dictatorship by exploiting gender-segregated booths in the 1988 referendum that triggered the democratic transition. Econometrically, we develop a strategy to account for the observable differences across locations with differential geographic exposure to women centers. The research design is built around matching techniques that use municipality characteristics related to labor force participation and women before the arrival of the dictatorship. We validate this strategy by showing that after accounting for a set of observable variables, municipalities with direct and indirect access were similar before the centers were dictatorially transformed by Augusto Pinochet and Lucía Hiriart.

The first part of our analysis shows that centers are strongly and robustly associated with higher female labor force participation in 1992, two years after democratization. The absence of this relationship in the 1982 census, when centers were under authoritarian control but training programs were limited, suggests that the programs were important. The training allowed women to acquire skills, experience, and increased their social interactions with activities related to the labor market. Exposure to centers explains two percentage points of labor force participation in 1992, equivalent to 40% of the increase in female labor market participation between 1982 and 1992. In contrast, voting behavior by gender in the 1988 referendum that triggered the democratic transition as well as self-reported religious identities are unrelated to the presence of women centers. Consistent with the self-selection of adult married women with children into the centers under dictatorship, we find no effect on marriage rates, fertility, nor enrollment in higher education, even among the youngest cohorts. Overall, the evidence is consistent with centers delivering tools for women to join the labor market and suggests their failure to indoctrinate women politically and religiously.

The second part of our analysis provides evidence of the long-run impacts of women centers.

We begin by using our main empirical specification but now examining labor force participation of both men and women in the 2002 and 2017 censuses. We find a persistent effect of two percentage points on female participation among the directly exposed cohorts, equivalent to 20% of the increase between 1982 and 2002. Interestingly, we find a smaller but statistically significant impact on the labor force participation of men. Both effects are attenuated in 2017, when the population directly affected by the centers is reaching retirement age (60-65 years old). Finally, we use the 2017 census, together with the observed household structure, to provide suggestive evidence of intergenerational effects and evolving gender norms. Daughters of women who were born in places with direct access to centers under dictatorship are more likely to participate in the labor force.

Our work contributes to the political economy literature studying social organizations. Previous research has shown how social movements affect political preferences and the policy-making process (Madestam et al., 2013), how social organizations prevent the election of populist candidates (Giuliano and Wacziarg, 2020; Boeri et al., 2021), or contribute to the rise of far-right political parties (Satyanath et al., 2017), and how peasant organizations disrupt policy implementation (González and Vial, 2021), among others. More generally, the existence of local social organizations is commonly interpreted as dense social networks that facilitate the spread of information, and the prevalence of altruistic preferences in the underlying population.³ Yet civic organizations can also be the strategic focus of autocratic leaders aiming to control society to remain in power, as evidence from chiefs in Sierra Leona suggests (Acemoglu et al., 2014). We contribute to this literature by examining the effect that women centers have on female empowerment after being captured by a conservative authoritarian regime. Despite the prevalence of women organizations in other prominent conservative autocratic regimes such as Nazi Germany (Stephenson, 1978), our empirical study of empowerment in tension with indoctrination is unique in the literature.⁴

Our study of women in the labor market relates to the literature documenting the drivers of the upward trend in female labor force participation over the 20th century. The pioneering research led by Claudia Goldin and other researchers in the US has transformed our understanding of the relation between marriage, education, and female labor force participation (Goldin, 1995; Goldin

³The traits usually emphasized are the ones affecting individual-level behaviors that involve other-regarding preferences. Multiple measures of social capital have been proposed. Perhaps the most common one is the use of electoral participation, a privately costly activity that has group-level returns (Guiso et al., 2004). The so-called “social capital” has been shown to affect a variety of preferences and behaviors (Putnam, 1993), including political participation.

⁴Related work has provided qualitative evidence supporting how women centers triggered female empowerment through education in the context of the Franco dictatorship (De Dios-Fernández and Mínguez-Blasco, 2021).

and Katz, 2002; Goldin, 2006; Fernández and Wong, 2014). Although the role of social organizations is mostly absent as a driver of labor force participation, the shock experienced by women at the centers is somewhat similar to other abrupt changes that have taken place throughout history. One of the most studied episodes is the role that World War I and II had on female labor force participation (Goldin, 1991; Goldin and Olivetti, 2013; Boehnke and Gay, 2022). The war served as a big push for women to enter the labor force, with less clarity about the long-run effects on female participation (Acemoglu et al., 2004; Rose, 2018; Brodeur and Kattan, 2022). The war stands in stark contrast to the takeover of women centers by a conservative ruler, as women were promoted in their role as housewives. The similarity is that in both cases women acquired skills, experience, and were exposed to social interactions that likely decreased the cost of joining the labor force.

We also contribute to the literature studying the role of intergenerational transmission in driving the surge in female labor force participation over the last century. Despite being pointed as crucial for the dynamics of labor trends (Fogli and Veldkamp, 2011; Fernández, 2012), empirical evidence supporting intergenerational effects is limited, and mostly comes from developing countries and the roles played by World War I and II (Fernández et al., 2004; Gay, 2023). Although we cannot fully disentangle the relative contribution of mothers within the household from other local social interactions in driving the intergenerational transmission, our results do constitute novel evidence supporting the importance of women organizations as training centers to develop skills that have persistent and intergenerational effects. As such, our work also suggests an important role for local social organizations in shaping culture and norms over time (e.g. Giuliano and Nunn 2021).

Finally, our evaluation of a large targeted training program also speaks to a large literature in development and labor economics. One part of this literature studies a variety of programs in developing countries that aim to improve employment among low-income and young individuals (e.g. Blattman et al. 2014, 2022; Rau and García-Mora 2023). Another part focuses on interventions specifically targeting women, showing that work opportunities, training programs, and information campaigns are effective in delaying marriage and motherhood, and in increasing education and employment (e.g. Field et al. 2010; Jensen 2012; Bandiera et al. 2020). In contrast to existing research, the training programs that we study were implemented by a dictatorship with the goal of keeping women *out* of the labor force. Moreover, our focus on training programs for adult married women in low-income neighborhoods is also novel. Our findings of higher labor force participation among adult women suggest important roles for social interactions, experience, and

skill acquisition. The program we study is a group-level intervention, which has been shown to be particularly powerful in promoting women's empowerment (Díaz-Martin et al., 2023).

2 Historical Background

Women centers originated from grassroots organizations in the early 20th century and became part of the state in the 1960s.⁵ Although their origins are unclear, scholars claim that these centers derived from the charity work of Catholic women in low-income neighborhoods (Valdés and Weinstein, 1993, p. 45). The First Lady contacted these civil organizations in 1947, which led to the creation of “El Ropero del Pueblo” (The Town Wardrobe). In the following years, a populist government together with other factors pushed women to retreat from the public world (Kirkwood, 1986), delaying the formal incorporation of centers into the state. The institution governing *all* women centers under the mandate of the First Lady was only created in 1964, named CEMA (Mother Centers or *Centros de Madres* in Spanish), and defined as a “private law corporation, non-profit, oblivious to political and religious proselytism, which objective is to achieve integral development of the Chilean women at the centers and through these achieve development of their nuclear families.” In practice, women used these centers to solve everyday problems and to channel social demands to central institutions. Participation was always voluntary and members were usually adult housewives with limited financial resources (Valdés and Weinstein, 1993, p. 110).

2.1 Women centers under dictatorship

Shortly after the 1973 coup against socialist president Salvador Allende, the dictatorship either dismantled or controlled social organizations depending on how much of a threat they were perceived to be. After acknowledging the important role of women in the battle against the Allende government, dictatorial leaders incentivized women to retreat to their roles of housewives and mothers (Valdés and Weinstein, 1993; Power, 2002). Under the leadership of Lucía Hiriart, the dictator's wife, women centers changed radically.⁶ These social organizations were thought to be important

⁵The first women organizations, known as Centros Belén de Zárraga, emerged in working-class areas and aimed to free women from male oppression and religious fanaticism. In the following decades, women organizations became political and were key in the struggle to give women the right to vote (Valdés and Weinstein, 1993, p. 32-47).

⁶After the 1973 coup a *Junta* composed by all members of the Armed Forces governed the country. Lucía Hiriart, being the wife of the Commander-in-Chief of the oldest branch of the Armed Forces, and daughter of a politician close

to build sustainable political support (Franceschet, 2005). In a speech titled “The military regime speaks to the women of Chile,” given by Augusto Pinochet in April 1974, the dictator was clear: “whoever wants to govern the country and aspires to political stability, needs to have the support of women.”⁷ In addition, the dictatorship view the women centers as an opportunity to spread their conservative ideology. The regime had a patriarchal view of society where women played the role of mothers and wives, and men the role of economic providers and household leaders (Valdivia, 2010, p. 88). From the start, the dictatorship exerted control by implementing hierarchy and limiting the autonomy of the centers (Valdés et al., 1989, p. 32). As a consequence, both the number of centers and their members decreased significantly (see panels A and B in Figure 1).⁸

Women centers can be described as groups of 25-80 members who gathered regularly with the goal of helping themselves through training, classes, seminars, and talks. The centers also helped to find solutions to daily problems faced by low and middle-income women within their neighborhoods. Eligibility rules governed who could become a member. Anyone who was a mother, married, or older than 18 years old was eligible. In order to join, you needed to be introduced by an older member and pay a member fee. The 1982 annual report of the institution reveals that there were 9,061 centers throughout the country and 230,000 members. Other institutions were connected to women centers for the purpose of what was called “social development” and to sell some of the products produced at the centers (e.g., wooden toys). Examples of these related institutions include *talleres* (workshops) where products were produced, and *bazares* (shops) where products were sold. Products sold in *bazares* generated revenues for centers and volunteers.

Organizationally, the centers were tightly monitored by the dictatorship. Representatives of Lucía Hiriart, known as “volunteers”, monitored all activities. The 5,000 volunteers were wives of officers in the Armed Forces. After some continuity of activities in the 1970s, there was a turning point in 1981 as statutes changed and the enhanced “Fundación CEMA-Chile” was born. From then on, there was an explosion of training programs for women, which were thought to “constitute

to women organizations in the 1940s, became the leader of women centers in 1973 (Matus, 2013, p. 143). Later, she also became the head of a dozen of other social organizations such as the Secretary of Women.

⁷See also Franceschet (2005, p. 60): “The activism of anti-Allende women in the 1970-73 period led the military to see women as a crucial support base for their regime. To further increase their support among women and [...] to control the organization and participation of women, the military government oversaw the reorganization of CEMA.”

⁸Other significantly more progressive women organizations were outside of the dictatorial institutional framework and existed as a counter-force to official women centers (Valdés and Weinstein, 1993, p. 87-88). Examples of these organizations include the Asociación para la Unidad de las Mujeres (ASUMA), the Círculo de Estudios de la Mujer (CEM), and the new Movimiento Pro Emancipación de la Mujer Chilena (MEMCh 83), among many others.

the master key for a world of possibilities.” As mentioned by Valdés and Weinstein (1993, p. 94) “the training programs did *not* aim to promote the incorporation of women to the labor force, but rather to improve their role as mothers and housewives.” In fact, Pinochet emphatically stated: “I am convinced that the increasing participation of women in the labor market brings problems to families, particularly to the woman as she needs to combine taking care of her children and the house with her job.”⁹ To carry out the training and other activities, CEMA was primarily funded by a share of revenues from the National Lottery, but also by private donations, movie theatre taxes, and the horse riding annual meeting, among others (Valdés and Weinstein, 1993, p. 98).

2.2 Training and indoctrination

The training programs were the most important activity at the centers, the most valued by members, and their distinctive feature under dictatorship (Valdés et al., 1989, p. 65). The programs were given by renowned higher education institutions such as INACAP, DUOC, and the University of Santiago, among others. The programs aimed to train women in the production of homemade crafts: weaving, painting, sewing, cooking, hairstyling, and handicraft production. The price paid by a member per program was close to three percent of the minimum wage. The programs were voluntary, but military wives monitored who did not sign up. The revenues were used to pay volunteers. The homemade products derived from the programs were given to the institution.

Panel C in Figure 1 shows the number of members enrolled in the training programs per year. Overall, more than 2.3 million programs were given under dictatorship. However, note that members could have enrolled in multiple programs, making it difficult to estimate how many women were trained at the centers.¹⁰ We do know that the centers had consistently more than 230,000 members every year since 1981 until the end of the dictatorship. Members also had to pay a fee to join each program—and women constantly complained about how expensive these were (Valdés and Weinstein, 1993, p. 112)—limiting the number of programs that women could attend due to budget constraints. Considering these restrictions, and given that there were close to 3 million 18-60 year old women in the 1982 census, we then calculate that the programs likely trained at least 8

⁹Periodical magazines were distributed to spread the ideological view that the regime had of women and to show the various social activities sponsored by CEMA and other state organizations targeting women such as the Secretary of Women. These magazines published extensive interviews with Lucía Hiriart and Augusto Pinochet.

