Social Pensions and Intimate Partner Violence Against Older Women

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Abstract

The prevalence and determinants of intimate partner violence (IPV) among older women are understudied. This paper documents that the incidence of IPV remains high at old ages and provides the first evidence of the impact of access to income on IPV for older women. We leverage a Mexican reform that lowered the eligibility age for a non-contributory pension and a difference-in-differences approach. Women's eligibility for the pension increases their probability of being subjected to economic, psychological, and physical IPV. The estimated effects are found only among women in the short term and are more pronounced for women who experienced family violence in childhood and those from poorer households. Looking at potential mechanisms, we find suggestive evidence that men use violence as a tool to control women's resources. Additionally, women reduce paid employment after becoming eligible for the pension, which may result in more time spent at home and greater exposure to violent partners. In contrast, we show that IPV does not increase when men become eligible for the non-contributory pension.

JEL Codes: H55, I38, J12, J26
Keywords: Non-contributory pension, Intimate partner violence, Retirement, Income

> *Abuse of older people: a serious problem that has received too little attention.*

> WHO, *Tackling abuse of older people*, 2022

1 Introduction

Globally, one in six people aged 60 and above has experienced some form of abuse in the past year (Yon et al., 2017). The incidence, prevalence, and complexity of elder abuse are projected to increase as many countries are facing rapid population aging (Sethi et al., 2011). Nonetheless, violence against older people remains severely understudied, partly because of a lack of data. In particular, very little is known about the prevalence or determinants of intimate partner violence (IPV) for women of postreproductive ages.[1] The implications from existing studies of IPV against prime-age women might not necessarily help combat violence against older women as they may face unique challenges and barriers in recognizing, reporting, and seeking help for abuse.[2]

This paper addresses these gaps by documenting the prevalence of IPV beyond reproductive age and by providing the first evidence of the impact of women's access to income in old age on IPV. We show that in Mexico, the country studied in this paper, 8.6% of women aged 50-80 have reported experiencing physical or sexual IPV within the past 12 months, which is comparable to the 10.2% of women aged 15-49 who have reported similar experiences. The incidence of other forms of IPV is even higher: 22.7% of women aged 50-79 are subjected to psychological IPV, and 13.1% of them are victims of economic abuse inflicted by their partner. Furthermore, to understand the effect of exogenous changes in women's income on IPV, we investigate whether social pensions that aim to improve the standards of living of the elderly may also inadvertently affect IPV against older women.

A growing number of Latin American countries have recently introduced or expanded non-contributory (social) pensions, which are an important social protection tool in settings with high labor informality. In particular, due to the large gender coverage gaps in old-age pensions, social pensions are an effective tool to reach women in old-age poverty (UN, 2015). While a growing body of literature studies the impact of social pensions on consumption, retirement, poverty, and health, the extant literature does not speak to the impact of social pensions on IPV against older

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[1]In this paper, IPV is defined as violence perpetrated by the intimate partner or spouse of the victim. It can happen in many ways, including physical, verbal, emotional, economic, and sexual abuse.

[2]IPV is associated with various adverse consequences for the victims and their children. Several studies have shown associations between IPV and a variety of outcomes (Lloyd, 1997; Farmer and Tiefenthaler, 2004; Pollak, 2004; Tolman and Wang, 2005). More recent studies show causal estimates of adverse effects on victims and their children (Aizer, 2011; Bindler and Ketel, 2022; Currie et al., 2022; Bhuller et al., 2024) and negative spillovers within the school environment (Carrell and Hoekstra, 2010; Carrell et al., 2018).

women. On the one hand, additional household income could reduce IPV by reducing stress and triggering events (Heath et al., 2020). On the other hand, social pensions could lead to an unintended increase in IPV, as additional income received by women may bolster their economic autonomy and strengthen their agency within households, prompting male partners to use IPV as an instrument to extract resources or reduce women's bargaining power (e.g. Angelucci, 2008; Bobonis et al., 2015; Erten and Keskin, 2018). Therefore, the effect of pensions on IPV predicted by theory is ambiguous, and an empirical analysis is needed to shed light on this issue.

To estimate the causal impact of women's eligibility for social pensions on IPV, we leverage the expansion of a Mexican non-contributory pension program. Several features of this program make it an ideal natural experiment to study this question. First, the reform lowered the eligibility age for non-contributory pensions from 70 to 65 in 2013, which allows us to estimate the plausibly exogenous variation in pension eligibility across age groups and over time using a Difference-in-Differences (DID) approach. Second, the amount of transfer is non-trivial. Beneficiaries received a permanent, stable cash transfer of 580 Mexican pesos monthly, approximately 50% of their per capita income. This steady higher income stream could persistently shift women's economic status within the household. Third, because of data availability, Mexico is a relevant country for studying IPV against older women. We take advantage of a large Mexican household survey that asks questions about the experiences of IPV to women 15 and older, unlike most reproductive health surveys that only include women up to 49 years old. Fourth, the incidence of IPV is high in Mexico. Based on 2011 data, in Mexico, 23% of women over 60 had been victims of any form of IPV in the past year, including physical, psychological, economic and sexual abuse.

We employ three waves (2006, 2011, and 2016) of the National Survey on the Dynamics of Household Relationships (ENDIREH), a cross-sectional national and state-level representative survey that contains detailed information on IPV throughout the life cycle. The richness of the data allows us to analyze the impact of social pensions on different types of IPV, including physical, sexual, and psychological violence, as well as measures of economic abuse, a form of IPV that is also pervasive but understudied. The data also permit us to analyze heterogeneity by subgroups of the population of interest and look at additional outcomes, including labor market outcomes, co-residence patterns, and decision-making within the household to shed light on the mechanisms driving these treatment effects.

To isolate the causal effect of social pensions on IPV, we use a DID method that leverages the quasi-random assignment of social pensions across age groups and over time. We compare the outcomes of women aged 66 to 69 with those aged 61 to 64 before and after the program's implementation.[3] We demonstrate that after the 2013 reform, women aged 66 to 69 have a substantially

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[3]We drop women aged 65 because we can only observe respondents' age at integral in the survey; therefore, the

higher likelihood of receiving a monetary transfer from the government than before the reform: the DID estimate shows that the reform increased the probability by 42.2 percentage points. Regarding IPV, for women who are married or in a union (and whose partners live at home) at the time of the interviews, we investigate the impact of the reform on the likelihood of experiencing IPV in the past 12 months. We find that becoming eligible for a non-contributory pension significantly impacts psychological violence. We find that IPV incidence among women aged between 66 and 69 increases relative to women aged between 61 and 64, which comes from the fact that the expansion of the pension slows down the declining age-trend in IPV incidence. However, women's risk of being a victim of IPV does not increase after their husbands become eligible for the pension: men's eligibility reduces the probability of economic and sexual IPV against their wives, with no impact on physical and psychological violence.