¹⁰Since 1964 women centers provided training, but the numbers were significantly lower. Riquelme (1987) calculates that less than 40,000 women were trained per year in the late 1960s.

percent of working-age women in the country. Moreover, the female labor force participation was 29 percent in 1982, which implies that 2.1 million women were out of the labor force. Then, the programs likely trained 11 percent of the women who were not part of the labor force.

What we know about the indoctrination at the centers comes from survey evidence (Valdés et al., 1989, p. 70). Volunteers monitoring activities were appointed by the dictatorship, were supporters of the dictatorship, stayed in power for extended periods, and had extensive information about members. To participate in activities, members needed an identification card which was only obtained after providing information about them and their families. All activities were decided by volunteers and conversations about politics and household finance were forbidden. The centers also had rules, including minimum attendance, and if broken membership could be revoked. Women paid fines when absent and volunteers assigned grades that evaluated the performance of members and their behavior. Lechner and Levy (1984) argue that centers served the purpose of disciplining and reinforced a patriarchal order. Moreover, the centers attempted to be removed from politics, but talks were routinely offered before important referendums, usually promoted as civic education for the members (Matus, 2013, p. 189). The talks at centers were given by people from the Secretary of Women and involved Christian and patriotic values (Valdés and Weinstein, 1993, p. 103).

2.3 Trends in female labor force participation

The gender gap in labor force participation in Chile has been closing in the past 40 years. Panel A in Figure 2 shows participation rates by gender using historical statistics constructed by Díaz et al. (2016). Panel B displays similar trends using survey data for the capital city. In the early 1970s labor force participation was close to 30% among women and close to 80% among men. Women have doubled their labor force participation since then, closing the gender gap from 50 to 20 percentage points. This convergence appears to have started under dictatorship.

Previous work has shown that the higher female participation is driven by high-school educated married mothers, and attribute this increase as driven by economic growth and more employment opportunities (Larrañaga, 2007), with a more nuanced impact of the trade liberalization that took place under dictatorship (Contreras et al., 2004). Longer school schedules and after-school programs have also incentivized women to join the labor force in recent decades (Martínez and Per-ticará, 2017; Contreras and Sepúlveda, 2017; Berthelon et al., 2023), with a less clear role for the expansion of the pre-school system (e.g., Medrano 2009; Aguirre 2013). Trends in education and

fertility have also affected female participation (Contreras et al., 2005), with some evidence pointing to gender norms as a constraining force (Contreras and Plaza, 2010). Yet the trends in Figure 2 suggest that the 1980s were a key period for working-age women. We hypothesize that women centers and training programs were an important driver of the higher participation of women.¹¹

3 Data Construction

This section describes how we measure the exposure to training programs at women centers, presents the dependent variables, and provides an overview of the data used to test the hypotheses.

3.1 Women centers

A series of investigations conducted in the early 2000s revealed the location of the buildings used by CEMA to train women during the dictatorship. The process began after an investigation carried out by the US Senate found a network of bank accounts where dictator Augusto Pinochet had been secretly transferring millions of dollars. The discovery allowed the Chilean justice to scrutinize the properties owned by Lucía Hiriart, Augusto Pinochet's wife and president of CEMA. Shortly after, all buildings owned by CEMA were revealed (CIPER, 2012; Fossa and Arcos, 2012). The list included properties currently owned and formerly owned but sold by the organization.

We gathered and harmonized all available information about the buildings owned by CEMA. Overall, we observe a total of 208 buildings located throughout the country. These buildings were transferred by the state to the organization between 1974 and 1995 and we observe the year of the transfer. Panel D in Figure 1 shows that the vast majority of these buildings were transferred between 1984 and 1990. According to the investigations, the majority of buildings were donated by direct order of dictator Augusto Pinochet, when his wife was legally in charge of the organization. This type of transfer was legal as long as the recipient was a nonprofit organization, the building was not sold within five years, and the building was used for the purposes of the organization. Although CEMA did not always fulfill these requirements, the investigations concluded that the buildings were used by the organization for the purpose of the training programs during the years of the dictatorship. Most of these buildings were sold or rented after the transition to democracy.

¹¹Early cross-sectional research for the case of Chile also pointed to human capital and fertility as key drivers of female labor force participation. See, for example, Pardo (1987); Muchnik et al. (1991); García (1995).

Figure A.1 displays the geographic locations of women centers. As can be seen in this map, the organization reached even the most remote locations in the north and the extreme south of the country. By the end of the dictatorship, CEMA owned 208 buildings located in 102 municipalities.

3.2 Census and electoral data

We combine the location of women centers with municipality-level information from the country's population censuses in 1960, 1970, 1982, 1992, 2002, and 2017. We use this information primarily to track the evolution of labor force participation across municipalities, over time, and by gender. Our main focus is on female labor force participation. Unfortunately, the micro-data is only available from the 1982 census onward. Therefore, we rely on municipality-level aggregates published by the National Institute of Statistics for the 1960 and 1970 censuses. Importantly, this data restriction means that we do *not* observe labor force participation by gender in 1970 and before. In addition to the labor force, we extract other information for the implementation of our empirical strategy and to test for its validity. We observe the share of the local population by gender, population density, the share living in rural areas, age composition of the population, years of education, literacy rates, and the number of houses per capita which we use as a proxy for income.

As previously described, there is qualitative evidence that women centers devoted efforts to influence the political preferences of participants. We measure the local political behavior with administrative voting data from the Electoral Service. Given the importance of the 1988 referendum, which democratically determined if the dictator were to remain in power for the next eight years, we gather data on vote shares for the YES and NO options in the ballot. The NO option ultimately won with 55 percent of the vote and the transition to democracy began. We measure political preferences at the local level before the dictatorship using the vote shares in the 1970 presidential election. Three candidates competed in 1970, one from the left-wing (Salvador Allende), one from the center (Radomiro Tomic), and one from the right-wing (Jorge Alessandri). We also observe turnout in each of these elections. Importantly, men and women voted in separate booths, which means we can measure political preferences at the local level by gender.

Given the importance of geography, particularly under dictatorial times when mobility is severely restricted, we construct a number of spatial covariates. Using the population-weighted centroid of each municipality, we measure the Euclidean distance to the country's capital (Santiago), to the regional capital, and to the most relevant infrastructure of the time. In particular, we observe the

universe of military bases available to the military before the 1973 coup (Bautista et al., 2023a), all hospitals available to the population in the early 1970s (González and Prem, 2023), all churches in the 1960s, and measures of social organizations different from CEMA. We also construct an indicator for landlocked municipalities, and the Moran eigenvectors to account for the spatial centrality of units. Finally, we observe inequality in land ownership from the 1965 agricultural census (Cuesta et al., 2015), land reform expropriations during the UP years (González and Vial, 2021), and the number of labor unions per municipality (Gómez and Klein, 1972).

3.3 Descriptive statistics

Column 1 in panel A of Table 1 presents population-weighted averages for the main variables in the analysis. One-third of municipalities were exposed to women centers and training programs as measured by real estate transfers, and the average municipality was closer than 25 kilometres from these. Between 1982 and 1992, the participation of women increased from 29 to 34%.¹² Panels B and C describe the municipalities more generally. Three-quarters of the population lived in urban areas before the dictatorship, and political preferences were roughly divided in three-thirds in 1970, with one-third going to the left-, center-, and right-wing candidates. Also, by 1970 literacy rates reached almost 90 percent, and 25,000 people inhabited the average municipality, half men and half women, and approximately one-third were younger than 18 years old. We observe more than 7,000 social organizations across the country, 0.82 every 1,000 inhabitants, and 400 labor unions.

Column 2 in Table 1 shows the differences between the 100 municipalities directly exposed to the centers and those less exposed. Centers were located in more urban and populated municipalities that were relatively more developed—as measured by education and literacy—which had more women, more social organizations (but less unions), and that were closer to regional capitals. The difference in means revealed by column 2 implies that a naïve comparison of outcomes across municipalities with and without buildings owned by CEMA is hard to interpret. The following section describes a research design offering a valid comparison of municipalities that are similar in a wide variety of characteristics, but differ in terms of exposure to the centers.

¹²We define female labor force participation as the total number of women working, or seeking to work, over the adult population of women. Work is self-reported and thus includes both formal and informal jobs.

4 Research Design

Our goal is to estimate the empirical relationship between women centers and outcomes related to indoctrination and empowerment. Unfortunately, simple comparisons of means across municipalities with and without centers are unlikely to provide meaningful estimates. The main econometric problem is that omitted variables can be correlated with centers and the outcomes of interest. Column 2 in panels B and C of Table 1 provides evidence that describes the identification problem: we observe important differences across municipalities with and without direct access to women centers *before* the centers were controlled by the dictatorship in 1973. Centers were more likely to be located in municipalities with higher levels of urbanization, with more population, with more educated individuals, and closer to large cities where the services sector was larger and social organizations (different from women) were more prevalent.¹³ All these variables are likely to be important drivers of development trajectories and consequently female labor force participation.

4.1 Econometric strategy

Our empirical strategy relies on comparisons of municipalities after accounting for predetermined differences in observable characteristics, i.e., we rely on a conditional exogeneity assumption. The economic magnitude of the differences in column 2 of Table 1 suggests that the main driver of the location of centers under dictatorship was urbanization and proximity to population. Considering that the main goal of the institution was to reach a large portion of the population, these drivers can be rationalized by a simple economic motivation: the closer the centers to large agglomerations of people, the easier to exert control.¹⁴ Therefore, we use five local characteristics to capture this motive: (log) population in 1970, the share of women in the 1970 population, the share of the 1970 population living in rural areas, (log) distance to the country's capital, and (log) distance to the regional capital. In addition, motivated by the inherent political nature behind the authoritarian capture of social organizations, we also include vote shares for the left- (Salvador Allende) and right-wing (Jorge Alessandri) candidates in the 1970 election. Lastly, we also always compare

¹³Interestingly, the location of centers is uncorrelated with local electoral results in the 1970 election, suggesting that political factors were not the primary driver behind their installation or that they attempted to control everyone.

¹⁴There is limited evidence of the differences across centers in urban versus rural areas. The existing evidence suggests that the fewer rural centers were, if anything, more important for the local population (Oxman, 1983). Moreover, priority seems to have been given to centers outside of the city capital (Valdés and Weinstein, 1993, p. 109).

nearby municipalities within the same province with the use of 25 province fixed effects.

We estimate the relationship between the outcomes of interest and geographic exposure to women centers using comparisons of nearby municipalities after adjusting for predetermined differences in population size, political preferences, and urbanization using the following equation:

$$Y_{ij} = \beta C_{ij} + \delta x_{ij} + \phi_j + \varepsilon_{ij} \quad (1)$$

where Y_{ij} is female labor force participation or an indoctrination outcome in municipality i , located in province j . The main right-hand side variable is C_{ij} , which is either an indicator for municipalities with women centers or the (log) distance to the nearest women center. The adjustment in baseline differences is captured by x_{ij} , a vector with the set of covariates previously described, and by province fixed effects ϕ_j . We allow the error term to be arbitrarily correlated within provinces, but all results are similar in terms of statistical significance if we use spatially correlated errors (Conley, 1999). Our interest is on β , which captures the difference in short- or long-run outcomes as a function of the geographic exposure to women centers. We estimate equation (1) by weighted least squares using 1970 population as weights to account for the size of municipalities.

Crucially for the strategy, column 3 in panel C of Table 1 shows that, after accounting for the simple set of predetermined differences and province fixed effects, municipalities with and without centers are similar across a wide range of important drivers of female labor force participation. The exposure to centers is now uncorrelated with local labor force participation, marriage rates, educational attainment, and exposure to other organizations. Column 5 in the same table repeats the implementation of these adjusted comparisons, but now with the (log) distance to the nearest centers, and we again observe balance in observables. Thus Table 1 suggests that these adjusted comparisons can be used in a meaningful way. In that sense, we interpret this conditional balance in observables as empirical evidence supporting the validity of our identification strategy.

4.2 Identification assumption and threats

To interpret β in equation (1) as the causal effect of women centers, we need to assume the absence of omitted variables correlated with the geographic exposure to centers and the outcomes of interest. Even though we have shown balance in a wide variety of observables, we cannot test for all possible differences. Therefore, this is ultimately an identification assumption that we support with

a variety of empirical exercises assessing potential threats. Similarly important is the interpretation of causality in our context. Given that we observe exposure to the centers at an aggregated level (municipality), and we lack enrollment data, our estimate can be interpreted as an intention-to-treat (ITT). Moreover, centers can have a direct effect on enrolled women and indirect effects on nearby people exposed to enrolled women. The estimate β is a combination of both effects.

We tackle two threats that could potentially affect our analysis. The first one is related to the extrapolation of linear relationships between controls and outcomes. By controlling for covariates we rely on functional form assumptions that are easy to relax. In addition to showing estimates using all 330 municipalities, we provide estimates in a sub-sample of municipalities that are observationally similar in terms of 1970 labor force participation. To construct this sub-sample, we use a propensity score matching algorithm that pairs each of the 100 municipalities hosting a center with the nearest municipality of the remaining 230 (with replacement). The algorithm delivers a sample of 170 municipalities, 100 with and 70 without centers. Reassuringly, columns 4 and 6 in panel C of Table 1 show that municipalities in this matching sample are similar in a wide variety of relevant predetermined characteristics. The second set of threats is that dictatorial actions can be correlated with both centers and development. We assess a number of these threats by showing the robustness of results to the presence of the state and the exposure to other relevant policies.

5 Empowerment or Indoctrination?

This section presents our estimates of the impact of women centers on female labor force participation, voting patterns by gender, and religiosity at the local level. The first outcome is related to female empowerment, and the latter two to the indoctrination taking place in centers. We observe all outcomes in the 1992 census, two years after the country's transition to democracy.

5.1 Female labor force participation

Table 3 presents estimates of equation (1) using labor force participation of 18-60 year old women as dependent variable. These women were directly exposed to centers and were old enough to be able to join the labor force. We find that municipalities geographically more exposed to the centers are positively associated with higher female labor force participation in 1992 (columns 5-6). Importantly, we do *not* observe this empirical relationship among men, who barely participated

in centers, and the point estimate is very close to zero (columns 3-4 and 7-8).¹⁵ Both of these relationships are weaker and indistinguishable from zero in 1982, when training programs were less relevant (columns 1-2). The results are similar when using all municipalities (panel A) or the matching sample (panel B). Overall, municipalities with women centers have 2 percentage points (pp) higher female labor force participation in 1992 (column 5), equivalent to 40% of the increase in women's participation in the previous decade. Similarly, moving from the 10th to the 90th percentile in the distribution of distance to the closest women center (0 to 70 kilometres), is associated with 2 pp lower female labor force participation.¹⁶

Even though our analysis accounts for a wide range of local characteristics, we still worry about omitted variables that could be correlated with the location of centers and *female* labor force participation. We are less worried about unobservable variables driving labor force participation more generally, as we show that local *male* participation is uncorrelated with centers. There is also less of a concern regarding variables driving the location of centers, because of the large set of controls and the fact that we do not observe effects in 1982 when centers were operating. Yet the Pinochet dictatorship might have implemented other programs that threat our interpretation. To alleviate concerns about these omitted variables, and thus support a causal effect of women centers of female labor force participation, we present three interrelated sets of empirical exercises.

We first address the role of state presence and other institutions. Columns 1-8 in Table A.2 show that results remain unchanged after controlling for churches, social organizations, military bases, or hospitals. Moreover, columns 9-14 show that the results are robust after controlling for the remoteness of municipalities using proximity to ports and airports, and by industry composition using the share of workers in the services sector. Second, the results are similar when we account for the geographic interdependence of municipalities and change some specification decisions. Columns 1-2 in Table A.3 show similar estimates when we drop the use of weights from the estimation. Columns 3-8 control for spatial correlation with the inclusion of latitude and longitude, log average distance to all other municipalities, and Moran eigenvectors. Reassuringly, the results remain unchanged. Similarly, columns 9-10 show that results are unchanged when the controls

¹⁵These estimates are consistent with the fact that the programs were exclusive for women and men were barely trained. For example, less than 100 men were trained in 1986 and 271 in 1987 (Valdés and Weinstein, 1993, p. 95).

¹⁶Figure A.2 shows that the point estimate seems to be similar across age groups, with perhaps a slightly larger point estimate for younger cohorts, but we, unfortunately, lack statistical power to distinguish these cohort effects. Figure A.3 also shows that estimates are not driven by any specific province (panel A) or municipality (panel B). Table A.1 shows that most of the effect is explained by women with a partner who also participates in the labor market.

are chosen by an algorithm using their predictive power of female labor force participation and the presence of centers as inclusion criteria (Belloni et al., 2014).

The third set of exercises checks whether we reach a similar conclusion using alternative research designs. Columns 11-12 in Table A.3 show that alternative matching methods that select the sample of municipalities using a statistical rule deliver the same results (Crump et al., 2009). We can also use the variation in training programs between 1982 and 1992 in a difference-in-differences framework. More precisely, we estimate the impact of the training programs by examining the change in female labor force participation across municipalities differentially exposed to centers between 1982 and 1992. This approach allows us to exploit variation within-municipality over time by using fixed effects. Columns 1-2 in Table A.4 show estimates for women and columns 3-4 for men using this design. We observe a similar impact of centers on labor force participation of women, and the same null impact on men. In a related design, we use triple differences exploiting the availability of comparisons across gender, geographic exposure to centers, and census years. We again find that centers increase female labor force participation (columns 5-6).

The higher female labor force participation in 1992 is explained by occupations related to activities that took place in the centers. Table 3 presents estimates of equation (1) using the share of women in selected occupations as dependent variable. We focus on all adult women, regardless of their employment status as occupation is still reported. Columns 1-4 examine occupations related to the skills promoted by the training programs. The three most important jobs account for 98% of these occupations: cooking, clothing (sewing and weaving), and hairdressing. We observe a small 0.1 pp increase in participation in these categories, but the estimate is statistically indistinguishable from zero. In contrast, we observe a statistically significant effect of 1.5 pp in occupations related to centers but not necessarily linked to the skills promoted by the training programs. The three most important jobs account for 71% of occupations in these categories: secretaries, maids, and saleswomen. The centers incentivized women to become salespeople, and to a lesser extent, maids. The former jobs include food and non-food sellers, packers, and cashiers.

5.2 Political and religious indoctrination

Women centers appear to have been ineffective in terms of political and religious indoctrination, as reflected by the lack of a relationship with electoral support for the dictatorship and self-reported Catholicism. We measure the former as vote shares by municipality and gender in the 1988 refer-

endum. The referendum offered two options, one supporting the continuation of Augusto Pinochet as president (YES option) and one supporting a transition to democracy with new elections to choose the president of the country (NO option). Although Pinochet expected to win the election, he lost with 45% of the vote (Spooner, 1999). Crucially, men and women voted in separate booths, which allows to cleanly measure political preferences by gender. The dictatorship attempted to use centers to build support before the referendum, but many members rejected these requests and centers began to dissolve due to fears of retaliation (Valdés and Weinstein, 1993, p. 127).

The estimates in columns 1-4 of Table 4 show that women centers are unrelated to votes by gender in the 1988 referendum. The point estimates in column 1 (panel B) allows us to reject that women centers increased the vote share of Augusto Pinochet (YES option) by more than 2 pp, which is less than 4% of the average vote share in the referendum. The null effect in column 2 has a similar interpretation and again exhibits a tight confidence interval around zero. Columns 3 and 5 show that voting patterns in male booths are also unrelated to women centers. The similarity of the empirical relationship of interest across male and female booths additionally suggests the lack of political indoctrination. Overall, there is little evidence supporting the centers as effective to build electoral support for the dictatorship. Moreover, given that we know political talks were given at the centers (Valdés and Weinstein, 1993, p. 95), these results are consistent with political persuasion being ineffective or with self-selection of dictatorship supporters into the centers.

We find similar null effects when examining the relationship between women centers and the share of self-reported Catholics. We measure local religiosity by examining a question in which people self-declared their religion. Conservative Catholics and Evangelicals were an important base of support for the dictatorship (Boas, 2016), and religion could have been part of the center, although there is limited evidence of it.¹⁷ We find that the empirical relation between women centers and religiosity is similarly non-existent across both men and women. Columns 5-8 in Table 4 present these results. We can reject that centers increased the share of Catholics in a municipality by more than 2.8 pp, which is less than 4% of the average share of Catholics locally.¹⁸ The point estimate is similar across gender, and the signs reverse when we focus on the matching sample.

¹⁷The relationship between the Catholic Church and the dictatorship was far from simple. The mainstream Catholic Church opposed the regime but powerful Catholic organizations (e.g., Opus Dei) supported it (Esberg, 2020). Lucía Hiriart liked to be perceived as a devoted Catholic and a strong supporter of marriage (Matus, 2013, p. 221).

¹⁸In particular, we examine the responses of 18-60 year old people to the question “What religion do you profess?” The options were Catholic, Evangelical, and atheist. Table A.6 shows none of these answers are affected by centers.

We conclude that centers are unlikely to have affected local religiosity.

5.3 Marriage, fertility, and education

Previous research has shown that training and information can change marriage, fertility, and education decisions (e.g., Bandiera et al. 2020). A common feature in those studies is the population being examined: young and unmarried women who still have to make important life choices. In contrast, our study context is characterized by training programs targeting relatively older women who registered at centers because they met several eligibility requirements. The selection process was precisely based on marriage and fertility, as only married women, mothers, and adult women could join the centers. Therefore, it is unlikely that centers could have affected those decisions. However, these decisions might be more malleable once we focus in the youngest population exposed to the centers. A similar rationale is likely to apply in the case of higher education decisions.

We find little evidence that women centers affected marriage, fertility, and education decisions. Table 5 presents the evidence. The results are similar when using all municipalities (panel A) and the matching sample (panel B). Columns 1 and 2 show that centers were statistically unrelated to marriage decisions. Given that more than 70 percent of the 18-60 year old women in the data were married in 1992, the point estimates are small in terms of economic magnitude. In fact, we can reject that centers decreased marriage rates by less than 1.3 percentage points or less than 2% of the sample average. Columns 3 and 4 show that fertility decisions were also unaffected. Similar to the case of marriage patterns, we can reject fertility effects smaller than 0.1 in absolute terms, which in this case corresponds to less than 5% of the sample mean of 2.2 children per women. Although we unfortunately lack data on membership at centers, the eligibility requirements and the estimates in these columns are consistent with centers being attended by mostly married women who already had children. Columns 5 and 6 study the share of women who enrolled in college for at least one year. The results again indicate little relation between higher education and women centers, and we can reject increases larger than 2.2 percentage points from a base of 8.2%.¹⁹

The null results in panels A and B of Table 5 could be hiding important heterogeneity by age, as first marriages are more prevalent than second marriages, and fertility decisions are mostly made

¹⁹Divorce rates and years of college also seem unaffected by centers. Table A.7 presents estimating results. Given the absence of legal divorce in 1992, we define ‘divorce’ as either a separation or annulled marriage. The latter was a legal alternative to end a marriage before the divorce law was enacted in 2004 (Cox, 2011). Dictatorship supporters were conservative and opposed divorce because they consider it an “attack against the family” (Power, 2002, p. 280).

in the 20s and 30s. Are the results similar among the youngest cohorts exposed to the centers? To check for the impact of centers among young women, we restrict attention to 28-40 year old women in 1992. These women were relatively young at the centers and thus more likely to change their marriage, fertility, and higher education decisions as a consequence. Panel C in Table 5 repeats the estimation in this sub-sample of women and, if anything, we find smaller and more imprecise point estimates. Overall, the evidence in this table suggests that marriage, fertility, and higher education decisions are unlikely to have been affected by women centers.

6 The Persistent Impact of Women Centers

This section shows that women centers had a persistent effect in female labor force participation. Our focus on labor force participation as an outcome in the long-run is motivated by the empirical results in the previous section. In addition, we provide more exploratory evidence suggesting that the higher female labor force participation was transmitted to the following generation. We investigate this intergenerational transmission in 2017 by studying the labor market decisions of 25-40 year old people with a mother exposed to the centers under dictatorship.

6.1 Labor force participation

Despite the short-run positive impact of women centers on female labor force participation, and the null effect on men, the long-run effects are far from obvious. On the one hand, one might expect these effects to persist over time with a similar or larger magnitude. That could be the case if the training programs gave women skills that depreciated slowly and on-the-job experience increased the returns to stay in the labor market. In addition, initial effects might have had a positive externality on other women, creating a larger long-run effect of centers. On the other hand, the impact of centers could vanish over time if the depreciation effects dominates or if women trained by the programs eventually displace other women. Moreover, closer to the retirement age, some women might decide to leave the workforce if they saved sufficiently for retirement, while others might decide to stay in the workforce to exploit their skills and maximize their savings. The long-run effect on the participation of men is also unclear, as their response crucially depends on general equilibrium effects in the local economy and the elasticity of substitution across men and women. Long-run impacts are ultimately an empirical question.