We uncover an interesting pattern of heterogeneity when examining the effect of women's eligibility for the pension on IPV by women's age. The reasons for dividing the treatment group into two age groups are twofold. First, from the institutional setting perspective, in 2016, women aged 66 to 67 have recently become eligible for at most two years, while women aged 68 to 69 have been eligible for the pension for three years since 2013. Second, theoretically, the household dynamic may adjust quickly when the newfound financial resources become available. A new equilibrium might be established since women have become eligible for three years or longer, possibly resulting in no change in violence. We find that there is a larger impact on IPV incidences of almost all types for women aged 66 to 67 while observing effects close to zero for women aged 68 to 69. Specifically, becoming eligible for a non-contributory pension increases the probability of experiencing any violence, economic abuse, physical violence, and psychological violence by 5.8, 6.1, 2.8, and 6.2 percentage points for women aged 66 to 67, respectively. These figures represent increases of 24%, 59%, 48%, and 34%, respectively, compared to the average probability of experiencing violence in the last 12 months for women aged 66 to 69 before the reform. Importantly, we find no evidence that the take-up of the program varies with women's age. The increase in the incidence of IPV after women gain eligibility is primarily driven by women who experienced family violence during their childhood and is larger for women in poorer households. Perhaps counterintuitively, we find that living with other household members does not mitigate the increase in IPV after women gain eligibility.

The estimates are robust to several checks that vary the sample restrictions and the set of controls. Moreover, the results of falsification tests using placebo eligibility age cutoffs and a placebo reform with only pre-reform waves corroborate the causal interpretation of our estimates. Additionally,

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treatment status of respondents aged 65 cannot be determined with certainty. Previous research studying the impact of eligibility for the program on extreme poverty (Ávila-Parra et al., 2024) also uses this approach.

we show that the reform does not affect marital status, suggesting that our results do not suffer from endogenous changes in the sample's composition. Finally, we find no impact of the reform on younger women, suggesting the lack of anticipation effects.

To shed light on the potential mechanisms behind the estimated effects, we take advantage of the granular information on the types of IPV experienced by women and find that the estimated increase in IPV is driven by increases in economic abuse combined with other types of violence. In contrast, the probability of experiencing physical and psychological violence alone, without economic abuse is not affected. These findings corroborate the interpretation that partners of women who have recently become eligible for the pension use violence as a tool to extract economic rents. In contrast, we show that IPV does not increase when men become eligible for the non-contributory pension; if anything, economic abuse and sexual IPV decrease, thus providing further support for the instrumental theory of violence (Baranov et al., 2021). Turning to labor market outcomes, we find that women reduce paid employment and are more likely to report not being employed because they are dedicated to household work after becoming eligible for social pensions, suggesting that an increase in time spent at home and greater exposure to violent partners may also play a role in explaining the increases in IPV. This finding echoes the results of previous research that found an increase in IPV following job loss in Brazil (Bhalotra et al., 2021). Finally, becoming eligible for the pension does not impact women's decision-making or the composition of the household.[4]

Our paper makes three contributions. First, we shed light on the severely understudied topic of violence against older adults by providing some of the first quantitative evidence on the prevalence of IPV among women of postreproductive ages. As the aging population presents challenges globally, it is imperative to study family violence against older women as an urgent and relevant topic. Older women may be more vulnerable to abusive relationships, for example, because they face distinct challenges to reporting abuse or because they experience life transitions such as retirement. While older victims of IPV have been systematically overlooked in the literature, in recent years, development practitioners at the World Bank and the United Nations have recognized that more research is needed to address this knowledge gap.[5] Our data indicate that, despite the risk of IPV being lower at older ages, the incidence for women aged 50-80 is nonetheless high and comparable to the younger age groups in Mexico (see Figure 1).

Second, this paper closely relates and contributes to the literature on the economic determi-

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[4]The null result on women's decision-making is consistent with the household bargaining channel being weaker in the context of this study, for instance, because older women have fewer outside options compared to younger women.

[5]For instance, in 2021, the World Health Organization wrote that "While existing evidence indicates that younger women and women of reproductive age are at the highest risk of IPV and sexual violence, the magnitude, patterns, and forms of violence experienced by older women need to be better understood and researched...". In particular, development practitioners point to the lack of data on women over 50 as a key challenge in documenting and understanding IPV among this vulnerable population (Meyer et al., 2020; Sardinha et al., 2022).

nants of violence against women by specifically examining the risk factors for older populations. By analyzing the effect of an exogenous increase in women's potential income, provided by the non-contributory pension program, on the prevalence of IPV, we significantly add to the existing research that has focused on labor market opportunities (Aizer, 2010; Sanin, 2021; Erten and Keskin, 2021; Kotsadam and Villanger, 2022) and cash transfers (Buller et al., 2018; Baranov et al., 2021).[6] Our paper addresses a critical gap in understanding how financial changes affect IPV dynamics among an often overlooked yet still vulnerable demographic group.

Third, we add to the literature on the effects of non-contributory pensions. Between 2000 and 2013, at least 18 countries in Latin America introduced reforms of non-contributory pension programs (Villagómez et al., 2014), and government expenditure on non-contributory pensions is at least 1% of GDP in several countries in Latin America (Bando et al., 2022). A growing body of literature has examined the impact of non-contributory pensions on various measures of well-being, including consumption, physical and mental health, labor supply, and the outcomes of other family members (e.g. Case and Deaton, 1998; Pfutze and Rodríguez-Castelán, 2019; Águila et al., 2018; Huang and Zhang, 2021; Miglino et al., 2023).[7] Only a handful of papers study the effect of pensions on the relationship between eligible women and their partners: Ambler (2016) examines the impact of the South African old-age pension on household decision-making, and Berniell et al. (2020) look at the effect of a non-contributory pension in Argentina on divorce and participation in household chores. We expand this knowledge by investigating the effect of eligibility for a non-contributory pension on IPV, which is a harmful and pervasive form of violence against women.