We find that the long run impact of women centers on female labor force participation is positive, just as the short run impact. We also find a somewhat smaller *positive* effect on male participation. Given our interest in women directly exposed by the centers and fully able to work, we restrict attention to 30-60 year old women in 2002 and 47-60 year old women in 2017. The retirement age for women (men) is 60 (65) and participation falls sharply after (Figure A.4). Younger women were *not* directly exposed to the centers. Panel A in Table 6 presents the labor market results.²⁰ Centers are associated with 2.2 pp higher female participation in 2002 and a smaller 1.6 pp in the 2017 census, similar magnitudes to the 1.9 pp in the 1992 census. The patterns are similar when measuring exposure with distance to the closest center. Panel B in the same table focuses on 50-70 year old people to study retirement decisions. Younger individuals are unlikely to retire and older ones are almost surely out of the labor force. The estimates reveal that by 2017 the exposure to dictatorial centers delayed the retirement decision by approximately 1 pp from a base of 16%.

The results in Table 6 show that, beyond the persistent impact of centers on women, we also observe the emergence of an impact on men. In municipalities with centers under dictatorship, the estimates reveal that men have 1.3-1.6 pp higher labor force participation, an effect that is half the size of the one for women when compared to their respective averages. There are several potential economic explanations for these findings. For example, we could rationalize these spillover effects with labor market complementarities across men and women. Evidence on this matter is scarce and likely to be context-specific. Another possibility is an increase in local economic activity which fostered a demand for labor and pushed men into the labor force relatively more than women. Unfortunately, we are unable to distinguish between these alternative mechanisms.

6.2 Intergenerational transmission

Parents and peers in local communities have a strong influence in the formation of preferences and beliefs (Bisin and Verdier, 2023). Growing up with working mothers in the household, or being exposed to those in other households, can thus have an impact on the beliefs of people about the role that women should have in society in general and in the labor market in particular, as evidence from the US, the UK, and Mexico shows (Farré and Vella, 2013; Johnston et al., 2014; Campos-Vazquez and Velez-Grajales, 2014). It is also plausible that working mothers have more resources

²⁰For simplicity and brevity, we discuss estimation results using all municipalities in this section. All estimates are similar using the matching sample. For completeness, Table A.5 in the Appendix presents the matching results.

to invest on their children, which also likely leads to different education and labor trajectories. We test for the existence of this type of intergenerational transmission using the 2017 census and leveraging variation in maternal exposure to women centers in the 1982-1990 period.

Operationally, we follow Bautista et al. (2023b) and focus on 25-40 year old individuals whom we observe in co-habitation with their mothers in the 2017 census. This restriction maximizes the chances of studying individuals who already made their education decisions and of being paired with a mother. We additionally restrict the sample to individuals with a prime working-age mother in the 1982-1990 years. Overall, we observe 280,000 individuals who meet this criteria.²¹ We use this sample of individuals to estimate the following cross-sectional regression by gender:

$$Y_{ijk} = \beta C_j + \sum_a \gamma_a x_i^a + \phi_k + \eta_{ijk} \quad (2)$$

where Y_{ijk} is the labor force participation of individual i , with mother born in municipality j , and living in province k in 2017. The main right-hand side variable of interest is C_j , our measure of exposure to women centers and training programs. The vector x_i^a includes age fixed effects for children and mothers, and ϕ_k are fixed effects by province. The error term η_{ijk} is clustered by the mother's place of birth. The coefficient of interest is β and measures the differential labor force participation of people whose mother was relatively more exposed to women centers in the 1982-1990 period. Econometric identification of β relies of comparisons of individuals of the same age, and whose mothers are the same age but were born in different municipalities.

Women with a mother more exposed to the centers have 1 pp higher female labor force participation from an average of 77%. Column 1 in Table 7 presents estimates of equation (2) for women and column 2 for men. The pattern for men is smaller and has the opposite sign, 0.5 pp from an average of 87%. Column 3 shows that women are 1.6 pp more likely to be in the labor force when leveraging a double differences across gender and exposure to centers, in which case all fixed effects are included by gender. Column 4 augments the model in the previous column to present results from a saturated econometric specification with fixed effects by municipality of *residence* and municipality of *mother's birth*, and estimates are again similar. The latter specification effectively accounts for local social interactions by municipality of residence. Column 5 uses the

²¹Table A.8 shows descriptive statistics for the universe of 25-40 year old people in the country with the subsequent sample restrictions to perform the analysis. Overall, individuals in our sample are more likely to be studying, unemployed, and live in smaller households, but are similar in terms of educational attainment and labor force participation.

sub-sample of households with multiple children in which there is at least one man and one woman to include household fixed effects. We again find that women with mothers more exposed to the training programs are more likely to participate in the labor market. Overall, the results support the intergenerational transmission of female labor force participation from mothers to daughters.

The results in Table 7 raise two questions. First, what is the mechanism explaining the intergenerational transmission of female labor force participation? The estimates are consistent with the transmission of beliefs about gender norms within households. Alternatively, centers could have generated income effects on the following generation, as mothers likely benefited economically from the training programs. Table A.9 shows that daughters of mothers exposed to the centers are indeed more likely to enroll in higher education (columns 1 and 3), but the effect is similar across daughters and sons (columns 2 and 4). Women also do not appear to have made significantly different fertility choices (column 5). Therefore, our preferred interpretation is that of more progressive norms about the role of women. Second, why do we observe a negative coefficient on men with a mother exposed to the centers? Although the estimate is small in economic magnitude, our interpretation is that in households more exposed to the centers there is convergence in gender norms: a more egalitarian distribution of household chores implies daughters working more and sons working less. An example is a more equal distribution of adult caregiving within the household, which currently exhibits large gender differences (Brito and Contreras, 2023).

7 Conclusion

By studying women centers under the Pinochet dictatorship in Chile, we have shown that autocrats can have a hard time using social organizations to their advantage. Our empirical examination of female exposure to these centers reveals that repeated social interactions among neighbors and exposure to labor market activities can incentivize women to join the labor market. This higher female participation in the labor market stands in stark contrast to the original goal of the conservative regime, which aimed to promote the role of women as mothers and housewives. Moreover, the self-selection of women into the centers likely limited the reach and effectiveness of the dictatorship to indoctrinate the population, at least directly through activities in this organization. Centers seem particularly powerful to promote female work, as evidenced by the long-run effects on directly exposed cohorts and the intergenerational transmission from mothers to daughters.

Despite the many ideal features of the context to study the authoritarian control of social organizations, our study still has some limitations that are worth mentioning. First, we use a somewhat coarse measure of exposure to centers, which prevents us from precisely capturing the reach of the organization. Unfortunately, the somewhat informal nature of these neighborhood groups will inevitably prevent researchers from quantitative improvements along these lines. Second, we are only able to capture the bundled impact of exposure to women centers, without clearly identifying which are the most important activities that can explain the higher female labor force participation. Training programs appear to be key, but it could be because of female interactions with work-related activities, social interactions among women in the programs, information diffusion about job opportunities, or because of the generation of skills that are useful for work, among others.

Our work also opens many questions for future research. Social organizations can be dismantled, monitored, controlled, or completely reformulated under an authoritarian leader. The organization we study was controlled and enhanced in the activities aligned with the autocrat's ideology. Yet other social organizations were completely dismantled, and other new ones were created to accomplish related or different goals. How do dictators decide what to do with existing social organizations? What type of organizations do they promote under their mandate? The answers to these questions are key to learning about the strength and fragility of authoritarian regimes.

References

- Acemoglu, D., Autor, D. H., and Lyle, D. (2004). Women, war, and wages: The effect of female labor supply on the wage structure at midcentury. *Journal of Political Economy*, 112(3):497–551.
- Acemoglu, D., Reed, T., and Robinson, J. A. (2014). Chiefs: Economic development and elite control of civil society in Sierra Leone. *Journal of Political Economy*, 122(2):319–368.
- Aguirre, J. (2013). If you build it they will come: Evidence of the impact of a large construction of childcare centers on attendance and maternal labor supply. *Working Paper*.
- Bandiera, O., Buehren, N., Burgess, R., Goldstein, M., Gulesci, S., Rasul, I., and Sulaiman, M. (2020). Women’s empowerment in action: Evidence from a randomized control trial in Africa. *American Economic Journal: Applied Economics*, 12(1):210–259.
- Bautista, M. A., González, F., Martínez, L., Muñoz, P., and Prem, M. (2023a). The geography of repression and opposition to autocracy. *American Journal of Political Science*, 67(1):101–118.
- Bautista, M. A., González, F., Martínez, L., Muñoz, P., and Prem, M. (2023b). The intergenerational transmission of higher education: Evidence from the 1973 coup in Chile. *Explorations in Economic History*, 90:101540.
- Belloni, A., Chernozhukov, V., and Hansen, C. (2014). High-dimensional methods and inference on structural and treatment effects. *Journal of Economic Perspectives*, 28(2):29–50.
- Berthelon, M., Kruger, D., and Oyarzún, M. (2023). School schedules and mothers’ employment: evidence from an education reform. *Review of Economics of the Household*, 21:131–171.
- Bisin, A. and Verdier, T. (2023). Advances in the economic theory of cultural transmission. *Annual Review of Economics*, 15:63–89.
- Blattman, C., Dercon, S., and Franklin, S. (2022). Impacts of industrial and entrepreneurial jobs on youth: 5-year experimental evidence on factory job offers and cash grants in Ethiopia. *Journal of Development Economics*, 156:102807.
- Blattman, C., Fiala, N., and Martinez, S. (2014). Generating skilled self-employment in developing countries: Experimental evidence from Uganda. *Quarterly Journal of Economics*, 129(2):697–752.
- Boas, T. (2016). Pastors for Pinochet: Authoritarian stereotypes and voting for Evangelicals in Chile. *Journal of Experimental Political Science*, 3:197–205.
- Boehnke, J. and Gay, V. (2022). The missing men: World War I and female labor force participation. *Journal of Human Resources*, 57(4):1209–1241.
- Boeri, T., Mishra, P., Papageorgiou, C., and Splimbergo, A. (2021). Populism and civil society. *Economica*, 88:863–895.

- Brito, E. and Contreras, D. (2023). The caregiving penalty: Caring for sick parents and the gender pay gap. *Working Paper*.
- Brodeur, A. and Kattan, L. (2022). World War II, the baby boom, and employment: County-level evidence. *Journal of Labor Economics*, 40(2):437–471.
- Bueno de Mesquita, B., Smith, A., Siverson, R. M., and Morrow, J. D. (2005). *The logic of political survival*. MIT Press.
- Campos-Vazquez, R. M. and Velez-Grajales, R. (2014). Female labour supply and intergenerational preference formation: Evidence for Mexico. *Oxford Development Studies*, 42(4):553–559.
- CIPER (2012). Ley de Transparencia permitió a Fundación CIPER acceder a información de las propiedades de Cema Chile. *CIPER*.
- Conley, T. G. (1999). Gmm estimation with cross sectional dependence. *Journal of Econometrics*, 92(1):1–45.
- Contreras, D. and Plaza, G. (2010). Cultural factors in women’s labor force participation in Chile. *Feminist Economics*, 16(2):27–46.
- Contreras, D., Puentes, E., and Bravo, D. (2005). Female labour force participation in greater Santiago, Chile: 1957-1997. a synthetic cohort analysis. *Journal of International Development*, 17:169–186.
- Contreras, D., Puentes, E., and Rau, T. (2004). Trade openness and the female worker: The case of Chile. In Piras, C., editor, *Women at Work*. Inter-American Development Bank.
- Contreras, D. and Sepúlveda, P. (2017). Effect of lengthening the school day on mother’s labor supply. *World Bank Economic Review*, 31(3):747–766.
- Cox, L. (2011). Divorce in Chile: An empirical analysis since the enactment of the new civil law marriage. *Estudios Públicos*, 123:95–187.
- Crump, R. K., Hotz, V. J., Imbens, G. W., and Mitnik, O. A. (2009). Dealing with limited overlap in estimation of average treatment effects. *Biometrika*, 96(1):187–199.
- Cuesta, J. I., Gallego, F., and González, F. (2015). Local impacts of trade liberalization: Evidence from the Chilean agricultural sector. In Caballero, R. and Schmidt-Hebbel, K., editors, *Economic Policy in Emerging-Market Economies*. Central Bank of Chile.
- Davenport, C. and Armstrong, D. A. (2004). Democracy and the violation of human rights: A statistical analysis from 1976 to 1996. *American Journal of Political Science*, 48(3):538–554.
- De Dios-Fernández, E. and Mínguez-Blasco, R. (2021). Catholic housewives in transition: The centres for the promotion of women between the Franco dictatorship and democracy in Spain (1960-1980). *Journal of Religious History*, 45(4):623–643.
- De Grand, A. (1976). Women under Italian Fascism. *The Historical Journal*, 19(4):947–968.

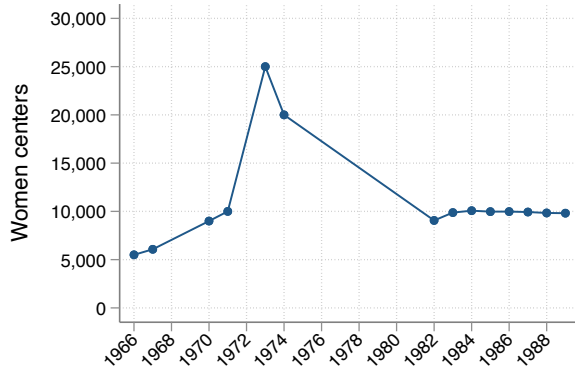
- Díaz, J., Lüders, R., and Wagner, G. (2016). *La República en Cifras. Chile 1810-2010. Historical Statistics*. Ediciones UC.
- Díaz-Martin, L., Gopalan, A., Guarnieri, E., and Jayachandran, S. (2023). Greater than the sum of the parts? Evidence on mechanisms operating in women's groups. *The World Bank Research Observer*, 38(1):1–35.
- Esberg, J. (2020). Censorship as reward: Evidence from pop culture censorship in Chile. *American Political Science Review*, 114(3):821–836.
- Farré, L. and Vella, F. (2013). The intergenerational transmission of gender role attitudes and its implications for female labour force participation. *Economica*, 80(318):219–247.
- Fernández, R. (2012). Cultural change as learning: The evolution of female labor force participation over a century. *American Economic Review*, 103(1):472–500.
- Fernández, R., Fogli, A., and Olivetti, C. (2004). Mothers and sons: Preference formation and female labor force dynamics. *Quarterly Journal of Economics*, 119(4):1249–1299.
- Fernández, R. and Wong, J. (2014). Unilateral divorce, the decreasing gender gap, and married women's labor force participation. *American Economic Review*, 104(5):342–347.
- Field, E., Jayachandran, S., and Pande, R. (2010). Do traditional institutions constrain female entrepreneurship? a field experiment on business training in India. *American Economic Review: Papers and Proceedings*, 100:125–129.
- Fogli, A. and Veldkamp, L. (2011). Nature or nurture? Learning and the geography of female labor force participation. *Econometrica*, 79(4):1103–1138.
- Fossa, L. and Arcos, N. (2012). CEMA: Cómo la fundación de Lucía Hiriart lucró con la venta de inmuebles que le donó el Fisco. *CIPER*.
- Franceschet, S. (2005). *Women and Politics in Chile*. Lynne Rienner Publishers.
- García, P. (1995). Empleo y participación en Chile. *Colección de Estudios CIEPLAN*, 41:7–40.
- Gay, V. (2023). The intergenerational transmission of World War I on female labour. *Economic Journal*, 133:2303–2333.
- Giuliano, P. and Nunn, N. (2021). Understanding cultural persistence and change. *Review of Economic Studies*, 88(4):1541–1581.
- Giuliano, P. and Wacziarg, R. (2020). Who voted for Trump? Populism and social capital. *NBER Working Paper No. 27651*.
- Goldin, C. (1991). The role of World War II in the rise of women's employment. *American Economic Review*, 81(4):741–756.
- Goldin, C. (1995). The U-shaped female labor force function in economic development and economic history. In Schultz, T. P., editor, *Investment in women's human capital and economic development*. University of Chicago Press.

- Goldin, C. (2006). The quiet revolution that transformed women's employment, education, and family. *American Economic Review*, 96(2):1–21.
- Goldin, C. and Katz, L. F. (2002). The power of the pill: Oral contraceptives and women's career and marriage decisions. *Journal of Political Economy*, 110(4):730–770.
- Goldin, C. and Olivetti, C. (2013). Shocking labor supply: A reassessment of the role of World War II on women's labor supply. *American Economic Review*, 103(3):257–262.
- Gómez, S. and Klein, E. (1972). Informe sobre el estado actual de los consejos comunales campesinos. *Santiago, Chile: ICIRA*.
- González, F. and Prem, M. (2018). The value of political capital: Dictatorship collaborators and business elites. *Journal of Economic Behavior and Organization*, 155:217–230.
- González, F. and Prem, M. (2023). Government support in times of crisis. *Working Paper*.
- González, F., Prem, M., and Urzúa, F. (2020). The privatization origins of political corporations. *Journal of Economic History*, 80(2):417–456.
- González, F. and Vial, F. (2021). Collective action and policy implementation: Evidence from Salvador Allende's expropriations. *Journal of Economic History*, 81(2):405–440.
- Guiso, L., Sapienza, P., and Zingales, L. (2004). The role of social capital in financial development. *American Economic Review*, 94(3):526–556.
- Guriey, S. and Treisman, D. (2019). Informational autocrats. *Journal of Economic Perspectives*, 33(4):100–127.
- Hassan, M., Mattingly, D., and Nugent, E. R. (2022). Political control. *Annual Review of Political Science*, 25:155–74.
- Jensen, R. (2012). Do labor market opportunities affect young women's work and family decisions? Experimental evidence from India. *Quarterly Journal of Economics*, 127(2):753–792.
- Johnston, D. W., Schurer, S., and Shields, M. A. (2014). Maternal gender role attitudes, human capital investment, and labour supply of sons and daughters. *Oxford Economic Papers*, 66(3):631–659.
- Kirkwood, J. (1986). *Ser política en Chile. Las feministas y los partidos*. FLACSO.
- Larrañaga, O. (2007). Labor market participation of women in Chile, 1958-2003. *Documento de Trabajo N. 256, Universidad de Chile*.
- Lechner, N. and Levy, S. (1984). Notas sobre la vida cotidiana III: El disciplinamiento de la mujer. *FLACSO*.
- Madestam, A., Shoag, D., Veuger, S., and Yanagizawa-Drott, D. (2013). Do political protests matter? Evidence from the Tea Party movement. *Quarterly Journal of Economics*, 128(4):1633–1685.

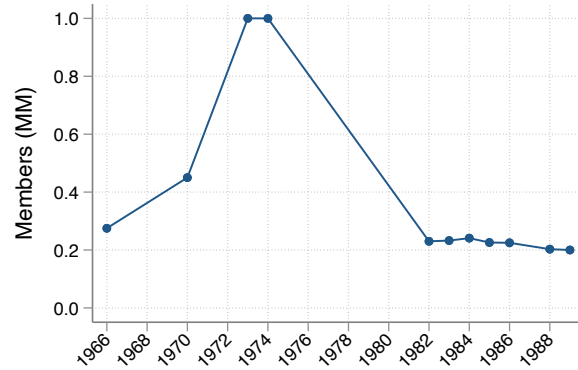
- Martínez, C. and Perticará, M. (2017). Childcare effects on maternal employment: Evidence from Chile. *Journal of Development Economics*, 126:127–137.
- Matus, A. (2013). *Doña Lucía'*. Ediciones B.
- Medrano, P. (2009). Public day care and female labor force participation. *Documento de Trabajo N. 306*, Universidad de Chile.
- Muchnik, E., Vial, I., Strüver, A., and Harbart, B. (1991). Oferta de trabajo femenino en Santiago. *Cuadernos de Economía*, 28(85):463–490.
- Oxman, V. (1983). La participación de la mujer campesina en organizaciones: los centros de madres rurales. *Resultados de Investigación*, 12.
- Pardo, L. (1987). La participación de las mujeres en la fuerza de trabajo: Tendencias y características. *Revista Economía y Administración*, 61:41–64.
- Power, M. (2002). *Right-wing women in Chile*. The Pennsylvania State University Press.
- Putnam, R. D. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton University Press.
- Rau, T. and García-Mora, C. (2023). Peer effects in the adoption of a youth employment subsidy. *Review of Economics and Statistics*, 105(3):614–625.
- Richmond, K. (2003). *Women and Spanish fascism: The women's section of the Falange 1934-1959*. Routledge.
- Riquelme, A. (1987). Promoción popular y la educación para la participación (1964-1970). *Proposiciones*, 15.
- Rose, E. K. (2018). The rise and fall of female labor force participation during World War II in the United States. *Journal of Economic History*, 78(3):673–711.
- Satyanath, S., Voigtländer, N., and Voth, H.-J. (2017). Bowling for fascism: Social capital and the rise of the Nazi party. *Journal of Political Economy*, 125(2):478–526.
- Slovik, M. W. (2012). *The politics of authoritarian rule*. Cambridge University Press.
- Spooner, M. H. (1999). *Soldiers in a narrow land: The Pinochet regime in Chile*. University of California Press.
- Stephenson, J. (1978). *The Nazi Organisation of Women, 1933-39*. Routledge.
- Tessada, V. (2012). “modelando el bello sexo.” el modelo femenino en las dictaduras de Franco y Pinochet a través de las revistas femeninas y, revista para la mujer y amiga. *Investigaciones Históricas*, 32:263–282.
- Valdés, T. and Weinstein, M. (1993). *Mujeres que sueñan. Las organizaciones de pobladoras en Chile: 1973-1989*. LibrosFlacso.

- Valdés, T., Weinstein, M., Toledo, M. I., and Letelier, L. (1989). Centros de madres 1973-1989: ¿solo disciplinamiento? *FLACSO*.
- Valdivia, V. (2010). ¿las ‘mamitas de Chile’? Las mujeres y el sexo bajo la dictadura pinochetista. In Hutchison, E., Illanes, M. A., Lira, E., Tinsman, H., Valdés, X., Valdivia, V., and Pinto, J., editors, *Mujeres. Historias chilenas del siglo XX*. LOM.

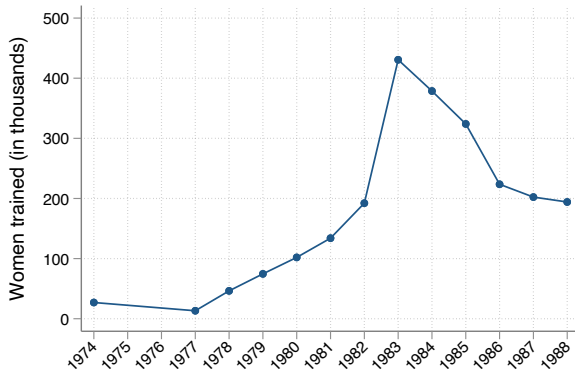
Figure 1: Women centers, members, and training



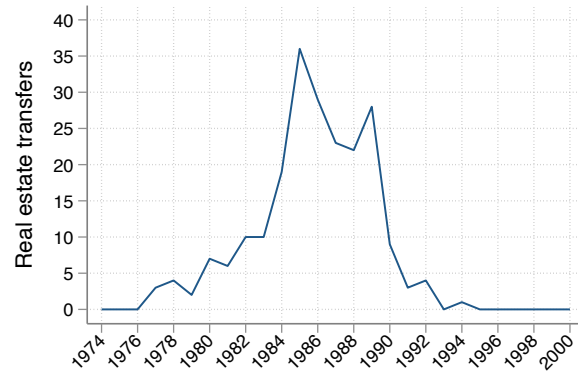
(a) Women centers



(b) Members at women centers



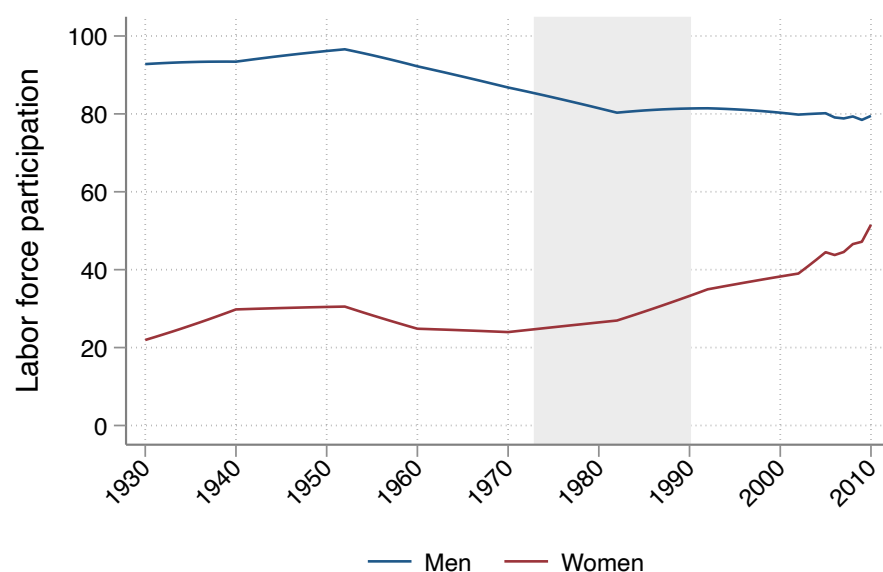
(c) Training



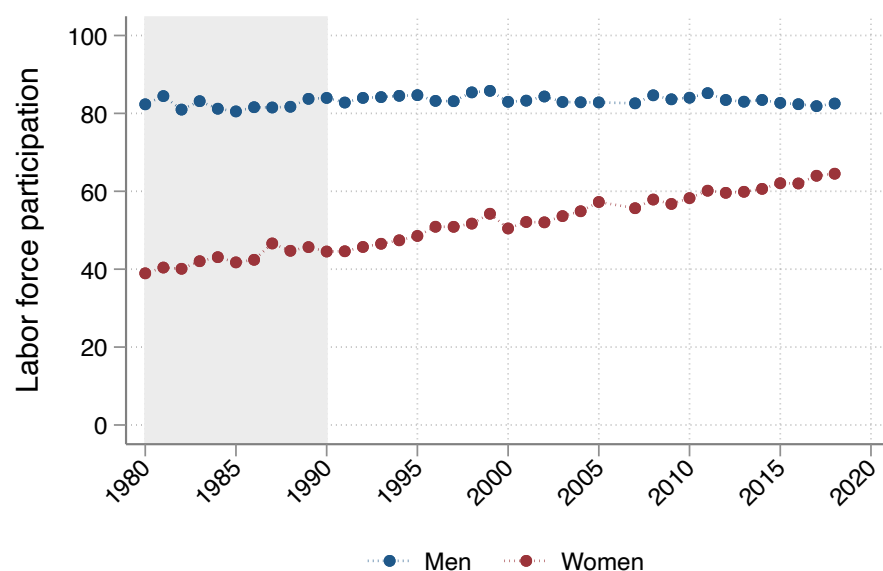
(d) Real estate transfers

Notes: Panel (a) shows the estimated number of women centers operating by year (when available). Panel (b) plots the number of women enrolled in centers by year (when available). Panel (c) shows the number of women trained in the training programs delivered under the Pinochet dictatorship. Panel (d) shows the number of real estate transfers from the dictatorship to the central organizations managing women centers (CEMA). Source: Valdés et al. (1989).