The remainder of the paper proceeds as follows: Section 2 describes the institutional setting in Mexico and the 2013 reform of the non-contributory pension system. Section 3 describes the data and section 4 the empirical strategy. Section 5 presents the main results on IPV. Section 6 combines a conceptual framework together with empirical analyses to better understand the mechanisms. Section 7 concludes.

2   Background

Despite recent progress toward gender equality, substantial gender gaps remain in Mexico, especially regarding the labor market and women's agency. At only 45%, Mexican women's labor

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[6]A growing literature has also examined how IPV varies with policy interventions, shocks, and historical aspects. For instance, previous studies have examined how IPV responds to compulsory education reforms (Erten and Keskin, 2018), arrest and prosecution policies (Aizer and Dal Bo, 2009; Chin and Cunningham, 2019; Iyengar, 2009), conflict (La Mattina, 2017), and historical traditions (Alesina et al., 2021; Tur-Prats, 2019).

[7]For a summary of this literature, see Bando et al. (2022).

force participation rate is 6 percentage points lower than the average in all Latina American and Caribbean countries. Conservative gender norms about the division of household chores and who controls the household resources are still prevalent in Mexico. On average, women spend six hours doing unpaid housework daily compared to two hours for men. Additionally, half of Mexican women agree that "women earning more than their husbands is problematic." Violence against women is high overall, with 66% of women aged 15 and older having experienced at least one violent incident. The share of divorced and separated women has increased in the past two decades, but it remains low among low-educated and older women (Inchauste Comboni et al., 2019).

Mexico is one of the countries in Latin America with the lowest coverage rates for contributory pensions. This is due to several factors, including the prerequisite of contributing for a minimum of 1,250 weeks (around 24 years), a high incidence of labor market informality, and significant mobility between formal and informal sectors. Consequently, a considerable proportion of the Mexican population aged 65 and older do not receive any income. Women are more likely to work part-time and in the informal sector than their male counterparts.[8] These two factors contribute to a wide gender gap in access to a pension fund or savings for retirement, leading to a higher risk of poverty for women in old age (Inchauste Comboni et al., 2019). Specifically, in 2010, 26.8% of women and 9.8% of men above 65 had no income. In addition, for those with some income, the coverage rate for contributory pensions was low, with only 24.3% of women and 40.1% of men having a contributory pension (Villagómez et al., 2014).

Due to the inadequate coverage rate of contributory pension schemes in Mexico, a non-contributory pension was implemented as a social protection program to provide support and alleviate the financial burden faced by the elderly Mexican population. In 2007, Mexico introduced a non-contributory pension program called "El Programa de Adultos Mayores" (PAM). Initially, only individuals over 70 who were not eligible for a contributory pension and lived in small villages were eligible for PAM. In subsequent years, the program was gradually expanded to all individuals above 70.[9]

We study the 2013 PAM expansion, which broadened eligibility to all adults aged 65 and above who were not receiving a contributory pension. Retiring at age 65 is not mandatory in Mexico, and eligibility does not require beneficiaries to be out of the labor force. The expansion was announced

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[8]The gap in informal work between women and men is larger in the northern states (Inchauste Comboni et al., 2019).

[9]In 2008, the PAM covered individuals above 70 living in villages with up to 20,000 inhabitants. From 2009 to 2012, the program was expanded to eligible individuals living in villages of up to 30,000 inhabitants. Finally, in 2012, the program was available to all individuals over 70 who did not qualify for a contributory pension. Those individuals eligible for the program received a cash transfer of 500 Mexican pesos per month (40 US dollars at the time of the policy). For more details on the introduction of PAM in 2007, see previous studies by (e.g. Amuedo-Dorantes and Juarez, 2015; Galiani et al., 2016; Pfutze and Rodríguez-Castelán, 2019).

in December 2012 and quickly implemented in February 2013. Beneficiaries received a bimonthly cash transfer of 580 Mexican pesos per month, about 50% of their per capita income, and the money could be delivered in person or electronically.[10] There was a strong program take-up. By the end of 2014, a third of the population aged 65-69 were beneficiaries of PAM. In 2017, PAM was one of the main social protection instruments in the country, with a budget of 17.6 billion pesos, about 0.16% of Mexico's GDP, and 5.1 million beneficiaries.

3   Data and Descriptive Statistics

3.1   Data

To estimate the impact of becoming eligible for the social pension on women's experience of IPV, we use three rounds (2006, 2011, and 2016) of the "*Encuesta Nacional sobre la Dinámica de la Relaciones en los Hogares*" (ENDIREH).[11] ENDIREH is a cross-sectional national and state-level representative survey that collects information on the experiences of IPV for women aged 15 and older. One woman per household is interviewed to assure privacy and confidentiality. A total of 133,398, 152,636, and 111,256 women were interviewed in 2006, 2011, and 2016, respectively.

The ENDIREH questionnaire contains detailed questions on various forms of abuse, including physical, sexual, psychological, and economic abuse. Table A1 shows the survey questions used to define the intimate partner variables, while Appendix C provides a definition of all variables used in the analysis. The survey allows us to measure whether the respondents were ever victims of IPV in the past 12 months. In our analysis, we look at experiences of IPV in the 12 months before the interview to identify episodes of IPV that occurred after the 2013 reform. We focus on incidents of violence inflicted by the current partner for women who were married or in an informal union and whose partners were living in the house at the time of the interviews.[12] We also restrict our sample to women without contributory pension income, as these women are more likely to be eligible for the program.[13] We show that the reform does not affect the probability of entering our sample in Section 3.

Figure 1 displays how the incidence of the four types of IPV evolves with age in the two survey

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[10]The social pension program also provided assistance in opening a bank account and promoted social engagement by encouraging beneficiaries to participate in personal development groups and information sessions on topics such as healthcare, human rights, etc.

[11]The English name of the survey is "*National Survey on the Dynamics of Household Relationships*".

[12]We exclude 218 women (1.84% of our sample) whose partners are not living in the house.

[13]In 2013, women without a contributory pension were eligible. In 2014, eligibility was further expanded to those who receive a contributory pension below 1092 Mexican pesos per month (SEDESOL, 2014). We do not observe the amount of contributory pension received in ENDIREH. Our estimates are qualitatively very similar when we include women who receive a contributory pension in the sample.

waves that preceded the 2013 reform (2006 and 2011). Among all age groups, psychological abuse is the most frequent type of violence, followed by economic abuse. Sexual violence is the least frequent one. The risk of psychological, financial, and physical abuse is higher for women younger than 20 (aged 15 to 19). While the incidence of abuse decreases with age, the decline is not steep and appears to be slower for physical violence. Appendix Figure A1 further unpacks the time trend in IPV incidence by plotting the means for the control and treatment group in waves 2006, 2011, and 2016 separately. We find that IPV declined between 2006 and 2011 for both the treatment and control groups, but afterward, it remained constant or slightly increased for the control group between 2011 and 2016. In contrast, women in the treatment group experienced a large increase in IPV between 2011 and 2016.

We cannot observe directly whether ENDIREH respondents or their partners are PAM beneficiaries because the survey does not collect detailed information on the various types of government transfers received by household members. Therefore, when using ENDIREH, we rely on the information on whether the respondents receive any monetary transfer from the government other than Progresa as a proxy for PAM take-up.[14]

As we explain more in detail in the next section, our identification strategy relies on comparing changes in outcomes over time for women aged 66-69, who become eligible for the pension after the 2013 reform, and women ages 61-64, who have not yet been eligible for the pension in the data (but will be eligible once they turn 65). We defined the treatment and control group based on the respondent's age at the time of the interviews in each survey round. We exclude women aged 65 from the sample for two reasons. First, as highlighted by Ávila-Parra et al. (2024), they may be "partially treated" at the time of the interviews; second, the IPV questions refer to episodes of IPV that happened in the 12 months before the interview, meaning that some women who are 65 may report incidents of IPV that occurred before they became eligible for the pension. However, our results are robust to including women aged 65 in the sample. We also exclude women older than 69 because they were already eligible for the non-contributory pension before the reform.[15]

4   Empirical Strategy

This paper exploits a natural experiment examining Mexico's non-contributory pension program (PAM) expansion to women above the age of 65. We perform a DID approach, comparing women

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[14]This survey question explicitly excludes the conditional cash transfer program known as *Progresa/Oportunidades* from the government transfer. There is a specific survey question that asks about whether the respondents are beneficiaries of Progresa/Oportunidades.

[15]In the 2011 wave of ENDIREH (before the 2013 reform), women older than 69 in villages of up to 30,000 residents were already eligible for the "70 y más" program.

between 61 and 64 with women between 66 and 69 before and after the 2013 program was established. Women aged 61-64 constitute our control group, as they were not yet eligible for the non-contributory pension at the time of the interview. Women aged 66 to 69 were not eligible before 2013 (survey waves 2006 and 2011) but became eligible after 2013 (survey wave 2016). We estimate the following equation:

$$Y_{iat} = \beta_1 \, Age\,66\text{-}69_{ia} \, X \, Wave\,2016_{it} + \alpha \, Age_a + \lambda \, Wave_t + \, X'_{iat}\gamma + \epsilon_{iat} \tag{1}$$

where Y_{iat} represents our main outcome variables for woman i, who is aged a and is interviewed in survey year t. First, we measure program receipt using a binary variable that is equal to 1 if the woman i at age a received any government program at the time of the interview t. To measure the effect of the 2013 pension reform on IPV, we use binary indicators that are equal to 1 if the woman i has experienced at least once any physical, sexual, psychological, or economic abuse from her partner at the age of a during the 12 months before the interview t, and 0 otherwise.

$Age\,66\text{-}69_{ia}$ is a dummy variable equal to 1 if woman i is aged 66 to 69 and 0 if woman i is aged 61 to 64. $Wave\,2016_{it}$ is also a dummy equal to 1 if woman i is interviewed in the year 2016 and 0 otherwise. Age_a are age fixed effects that control for time-invariant factors that affect women of the same age. $Wave_t$ are wave of the interview fixed effects, which account for factors that change over time and may affect IPV similarly for women in all age groups. X_{iat} is a vector of individual characteristics, including state-fixed effects, rural residency, education, partner's education, number of children, a binary indicator for speaking an indigenous language (for both the woman and her partner), partner's age, age at marriage, age when they started the current relationship, and experience of violence in childhood (for both the woman and her partner). We cluster the standard errors at the age level and report the p-values for wild cluster bootstrap with Webb weights in brackets in all tables (Webb, 2023).[16] All regressions are weighted using survey weights.

Next, we look separately at ages 66-67 and 68-69 to distinguish between women who have been eligible for the pension for at least 3 years and women who have been eligible for the pension for at most two years. Women aged 68-69 in 2016 were aged 65 and 66 when the reform was implemented in 2013 and have been eligible for 3 years (since 2013). Women aged 66-67 in 2016 were younger than 65 in 2013 and have been eligible for at most 2 years. Thus, distinguishing between these two groups helps us differentiate between those who immediately became eligible and those who became eligible in recent years. We estimate the following regression:

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[16]We utilize the Stata procedure "boottest" developed by Roodman et al. (2019).

$$Y_{iat} = \rho_1 \, Age \, 66\text{-}67_{ia} \, \times \, Wave \, 2016_{it} + \rho_2 \, Age \, 68\text{-}69_{ia} \, \times \, Wave \, 2016_{it} + \alpha \, Age_a$$
$$+\lambda \, Wave_t + \, X'_{iat}\gamma + \epsilon_{iat} \tag{2}$$

The coefficient estimate ρ_1 identifies short-term effects, while ρ_2 identifies long-term effects.

Identification and Causality   The DID coefficient (β_1) identifies the impact of pension eligibility under the assumption that, had the 2013 reform not occurred, trends in outcomes for women aged 66-69 would have been similar to trends in outcomes for women aged 61-64. The following results support the interpretation of our estimates as causal.

First, we verify that the reform does not affect the respondent's and her partner's predetermined characteristics. Specifically, Appendix Figure A2 shows that various characteristics, such as women's and their partner's education, number of children, language, partner's age, age at marriage, and experience of violence as a child, were similar for women in the treatment and control groups before the implementation of the reform. Notably, all coefficients are small and statistically insignificant.

Second, we perform several placebo tests, including using 2011 as the placebo treatment year and using placebo eligibility age cutoffs at younger ages (25, 35, 45, and 55). We discuss these in detail in Section 5.2.2. The results of the placebo tests provide support for the *common-trend* assumption.

Third, we further rule out that the reform caused endogenous sample selection and compositional changes in the group of women in our sample. Table 1 shows that the reform does not affect women's probability of entering the analytical sample (currently married or in a union, living with their partner, and not receiving a contributory pension).