Figure 2: Labor force participation by gender



(a) Historical national statistics, 1930-2010



(b) Survey data for the capital, 1980-2020

Notes: These figures show the evolution of female and male labor force participation over time. Panel (a) shows participation rates by gender using historical statistics constructed by Díaz et al. (2016) for the period 1930-2010. Panel (b) displays similar trends using survey data for the capital city (from *Encuesta de Ocupación y Desocupación en el Gran Santiago* or EOD) for the period 1980-2020.

Table 1: Descriptive statistics and conditional exogeneity assumption

	Avg.	Differences by exposure to women centers				
		Indicator			Distance	
		Simple	Conditional	Matching	Conditional	Matching
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A – Main variables						
Indicator for women center	0.30 (0.46)					
Distance to closest center (in km)	24.6 (30.9)					
Female labor force participation in 1992	33.9 (10.6)					
Panel B – Baseline controls						
Log population in 1970	10.8 (1.1)	0.95*** (0.19)				
Share of women in population in 1970	0.51 (0.03)	0.01** (0.01)				
Share of rural population in 1970	0.25 (0.29)	-0.23*** (0.04)				
Log distance to capital	4.45 (2.11)	-0.04 (0.46)				
Log distance to regional capital	2.68 (1.69)	-1.06*** (0.33)				
Vote share right-wing in 1970	34.6 (8.8)	0.48 (1.65)				
Vote share left-wing in 1970	36.6 (10.7)	0.70 (1.72)				
Panel C – Other characteristics						
Labor force participation in 1970	30.0 (3.7)	1.01 (0.82)	0.24 (0.59)	-0.54 (0.76)	0.07 (0.14)	0.27 (0.17)
Share of married women in 1970	0.53 (0.06)	-0.02* (0.01)	-0.00 (0.01)	0.00 (0.01)	-0.00 (0.00)	-0.00 (0.00)
Share of children in the population in 1970	0.39 (0.05)	-0.03** (0.01)	-0.00 (0.01)	0.01 (0.01)	-0.00 (0.00)	-0.00 (0.00)
Literacy rate in 1970	0.65 (0.11)	0.05*** (0.02)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.00)	0.01 (0.01)
Share of population with 8+ years of education	0.18 (0.12)	0.07*** (0.03)	0.00 (0.01)	-0.00 (0.01)	0.00 (0.00)	0.00 (0.00)
Social organizations per capita in 1970	0.82 (1.46)	0.58** (0.26)	0.39 (0.26)	0.06 (0.34)	-0.09 (0.06)	0.02 (0.08)
Unions per capita in 1970	0.06 (0.10)	-0.06*** (0.01)	0.00 (0.01)	-0.00 (0.01)	0.00 (0.00)	0.00 (0.00)
Churches per capita in 1964	0.07 (0.06)	-0.02*** (0.01)	0.00 (0.01)	-0.00 (0.01)	0.00 (0.00)	0.00 (0.00)
Share workers in services in 1982	60.4 (9.8)	8.54*** (1.61)	1.31* (0.69)	1.01 (0.97)	-0.28 (0.19)	-0.33 (0.27)
Baseline controls and province fixed effects	–	N	Y	Y	Y	Y
Municipalities	334	334	334	171	334	171

Notes: This table presents the difference in municipality characteristics before the dictatorship based on women centers presence. Columns 4 and 6 present results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a center with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Municipality population in 1970 used as analytical weight. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 2: Women centers and labor force participation by gender

	Dependent variable: Labor force participation							
	1982 Census				1992 Census			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A – All								
Indicator women center	0.48 (0.85) [0.32]		0.03 (0.84) [0.98]		1.85** (0.80) [<0.01]		-0.01 (0.44) [0.67]	
Log distance to closest center		0.10 (0.22) [0.58]		-0.09 (0.25) [0.73]		-0.64*** (0.23) [<0.01]		-0.14 (0.14) [0.78]
Panel B – Matching sample								
Indicator women center	0.39 (1.02) [0.29]		0.01 (0.90) [0.88]		2.30*** (0.79) [<0.01]		0.34 (0.57) [0.79]	
Log distance to closest center		0.04 (0.26) [0.82]		-0.10 (0.28) [0.80]		-0.59** (0.25) [0.04]		-0.13 (0.17) [0.96]
Observations (panel A)	322	322	322	322	334	334	334	334
Observations (panel B)	167	167	167	167	171	171	171	171
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Mean dep. variable (panel A)	28.86	28.86	85.39	85.39	33.86	33.86	82.65	82.65
Mean dep. variable (panel B)	29.63	29.63	85.05	85.05	35.14	35.14	82.49	82.49

Notes: Dependent variable is the female and male labor force participation based on the 1982 and 1992 Census. Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a center with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. In square brackets, we present p-values that account for spatial correlation following Conley (1999) using a distance of 200km. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 3: Employment in occupations related to women centers

	Dependent variable: Share of adult women in 1992 working in...							
	Occupations requiring skills promoted by the training programs at centers				Other occupations indirectly related to activities at women centers			
	All relevant occupations	Cooking	Clothing	Hairdressers	All relevant occupations	Secretary	Maid	Sales
Panel A	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Indicator women center	0.11 (0.17)	0.11 (0.07)	-0.02 (0.13)	0.02 (0.03)	1.51*** (0.51)	-0.06 (0.28)	0.27** (0.13)	0.42** (0.18)
Panel B								
Distance to closest center	-0.04 (0.05)	-0.02 (0.02)	-0.01 (0.04)	-0.01 (0.01)	-0.51*** (0.15)	0.02 (0.07)	-0.10** (0.04)	-0.17*** (0.06)
Observations	334	334	334	334	334	334	334	334
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Mean dep. variable	3.11	1.38	1.26	0.44	16.25	3.51	3.37	4.66

Notes: Dependent variable is the share of adult women in 1992 working in different occupations. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4: Women centers, political preferences, and religiosity

	Vote share NO				Religiosity			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A – All								
Indicator women center	-0.63 (0.90)		-0.49 (1.00)		0.94 (0.92)		0.71 (0.90)	
Log distance to closest center		-0.01 (0.27)		-0.15 (0.28)		-0.46 (0.29)		-0.41 (0.28)
Panel B – Matching sample								
Indicator women center	-0.11 (0.88)		0.19 (1.09)		-0.61 (1.31)		-0.74 (1.23)	
Log distance to closest center		-0.16 (0.27)		-0.29 (0.31)		0.08 (0.35)		0.12 (0.32)
Observations (panel A)	330	330	330	330	334	334	334	334
Observations (panel B)	171	171	171	171	171	171	171	171
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Mean dep. variable (panel A)	52.64	52.64	60.07	60.07	77.52	77.52	76.11	76.11
Mean dep. variable (panel B)	53.20	53.20	60.66	60.66	78.79	78.79	77.16	77.16

Notes: This table presents the impact of women centers on voting patterns and religiosity. The dependent variable in columns 1 and 2 (3 and 4) is the vote share of female (male) that voted No in the 1988 Plebiscite, while in columns 5 to 8 is the share of individuals that reported not be atheist. Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a center with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5: Marriage, fertility, and higher education

	Dependent variable measured in the 1992 census					
	Share women who are married		Avg. number of children		Share women with college education	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A – All						
Indicator women center	-0.20 (0.54)		-0.04 (0.04)		0.50 (0.89)	
Log distance to closest center		0.06 (0.16)		0.02** (0.01)		-0.15 (0.24)
Panel B – Matching sample						
Indicator women center	0.52 (0.67)		-0.05 (0.05)		1.05 (0.81)	
Log distance to closest center		-0.23 (0.17)		0.02 (0.01)		-0.19 (0.25)
Panel C – Young women						
Indicator women center	0.39 (0.91)		-0.01 (0.04)		0.26 (1.01)	
Log distance to closest center		-0.15 (0.25)		0.01 (0.01)		-0.03 (0.27)
Observations (panel A and C)	334	334	334	334	334	334
Observations (panel B)	171	171	171	171	171	171
Province fixed effects	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y
Mean dep. variable (panel A)	71.2	71.2	2.2	2.2	8.2	8.2
Mean dep. variable (panel B)	71.0	71.0	2.2	2.2	8.7	8.7
Mean dep. variable (panel C)	80.1	80.1	2.2	2.2	9.0	9.0

Notes: Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a center with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Panel C presents the results for the full sample but restricting the sample to individuals between 28 and 40 years old. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 6: The persistent effect of women centers

	2002 Census				2017 Census			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A – Labor force								
Indicator women center	2.35** (0.93)		1.77*** (0.46)		1.68** (0.73)		1.30*** (0.30)	
Log distance to closest center		-0.77*** (0.26)		-0.74*** (0.15)		-0.55** (0.22)		-0.49*** (0.09)
Panel B – Retirement								
Indicator women center	-0.42 (0.35)		-1.16* (0.62)		-0.93*** (0.34)		-1.27*** (0.31)	
Log distance to closest center		0.11 (0.10)		0.23 (0.19)		0.23** (0.10)		0.31*** (0.10)
Observations	334	334	334	334	334	334	334	334
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Mean dep. variable (panel A)	43.40	43.40	87.78	87.78	57.62	57.62	91.11	91.11
Mean dep. variable (panel B)	11.79	11.79	22.09	22.09	15.57	15.57	13.57	13.57

Notes: Dependent variable in Panel A is the female and male labor force participation based on the 2002 Census for individuals between 30 and 60 years old (columns 1 to 4) and on the 2017 Census for individuals between 47 and 60 years old (columns 5 to 8). Dependent variable in Panel B is the share of retired individuals between 50 and 70 years old. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 7: Intergenerational effects

Dependent variable: Indicator labor force participation					
	Female	Male	All	All	All
Panel A	(1)	(2)	(3)	(4)	(5)
Indicator women center × Female			1.55*** (0.44)	1.58*** (0.44)	2.94*** (0.87)
Indicator women center	1.02*** (0.35)	-0.54* (0.28)	-0.54* (0.28)		
Panel B					
Distance to center × Female			-0.49*** (0.10)	-0.52*** (0.10)	-0.96*** (0.22)
Distance to center	-0.34*** (0.09)	0.15** (0.07)	0.15** (0.07)		
Observations	134,463	152,002	286,465	286,464	92,277
Province fixed effects	Y	Y	Y	Y	Y
Municipality fixed effects	N	N	N	Y	N
Age of child fixed effects	Y	Y	Y	Y	Y
Age of mother fixed effects	Y	Y	Y	Y	Y
Household fixed effects	N	N	N	N	Y
Mean dep. variable	77.07	86.89	82.28	82.28	82.58

Notes: The sample includes individuals in the 2017 Census between 25 and 40 years old that live with their mother and their mother is the head of the household. In columns 3 to 5, province, age of child, and age of mother fixed effects are all interacted with gender fixed effects. In column 4, municipality fixed effects include municipality of birth of the mother fixed effects, as well as municipality of residence of the child fixed effects. Robust standard errors in parenthesis are clustered at the mother's municipality of birth. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