5   Results

5.1   Impact of Eligibility on Takeup

Table 2 shows the impact of non-contributory pension eligibility on the probability of receiving a monetary transfer from the government other than Progresa/Oportunidades. In column (1), women aged 66 to 69 are 42.2 percentage points more likely to receive government aid after the reform. When we examine the impact by age group, column (2) indicates that women aged 66 to 67 experience a 37.7 percentage points increase in the probability of receiving government aid, while women aged 68 to 69 experience a larger increase of 47.4 percentage points. However, the coefficients for the two age groups are not statistically different from each other.

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To supplement the analysis of the effect of eligibility on PAM takeup, we use the Socioeconomic Conditions Module of the National Survey of Household Income and Expenditure (MCS-ENIGH), following Ávila-Parra et al. (2024).[17] MCS-ENIGH respondents are asked a specific question on whether they receive PAM, allowing us to measure take-up precisely for both men and women. Table A2 shows that married women aged 66 to 69 are 51 percentage points more likely to receive PAM after the reform. The MCS-ENIGH results confirm that the take-up of PAM was relatively high after the 2013 reform.

5.2 Impact of Women's Eligibility on IPV

5.2.1 Main Results

Table 3 shows the reduced-form impact of non-contributory pension eligibility on the likelihood of experiencing different types of IPV in the past 12 months (*intent-to-treat* estimates). The odd-numbered columns, which report the effects on women aged 66 to 69, show that non-contributory pension eligibility has a significant impact on psychological violence, with an increase of 4.3 percentage points. The even columns, which report the effects on women aged 66 to 67 and women aged 68 to 69 separately, show an interesting pattern. For women aged 66 to 67, we find significant increases in all types of IPV except for sexual violence, while we observe effects close to zero for women aged 68-69. In particular, the probability of experiencing any violence, economic abuse, physical violence, and psychological violence increases by 5.8, 6.1, 2.8, and 6.2 percentage points, respectively, for women aged 66 to 67. Compared to the average probability of experiencing violence in the last 12 months for women aged 61-64, these effects correspond to increases of 24%, 59%, 48%, and 34%, respectively. P-values testing the hypothesis that the coefficients are equal between these two age groups are reported in the last row. The difference in impacts on IPV between the 66-67 and 68-69 age groups is statistically significant for any violence and economic abuse at the 5 percent level.

This finding is consistent with the possible explanation that women who have recently become eligible (aged 66 to 67) are more susceptible to experiencing violence, perhaps due to the introduction of an additional source of income that disrupts the existing balance of power in the household. Eventually, a new equilibrium could be reached in a few years when these women are aged 68 to 69. Table A3 presents the estimated effect of eligibility for ages 66, 67, 68, and 69 separately, using ages 61-64 as the control group. The results show a similar pattern. The impacts on IPV at age 66 and 67 are similar in size and large, while the impacts on IPV at age 68 and 69 are close to zero. However, the precision of these estimates is reduced.

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[17]Ávila-Parra et al. (2024) use the 2008, 2010, 2012, and 2014 waves of MCS-ENIGH. We use the 2008, 2010, 2012, 2014 and 2016 waves.

We also examine the effect of the reform on the frequency of IPV by using the probability of experiencing at least two episodes of violence in the past 12 months as an outcome variable.[18] In Table A4, the dependent variable equals one if the woman experienced IPV more than once and zero if she experienced it only once or did not experience it at all. The estimates are very similar to the effect on the incidence of experiencing IPV at least once in Table 3, suggesting that the increase in the probability of a single episode in a year is not driving the increase in IPV.

5.2.2 Placebo and Robustness

We perform several placebo tests to ensure the reliability of our findings. First, we conduct a placebo test, using 2011 as the hypothetical period post the PAM expansion and removing the 2016 wave from the sample. Panel A of Table 4 presents the estimates using our baseline sample except for wave 2016. Panel B of Table 4 presents the estimates after excluding states that have implemented welfare reforms targeting those 65 and older between 2006 and 2011. In Panel A, we find a statistically significant increase in the probability of receiving government aid, albeit the magnitude of the effect is much smaller than our main estimate, at 2 to 5 percentage points. However, when we remove the states with other reforms in Panel B, the estimated impact of the placebo reform on the probability of receiving government aid is reduced substantially.[19] Turning to IPV, the effects of the placebo reform on physical, economic, and sexual abuse are small and statistically insignificant; however, we estimate a statistically significant coefficient on the incidence of psychological abuse when all states are included in Panel A. The sign of the coefficient estimate is negative, which is opposite to our main results. Moreover, the coefficient estimate for the age group 66-67 becomes statistically insignificant when we exclude states that passed other programs in Panel B.[20]

Second, we conduct an additional placebo test using placebo eligibility age cutoffs at ages 25, 35, 45, and 55. We find no significant effect of the reform on the probability of receiving government aid or IPV at all of these placebo eligibility ages (see panels (A)-(D) of Appendix Table A6). These tests further rule out the possibility that other confounding factors related to the break in age trend are driving our estimates. They also suggest that the different effects between ages 66-67 and 68-69 are unlikely to be simply due to age effect. Several exercises further establish the robustness of the estimates. Table A7 shows that our main findings are robust to varying specifications: choice of fixed effects, controlling for additional household characteristics, and adding state-specific age

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[18]The survey asks respondents whether they have experienced IPV once or more than once in the past 12 months. We do not have information on the number of episodes in the past year.

[19]Our main estimates of the impact of the reform on IPV are robust to excluding the states that passed reform targeting the elderly between 2006 and 2011. These results are reported in Appendix Table A5.

[20]In Panel B, for physical IPV, the estimates for the age subgroups (66-67 and 68-69) are statistically significant but have opposite signs.

fixed effects or state-specific survey-year fixed effects. See Appendix B for more details.

5.2.3 Anticipation Effects

Anticipatory changes in labor supply or consumption are unlikely to happen in credit-constrained households, as confirmed by previous findings on PAM (Galiani et al., 2016; Ávila-Parra et al., 2024). Nonetheless, awareness of future eligibility may help women envision a different future or raise the possibility of higher autonomy once the pension arrives, affecting intra-household dynamics and paving the way for different relationships and reductions in IPV. This would imply that the reform could also affect our control group, which may bias our estimates.

First, we investigate the graphical patterns in Appendix Figure A1, which displays the average incidence of IPV for women aged 60-64 and 65-69 in 2006, 2011, and 2016. It shows that IPV declined for non-eligible women between 2006 and 2011, but there was no further decline between 2011 and 2016, except for sexual IPV. This pattern is inconsistent with anticipatory changes in IPV for the control group after the enactment of the 2013 reform.