ONLINE APPENDIX

Empowerment or Indoctrination? Women Centers Under Dictatorship

Felipe González Mounu Prem Cristine von Dessauer

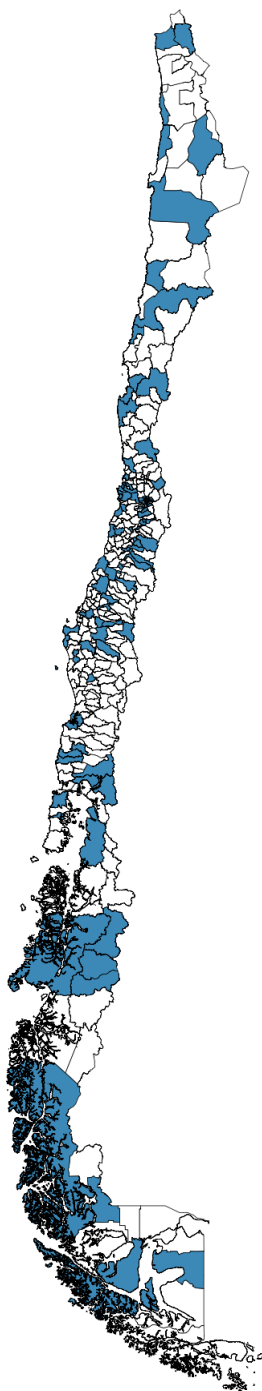
List of Figures

A.1	Geographic exposure to women centers	ii
A.2	Women centers and female labor force participation by age in 1992	iii
A.3	Excluding geographical units	iv
A.4	Labor force participation by cohort in 2017	v

List of Tables

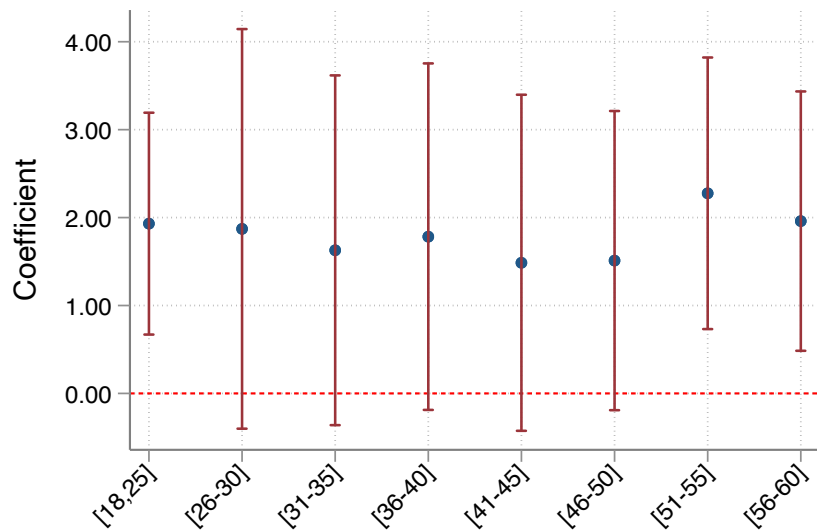
A.1	Dual earners	vi
A.2	State presence, social organizations, and remoteness	vii
A.3	Robustness checks for female labor force participation	viii
A.4	Difference-in-differences estimate using 1982 and 1992	ix
A.5	Long-run impact of women centers in the matching sample	x
A.6	Women centers and other religions	xi
A.7	Divorce and years of enrollment in higher education	xii
A.8	Descriptive statistics and sample selection	xiii
A.9	Intergenerational effects on human capital and fertility choices	xiv

Figure A.1: Geographic exposure to women centers

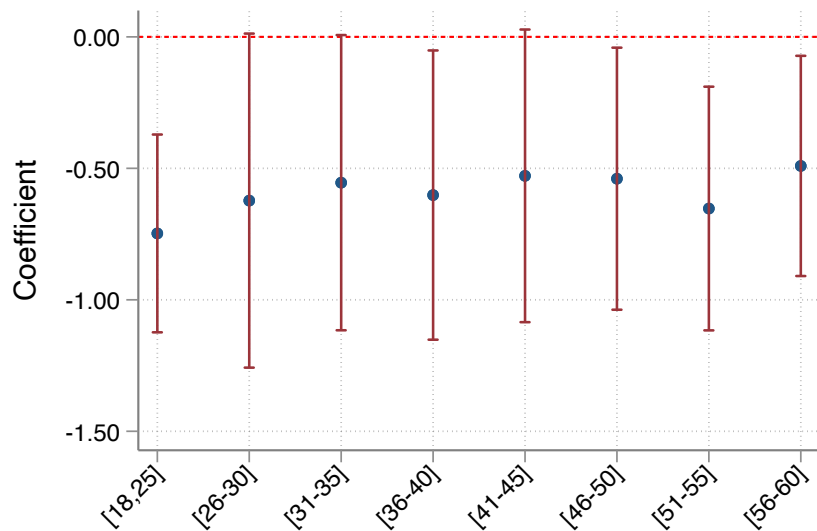


Notes: This map shows the geographic distribution of women centers across Chile. Municipalities in which women's centers were present by 1990 are highlighted in blue.

Figure A.2: Women centers and female labor force participation by age in 1992



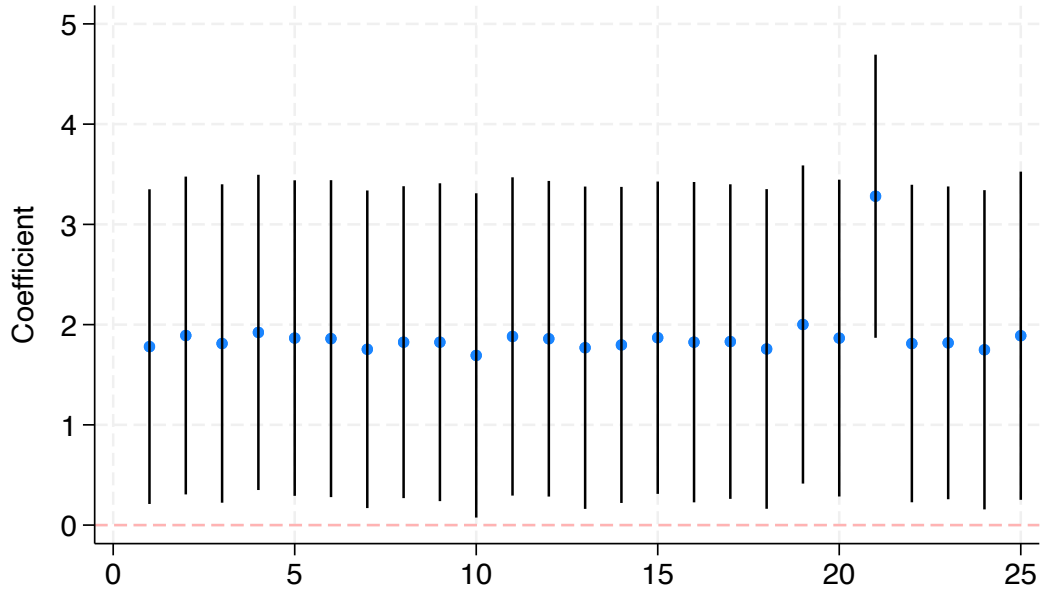
(a) Indicator women center



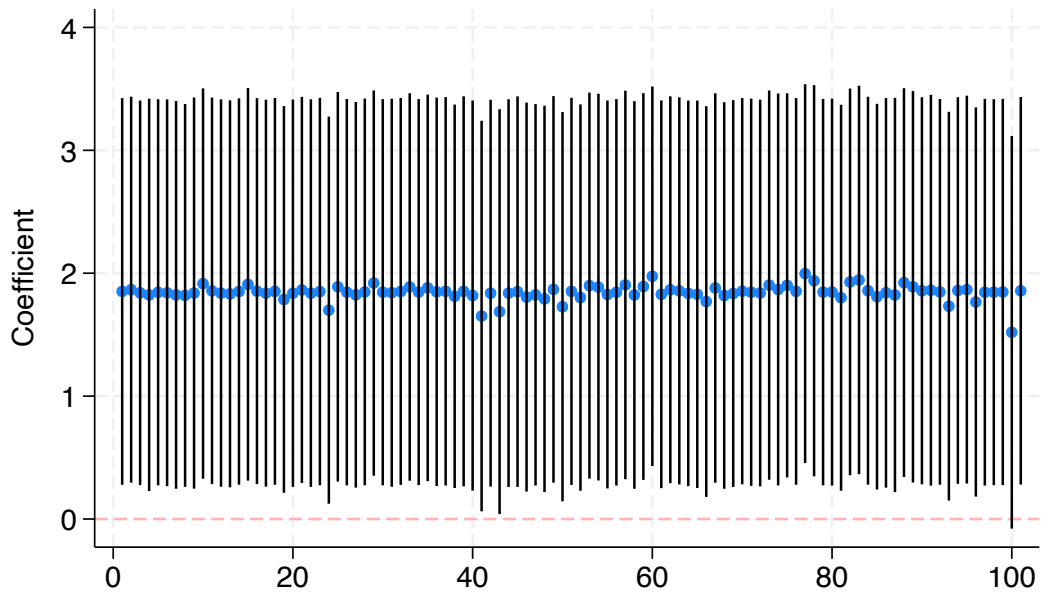
(b) Distance to the closest center

Notes: These figures present our estimates for the effect of women centers on female labor force participation by age group in 1992. Blue dots represent the point estimate and vertical red lines the 95 percent confidence interval.

Figure A.3: Excluding geographical units



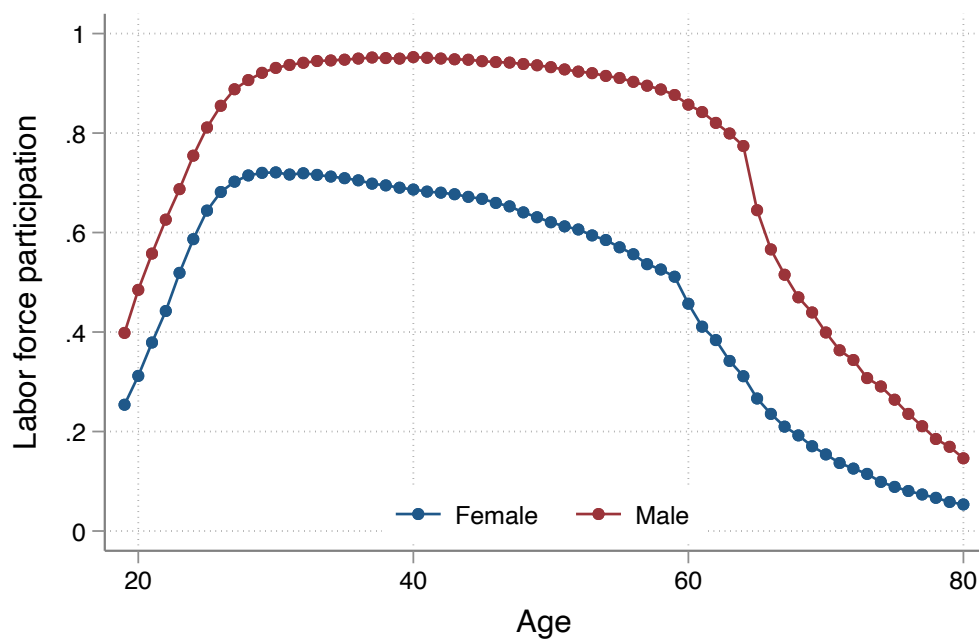
(a) Exclude provinces



(b) Exclude women centers municipalities

Notes: This figure presents the impact of women's centers on labor force participation. The specification corresponds to the one in column 5 of Table 2 Panel A. In panel A, we exclude one province at the time, while in panel B, we excluded one municipality with women centers presence at the time. Blue circles represent the different point estimates and vertical lines the 95 percent confidence interval.

Figure A.4: Labor force participation by cohort in 2017



Notes: This figure shows labor force participation by cohort and gender measured in the 2017 Census.