Second, to further examine whether anticipation effects may bias our estimates of the impact of the reform on IPV, we compare respondents in the control group with younger respondents who are further away from age 65 and are less likely to change their behavior in anticipation of the reform: those aged 56-59. To this aim, in Table A8, we use age 60 as the placebo eligibility age to test for anticipation effects of the reform. While we find a statistically significant effect on the probability of receiving money from the government in Columns (1) and (2), the magnitude of the estimates is very small (about 5 percent of the estimated effect at the true eligibility age). The estimates of the effect on IPV are small and statistically insignificant.

5.2.4 Heterogeneous Effects

Furthermore, we investigate whether the reform has differential effects on specific groups of women based on several characteristics. Figure 2 reports the results of the heterogeneity analysis for women aged 66 and 67.

The purpose of the subgroup analysis is threefold. First, we aim to identify the groups of women who are more likely to experience IPV after the reform. To this end, we examine two factors associated with a higher risk of IPV *ex-ante*: having been exposed to violence in childhood and low household wealth.

The importance of intergenerational transmission of IPV is well-documented in various contexts, including Mexico (Kalmuss, 1984; Pollak, 2004; Jeyaseelan et al., 2007; Sánchez Argüelles, 2018). In our sample, 47 percent of women reported experiencing physical or verbal abuse from people

they lived with during childhood or witnessing such abusive behavior among family members, and before the reform, this group of women was 14 percentage points more likely to have experienced IPV in the last 12 months compared to women who were not exposed to violence in childhood. Women in poorer households also have a higher baseline IPV risk (Aizer, 2010). We measure household wealth using an asset index that captures the living standards by considering home infrastructure, access to utilities, and asset ownership[21]. In our sample, older women in households with a low asset index were 2.5 percentage points more likely to have experienced physical IPV in the last 12 months than women in households with a high asset index before 2013.[22] Figure 2 reveals that the rise in the incidence of physical IPV for women aged 66 and 67 is primarily driven by those who have experienced violence during childhood and those in poorer households.

Second, we attempt to uncover mitigating or aggravating factors that may protect women or enable their abusers: the presence of other family members in the home and the societal prevalence of IPV. Other family members may lower the risk of IPV by providing protection from abuse or may increase the risk of IPV by enabling the abuser. In our sample, 60 percent of women aged 66 to 69 before 2013 lived with other family members, including children (49%), grandchildren (27%), siblings (1%), and parents (1%).[23] Beyond the home environment, previous research has shown that external factors, such as neighborhood and societal prevalence of IPV, affect the incidence of IPV (Beyer et al., 2015). We measure the incidence of "any IPV" among women aged 61-69 at the state level using the 2011 wave and classify a state as having a low incidence if its mean is below the median and a high incidence if its mean is at or above the median. In our sample, older women living in states with high IPV incidence are 5 percentage points more likely to experience IPV than women in low-incidence states before the PAM expansion. Figure 2 and Figure 3 suggest that, while the environment at home does not impact the reform's effects on IPV, the outside environment does matter: The increase in psychological, sexual, and physical IPV after the reform is driven by women living in states with a high incidence of IPV.

Lastly, we explore heterogeneity by the woman's and her partner's educational attainment to understand the importance of outside options and bargaining power, as women's education is correlated with economic opportunities (Quisumbing and Maluccio, 2003; Doss, 2013; Hidrobo and Fernald, 2013; Heath, 2014). Previous research has shown that the effect of women's eligibility for cash transfers on IPV varies with their educational attainment (Hidrobo and Fernald, 2013) or the educational attainment of their husbands (Angelucci, 2008). We note that education levels display low variability among these older cohorts. In our sample, men and women aged 66 to 69 have low

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[21]See Appendix C for details on how we construct this index.

[22]Household assets are not a significant factor for other types of IPV.

[23]While there could be a concern that the reform may affect co-residence patterns, in Section 6, we find limited evidence that this is the case.

14

educational attainment: 55% of women and 51% of their partners did not complete primary education, with the rest having mostly primary education. Figure 2 suggests that the reform has more pronounced effects on economic and psychological IPV among women who completed primary education, but the estimates for this subgroup are neither statistically significant nor significantly different from those for women without primary education. We find no evidence that the impact of the reform on IPV varies with the husband's education.

There may be a concern that the heterogeneous results are driven by different program take-up rates among different sub-groups in the population. Appendix Figure A3 presents estimates of the effect of the 2013 pension reform on the probability of receiving a monetary transfer from the government for the different subgroups analyzed in Figure 2. We observe a relatively consistent program take-up among women aged 66-67 across different subgroups, except for slightly different take-up rates among women with less than primary education and those residing in households with only two residents. However, we did not find differences in the impact of the reform on IPV along these two dimensions. Therefore, the diversity in the reform's impact on IPV is not attributable to differing adoption rates among these sub-groups.

5.3 Impact of Men's Eligibility on IPV

So far, our analysis has focused on the impact of women's eligibility for the non-contributory pension on IPV. However, men aged 65 and older are also eligible for the program after the 2013 reform, and MCS-ENIGH data show that married men aged 66-69 have a take-up rate of 49 percentage points after the reform, which is very similar to the take-up rate among married women of the same age (Appendix Table A2). In this section, we examine whether women's experiences of IPV change when their husbands become eligible for the non-contributory pension program.

To study the impact of men's eligibility, we analyze a sample of women currently married or in a union with men aged 61-64 and 66-69. Husbands aged 61-64 are not yet eligible for the pension in the data, while husbands aged 66-69 become eligible after 2013.[24] We obtain the *intent-to-treat* estimates of the effect of the husband's eligibility for the pension on IPV by estimating a regression similar to Equation 1, where we replace $Age66-69$ with $HusbandAge66-69$ and the woman's age-fixed effects with the husband's age-fixed effects. Additionally, we replace the partner's age with the woman's age in the control variables X'_{iat}. Panel A of Appendix Table A9 displays the results. We observe a 17% reduction in the probability of economic abuse for women whose husbands are eligible for the pension relative to women whose husbands are not. The estimated effect is similar for women married to men aged 66-67 and women married to men aged 68-69. Additionally, the reform significantly reduces sexual IPV for women married to men aged 66-67

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[24]We exclude women who are married to men aged 65 to mirror the analysis of women's eligibility.

but not for women married to men aged 68-69. In Panel B of Appendix Table A9, we restrict the sample to women who are not yet eligible for the pension based on their age at the time of the survey (64 or younger) and find very similar results. In sum, we have shown that the probability that women are victims of IPV is unchanged or reduced after their husbands become eligible for the pension.

6   Mechanisms and Discussions

6.1   Potential Mechanisms

This section discusses the theoretical channels through which a woman's eligibility for a social pension may affect IPV among older couples and tests the various mechanisms empirically.[25]

Increase in Household Income and Stress Reduction   According to the *absolute resource theory* and the *stress theory*, an increase in total household income raises the resources available to the household and reduces stress, which in turn decreases the risk of IPV (Fox et al., 2002; Buller et al., 2018; Heath et al., 2020). By relaxing the household budget, a monetary transfer may also decrease IPV by reducing conflicts arising from scarce household resources (Buller et al., 2018). We explore these mechanisms by estimating the impact of eligibility for the pension on total household monetary income in Appendix Table A10 using the MCS-ENIGH sample. In Columns (1)-(2), we consider the impact of women's eligibility for the pension on household monetary income using a logarithmic specification, while in Columns (3)-(4), we consider the impact of men's eligibility. We find that household monetary income increases by about 10% after women become eligible for the non-contributory pension, and the coefficient is statistically significant at the 1% level.[26] However, the absolute resources theory and the stress reduction theory both predict that IPV *decreases* due to increased household income, while we find that the reform *increases* IPV. This result suggests that other mechanisms may be at play to countervail the potential reduction in IPV coming from the increase in household income.

On the contrary, the estimated decrease in economic and sexual IPV after men become eligible for the pension aligns with the predictions of the *stress theory* and the *absolute resource theory* and is also broadly consistent with the findings of previous research on cash transfer programs targeting men in Mali (Heath et al., 2020). However, the effect of men's eligibility on household income is not precisely estimated in Appendix Table A10.

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[25]See Buller et al. (2018) and Baranov et al. (2021) for a comprehensive overview of the pathways through which cash transfer programs may affect IPV.

[26]Using ENDIREH, in Table 6 we show that a woman's eligibility for the pension does not impact the probability of receiving transfers from relatives or the likelihood of being a beneficiary of Progresa/Oportunidades.

Instrumental Violence   In economic models where violence is viewed as *instrumental* or *extractive*, men use violence to "extract rents", control women's behavior or appropriate their resources (Bloch and Rao, 2002; Eswaran and Malhotra, 2011; Bobonis et al., 2013; Heath, 2014; Calvi and Keskar, 2021). In this framework, becoming eligible for a pension puts women at a greater risk of IPV. Men may exercise violence to influence how their partners use their pension income, take their money, or control their behavior, which may have changed after the increase in financial autonomy provided by the pension.

We analyze this mechanism in two ways. First, since the instrumental theory of violence postulates that perpetrators utilize IPV to extract rents from their partners, we exploit the granular information on the various forms of IPV in the ENDIREH survey to examine if the reform increases the probability of experiencing economic IPV combined with other types of IPV (physical, psychological, and sexual). In Table A11, we examine whether the reform increases the probability of experiencing only psychological violence (Column 1), only physical violence (Column 2), only sexual violence (Column 3), or combinations of violence types that exclude economic violence (Columns 4 to 7). The results indicate that the reform does not increase the probability of experiencing any of these types of abuse; if anything, the probability of experiencing physical IPV in isolation from other types of violence decreases. On the contrary, Table 5 shows that the probability of experiencing economic IPV and different kinds of IPV jointly increases after the reform. We interpret this result as suggestive evidence that physical IPV may be instrumental in this context.

Second, to understand better the behaviors affected by the reform, we next disaggregate economic, physical, and psychological IPV into sub-categories defined by the National Statistical Institute (Instituto Nacional de Estadística, Geografía e Informática—INEGI).[27] We disaggregate economic IPV into three categories: theft or economic coercion, economic control or blackmail, and failure to fulfill economic responsibility. In Table A12, we find a statistically significant impact of a woman's eligibility for the pension on the probability that her partner fails to provide economic support and uses theft and economic coercion against her. For physical IPV, we look separately at moderate and severe acts of violence and find that moderate types of physical IPV drive the results. We divide psychological IPV into five different types of abuse: indifference, degradation, intimidation, isolation, and threat. We find statistically significant impacts of becoming eligible for the pension on the probability that a woman experiences indifference and degradation from her partner. Overall, these findings corroborate the interpretation that when a woman becomes eligible for the pension, her partner uses moderate physical violence and forms of psychological abuse such as indifference and degradation, as instruments to appropriate her funds and decrease his economic

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[27]See Appendix Table A1 for definitions of the variables.

contributions.

Finally, the joint result of an increase in IPV after women become eligible and a decrease in IPV after men become eligible is consistent with the *instrumental theory*. It is also consistent with the sociological theory of *male backlash*, which is discussed next (Baranov et al., 2021).

Male Backlash   The sociological theory of *male backlash* (*status inconsistency*) predicts that women's eligibility for a social pension increases their IPV risk. In contexts where the traditional gender norm of the male breadwinner is prevalent, men may feel that an increase in women's income threatens their leadership status within the family and may use IPV to restore it (Macmillan and Gartner, 1999; Erten and Keskin, 2018). The backlash response to a program that increases women's economic opportunities is potentially stronger in couples where men have a lower status relative to their wives (Heath, 2014) or more traditional attitudes towards gender norms (Angelucci, 2008). The data do not allow us to test for this mechanism directly, but the estimated increase in IPV is also broadly consistent with male backlash.

Exposure   The *exposure* theory posits that a woman's risk of IPV increases as she spends more time with her partner (Dugan et al., 2003). Previous research has found evidence of this mechanism in the context of unemployment in Brazil, where male and female job loss both increase IPV (Bhalotra et al., 2021). Qualitative studies also highlight retirement as a key factor in precipitating IPV among older couples (Pathak et al., 2019). In our study's setting, a woman's eligibility for a social pension may increase IPV if she reduces her labor supply and spends more time with her potential abuser after becoming eligible for the program.