Table A.1: Dual earners

	Dependent variable: Dual earners			
	Full sample		Matching sample	
	(1)	(2)	(3)	(4)
Indicator women center	1.12 (0.80)		1.55*** (0.53)	
Log distance to closest center		-0.39* (0.21)		-0.43*** (0.16)
Observations	334	334	171	171
R-squared	0.679	0.680	0.713	0.710
Province fixed effects	Y	Y	Y	Y
Controls	Y	Y	Y	Y
Mean dep. variable	10.33	10.33	10.82	10.82

Notes: This table presents the effect of women centers on dual earners. The dependent variable is the share of households where the household head and his/her partner are in the labor force in the 1992 Census. In columns 1 and 2, results are shown for the full sample, while in columns 3 and 4, they are shown for a sub-sample based on a propensity score constructed based on the labor force participation in the municipality in 1970. The number of households is used as analytical weight. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.2: State presence, social organizations, and remoteness

		Dependent variable: Labor force participation													
		Institutional presence								Isolation/access				Market composition	
Additional control (Z):		Churches per capita		Social organizations		Indicator military base		Distance to hospital		Distance to port		Distance to airport		Tertiary sector	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
IIA:	Panel A: Female														
	Indicator women center	1.84**		1.86**		1.87**		1.89**		1.81**		1.75**		1.62**	
		(0.80)		(0.80)		(0.81)		(0.79)		(0.81)		(0.80)		(0.76)	
	Log distance to closest center		-0.64***		-0.64***		-0.66***		-0.65***		-0.63***		-0.58**		-0.59***
			(0.23)		(0.23)		(0.23)		(0.23)		(0.23)		(0.23)		(0.23)
	Z	1.44	2.07	-0.07	-0.07	0.13	0.19	-0.17	-0.11	0.36	0.37	-0.71***	-0.68***	0.30***	0.31***
		(4.72)	(4.78)	(0.18)	(0.18)	(0.26)	(0.26)	(1.02)	(1.02)	(0.29)	(0.30)	(0.22)	(0.22)	(0.12)	(0.11)
	Panel B: Male														
	Indicator women center	0.00		0.07		-0.03		0.15		-0.07		0.07		0.16	
		(0.43)		(0.42)		(0.44)		(0.44)		(0.44)		(0.44)		(0.41)	
	Log distance to closest center		-0.13		-0.16		-0.13		-0.19		-0.12		-0.18		-0.17
			(0.14)		(0.14)		(0.14)		(0.15)		(0.14)		(0.14)		(0.14)
	Z	-6.79*	-6.70*	-0.33	-0.34*	-0.07	-0.05	-0.66	-0.80	0.55***	0.54***	0.47**	0.49**	-0.23***	-0.23***
		(3.49)	(3.51)	(0.20)	(0.20)	(0.18)	(0.18)	(0.66)	(0.67)	(0.16)	(0.16)	(0.21)	(0.21)	(0.04)	(0.04)
	Observations	334	334	334	334	334	334	334	334	334	334	334	334	334	334
	Mean dep. variable (panel A)	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86
	Mean dep. variable (panel B)	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65
	Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: This table presents the robustness of our results to adding state presence related variables. The dependent variable is the female and male labor force participation based on the 1992 Census. Panel A presents the results for female, while panel B for male. All state presence variables are measured before the dictatorship. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.3: Robustness checks for female labor force participation

	Dependent variable: Labor force participation													
	Spatial controls								LASSO controls				Crump et al. (2009)	
	No weights		Lat/Lon		Ln average distance		Moran I							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
Panel A: Female														
Indicator women center	1.64** (0.82)		1.77** (0.78)		1.88** (0.80)		1.75** (0.79)		1.29* (0.74)		1.83** (0.79)			
Log distance to closest center		-0.33 (0.21)		-0.62*** (0.23)		-0.64*** (0.23)		-0.60*** (0.23)		-0.53** (0.22)		-0.63*** (0.23)		
Panel B: Male														
Indicator women center	0.08 (0.50)		0.02 (0.44)		-0.16 (0.44)		-0.09 (0.43)		0.33 (0.38)		-0.16 (0.44)			
Log distance to closest center		-0.14 (0.15)		-0.16 (0.14)		-0.08 (0.14)		-0.11 (0.14)		-0.15 (0.12)		-0.08 (0.14)		
Observations	334	334	334	334	330	330	334	334	330	330	312	312		
Mean dep. variable (panel A)	33.86	33.86	33.86	33.86	33.90	33.90	33.86	33.86	33.90	33.90	33.93	33.93		
Mean dep. variable (panel B)	82.65	82.65	82.65	82.65	82.68	82.68	82.65	82.65	82.68	82.68	82.67	82.67		
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Controls	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N		

Notes: This table presents a set of robustness checks. Columns 1 and 2 present the results for the unweighted regression. Columns 3 to 8 add spatial level controls. Columns 3 and 4 add the latitude and longitude. Columns 5 and 6 add the log average distance from a given municipality to the rest of the municipalities, while columns 7 and 8 add the Moran eigenvectors with an eigenvalue greater than 0. Columns 9 and 10 select the set of controls following Belloni et al. (2014). Columns 11 and 12 truncate the sample based on a propensity score for the presence of a CEMA center constructed with the same set of controls from columns 9 and 10 and where the cut-off for the truncation was computed following Crump et al. (2009). Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in 1992 used as analytical weight except for columns 1 and 2. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.4: Difference-in-differences estimate using 1982 and 1992

	(1) Female	(2)	(3) Male	(4)	(5) All	(6)
Log distance to closest center \times Year 1992	-0.63*** (0.16)		-0.15 (0.12)		-0.15 (0.12)	
Indicator women center \times Year 1992		1.34*** (0.46)		-0.00 (0.42)		-0.00 (0.42)
Log distance to closest center \times Year 1992 \times Female					-0.48** (0.21)	
Indicator women center \times Year 1992 \times Female						1.34** (0.58)
Observations	644	644	644	644	1,288	1,288
Municipality(-Female) FE	Y	Y	Y	Y	Y	Y
Year(-Female) FE	Y	Y	Y	Y	Y	Y
Controls(-Female)	Y	Y	Y	Y	Y	Y
Mean dep. variable	31.60	31.60	83.95	83.95	57.11	57.11

Notes: This table presents the impact of women's centers on labor force participation using a difference-in-differences estimation. The sample includes individuals between 18 and 60 years old from the 1982 and 1992 Census. The dependent variable is labor force participation. *Year 1992* is a dummy that takes the value one for observations from the 1992 Census. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Robust standard errors clustered at the municipality level in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.5: Long-run impact of women centers in the matching sample

	Dependent variable: Labor force participation							
	2002 Census				2017 Census			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: LFP								
Women center	3.61*** (1.06)		1.95*** (0.46)		2.54*** (0.93)		1.42*** (0.27)	
Log distance to closest center		-0.97*** (0.31)		-0.61*** (0.16)		-0.71** (0.28)		-0.44*** (0.10)
Panel B: Retirement								
Women center	-0.33 (0.47)		-0.89 (0.59)		-1.03*** (0.38)		-1.15*** (0.31)	
Log distance to closest center		0.03 (0.12)		0.06 (0.19)		0.23** (0.11)		0.26** (0.11)
Observations	171	171	171	171	171	171	171	171
Mean dep variable (Panel A)	44.83	44.83	88.63	88.63	58.77	58.77	91.72	91.72
Mean dep variable (Panel B)	11.92	11.92	22.16	22.16	15.49	15.49	13.19	13.19
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y

Notes: This table presents long-run impacts of women centers. Results are shown for a sample based on a propensity score constructed based on the labor force participation in the municipality in 1970. In panel A, the dependent variable is the female and male labor force participation based on the 2002 Census for individuals between 30 and 60 years old (columns 1 to 4) and on the 2017 Census for individuals between 47 and 60 years old (columns 5 to 8). In panel B, the dependent variable is the share of retired individuals between 50 and 70 years old. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.6: Women centers and other religions

	Atheist				Evangelical			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All								
Indicator women center	-0.14 (0.21)		-0.30 (0.35)		-0.98 (0.81)		-0.55 (0.65)	
Log distance to closest center		0.08 (0.06)		0.14 (0.11)		0.43* (0.25)		0.27 (0.20)
Panel B: Matching sample								
Indicator women center	0.32 (0.22)		0.43 (0.36)		-0.05 (1.07)		0.12 (0.85)	
Log distance to closest center		-0.05 (0.07)		-0.07 (0.11)		0.06 (0.29)		-0.01 (0.23)
Observations (panel A)	334	334	334	334	334	334	334	334
Observations (panel B)	171	171	171	171	171	171	171	171
Mean dep. variable (panel A)	4.249	4.249	8.150	8.150	14.32	14.32	12.13	12.13
Mean dep. variable (panel B)	4.149	4.149	8.013	8.013	13	13	11.07	11.07
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y

Notes: This table presents the impact of women centers on religiosity. The dependent variable in columns 1 and 2 (3 and 4) is the share of women (men) that reported to be atheist, while in columns 5 to 8 is the share of individuals that reported to be evangelical. Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a center with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.7: Divorce and years of enrollment in higher education

	Share of women who are divorced		Avg. number of years enrolled in college	
Panel A – Full sample	(1)	(2)	(3)	(4)
Women center	-0.07 (0.10)		0.03 (0.05)	
Log distance to closest center		0.00 (0.03)		-0.00 (0.01)
Panel B – Matching sample				
Indicator women center	0.03 (0.14)		0.04 (0.05)	
Log distance to closest center		-0.01 (0.04)		-0.00 (0.01)
Panel C – Young population				
Indicator women center	-0.06 (0.16)		0.02 (0.06)	
Log distance to closest center		-0.01 (0.05)		0.00 (0.02)
Observations (panel A and C)	334	334	334	334
Observations (panel B)	171	171	171	171
Province fixed effects	Y	Y	Y	Y
Controls	Y	Y	Y	Y
Mean dep. variable (panel A)	4.9	4.9	0.8	0.8
Mean dep. variable (panel B)	5.1	5.1	0.8	0.8
Mean dep. variable (panel C)	4.9	4.9	0.9	0.9

Notes: Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a center with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Panel C presents the results for the full sample but restricting the sample to individuals between 28 and 40 years old. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. This table presents results using the 1992 Census. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.8: Descriptive statistics and sample selection

	Step-by-step sample selection:			
	All 25-40 year old	(1) + linked to parent	(2) + parent born between 1942 and 1964	(3) + household head is female
	(1)	(2)	(3)	(4)
Age	32.09 (4.61)	30.51 (4.48)	30.91 (4.41)	31.41 (4.49)
Female	0.50 (0.50)	0.48 (0.50)	0.47 (0.50)	0.47 (0.50)
Primary completed	0.95 (0.22)	0.96 (0.20)	0.96 (0.20)	0.95 (0.22)
Secondary completed	0.80 (0.40)	0.83 (0.38)	0.83 (0.38)	0.81 (0.39)
College enrollment	0.31 (0.46)	0.35 (0.48)	0.36 (0.48)	0.33 (0.47)
Household size	4.79 (6.85)	4.53 (1.84)	4.46 (1.85)	4.15 (1.92)
Relation to household head:				
Head	0.35 (0.48)	0.05 (0.22)	0.00 (0.00)	0.00 (0.00)
Spouse	0.24 (0.43)	0.02 (0.14)	0.00 (0.02)	0.00 (0.01)
Child (women)	0.26 (0.44)	0.90 (0.30)	0.99 (0.12)	1.00 (0.05)
In labor force	0.81 (0.39)	0.81 (0.39)	0.82 (0.39)	0.82 (0.38)
Unemployed	0.07 (0.26)	0.12 (0.33)	0.13 (0.34)	0.13 (0.34)
Currently Studying	0.12 (0.33)	0.17 (0.37)	0.16 (0.37)	0.16 (0.36)
Individuals	3,840,429	1,019,693	716,960	301,294

Notes: This table shows averages and standard deviations (in parenthesis) for socioeconomic variables described in each row. Column 1 shows values for the full sample of people with ages 25-40 in the 2017 population census. Column 2 shows the same statistics for the subsample that cohabits with a parent, irrespective of any characteristics of the parent. Column 3 further restricts the sample to household heads born between 1942 and 1964. Finally, column 4 (our estimating sample) restricts attention to the sample of individuals where the household head is a female.

Table A.9: Intergenerational effects on human capital and fertility choices

	Any college		Yrs of college		Children
	Female	All	Female	All	Female
	(1)	(2)	(3)	(4)	(5)
Panel A					
Indicator women center	0.047*** (0.014)		0.308*** (0.088)		-0.027 (0.020)
Indicator women center \times Female		0.003 (0.007)		-0.010 (0.109)	
Panel B					
Distance to center	-0.014*** (0.003)		-0.091*** (0.018)		0.008* (0.004)
Distance to center \times Female		0.000 (0.002)		0.030 (0.030)	
Observations	135,558	93,466	135,558	93,466	129,087
Province fixed effects	Yes	Yes	Yes	Yes	Yes
Age of child fixed effects	Yes	Yes	Yes	Yes	Yes
Age of father fixed effects	Yes	Yes	Yes	Yes	Yes
Household fixed effects	No	Yes	No	Yes	No
Mean dep. variable	0.373	0.306	2.069	1.706	0.953

Notes: The dependent variable is a dummy that takes the value one if the individual enrolled in higher education (columns 1-2), the years of higher education (columns 3-4) and the number of children (column 5). The sample includes individuals in the 2017 Census between 25 and 40 years old that live with their mother and their mother is the head of the household. Robust standard errors in parenthesis are clustered at the mother's municipality of birth. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$