We analyze this mechanism by estimating the impact of women's eligibility on their labor market outcomes in Table 6. Columns (1) and (2) show estimates of the effect of the reform on paid employment of the women and their partners, respectively; Column (3) reports the estimate of the effect of the reform on the probability that women receive money transfers from relatives; in Column (4), the dependent variable is a binary indicator that equals one if the woman reports not being employed because she is dedicated to household work; and finally, in Column (5), the outcome is a binary variable that equals one if the woman is a beneficiary of Progresa/Oportunidades. The results indicate that eligible women are 25 to 27% less likely to work for pay after the reform. Additionally, the probability that they report being housewives increases by 8 to 10% after the reform. These findings suggest that women's exposure to IPV risk may increase as a function of more time spent at home and being more exposed to violent partners. We also find that the partners of eligible women aged 68 to 69 are more likely to work for pay after the reform, which may reduce the women's exposure to IPV risk in this age group. The reduction in women's paid work

18

may counteract the increase in income generated by the pension.

Household Bargaining   An additional theory on the relationship between income and IPV, namely the *household bargaining* model, where IPV is modeled as *expressive*, may be less relevant in our context for a few reasons. First, women's bargaining power has been shown to decline steadily at postreproductive ages (Calvi, 2020). Second, in the household bargaining model, an increase in the woman's potential income relative to her husband's improves her outside options, increasing her bargaining power and reducing IPV (Farmer and Tiefenthaler, 1997; Aizer, 2010). However, for this mechanism to be relevant, the threat of divorce, or a non-cooperative equilibrium, must be credible. The divorce rate among ever-married women aged 66 to 69 in Mexico was only 3% in the pre-reform surveys (2006 & 2011), while the fraction of women who reported being separated was 10.8%. Therefore, we hypothesize that this mechanism may not be relevant in our setting.

We test our hypothesis empirically by examining the impact of women's eligibility for the pension on their decision-making power within the household. Appendix Table A13 reports the results. In Panel A of Appendix Table A13, we examine the impact of a woman's eligibility for the pension on the probability that she decides by herself on various situations, including when to work, when to leave the house, expenditures, when to move, decisions about money, what to buy, and social life. In Panel B, we look at the effect of eligibility on the probability that the woman and her husband decide jointly. We find no significant changes in women's decision-making power within the household, except for a small increase in the probability that the respondent decides on expenditures for women aged 66-67. However, the point estimate is very small relative to the mean (3.3%). Overall, we do not find substantial evidence of an increase in women's decision-making power after becoming eligible for the pension.

We also examine whether the effect of becoming eligible for PAM on IPV differs in states where unilateral divorce law is permitted. If outside options were an important determinant of IPV, we would expect the effect of the reform on IPV to be muted in states that allow unilateral divorce because the threat of leaving the marriage is more credible. Although some estimates suggest a stronger increase in states with unilateral divorce laws, the difference is statistically insignificant, except for sexual IPV for women aged 66-67. The results are reported in Appendix Figure A4. Overall, the evidence supports the hypothesis that the bargaining channel is weak in this context.

Changes in Co-residence Patterns   We investigate the reform's effect on living arrangements in Appendix Table A14. We create six binary indicators to measure the various co-residence patterns observed in the data: Respondents who live in a household with more than two household members (Col. 1); respondents who live with their parents (Col. 2); respondents who live with their children

(Col. 3); respondents who live with their grandchildren (Col. 4); respondents who live with their siblings (Col. 5); and respondents who live with other individuals (Col. 6). We find no evidence that the reform changes co-residence patterns. The only exception is a 13 percent increase in the probability that grandchildren live in the house, which is marginally statistically significant. Although we interpret this result cautiously, the increased co-residence with grandchildren may contribute to a tighter household budget and offset the stress reduction from the pension.

To summarize, our empirical investigation into how a woman's pension eligibility may influence IPV identifies four key mechanisms: increased household income, the use of violence as an instrument to control women's resources, male backlash, and greater exposure to the risk of abuse due to increased time spent at home. Given the estimated overall increase in IPV due to the reform, we infer that the rise in IPV predicted by instrumental and exposure theories offsets the potential decline in IPV suggested by the absolute resource theory.

6.2 Discussion and Comparison with Previous Studies

Two recent meta-analyses concluded that the evidence from available studies points towards a decrease in IPV after women receive cash transfers (Baranov et al., 2021; Buller et al., 2018). In contrast, we find that women's eligibility for a social pension increases IPV. In this section, we discuss potential reasons why our results differ from the findings of existing studies on cash transfers and IPV.

First, the disparate findings may be explained by our focus on older women, whose risk and experiences of IPV may differ from those of younger women in several ways. For instance, older victims are more likely to have disabilities and depend economically on their partners or other family members, making recognizing abuse, seeking help, and threatening to leave an abusive relationship harder. They may also face more stigma due to gender roles being more conservative among older generations.

Second, our research aligns with previous research showing that cash transfers increase emotional IPV in key subgroups of women. Hidrobo and Fernald (2013) find that an unconditional cash transfer reduces psychological IPV for women with more than primary school education in Ecuador but increases emotional IPV in women with primary education or less who do not have less education than their husbands, possibly because the outside options are not a credible threat for this group of women. This finding is aligned with our results as older women have lower outside options, as suggested by their low divorce and separation rates.

Third, a few studies that found a decrease in IPV after women receive cash transfers show that the increased decision-making power of women beneficiaries is one of the mechanisms driving

the decline in IPV (Buller et al., 2016; Hidrobo et al., 2016; Ritter Burga, 2014). In Section 6, we argued that the household bargaining framework does not apply to our context because the affected older women in our setting have a low propensity to divorce. This assumption is supported by the null findings on the reform's effect on decision-making. Despite increasing the economic resources available to women, the reform fails to significantly improve their decision-making power as predicted by the household bargaining model (Appendix Table A13).

Fourth, regarding the other theoretical channels discussed in Section 6, the predictions of the instrumental theory, the male backlash theory, and the exposure theory are consistent with larger increases in IPV among older women than younger women. Some of the instrumental models of violence predict that a program that provides women with income or work opportunities may increase IPV for women with low *ex-ante* outside options (Eswaran and Malhotra, 2011; Heath, 2014), as is the case for older women. Regarding male backlash, if gender norms are more conservative among older couples than younger couples, older women may be at higher risk of male backlash after becoming eligible for cash transfers than younger women. Looking at the exposure channel, a non-contributory pension may generate a larger income effect on labor supply than a cash transfer for younger women as it targets older women close to the common retirement age.

Next, we discuss how our results relate to past studies' results on the determinants of IPV in Mexico. The evidence on the conditional cash transfer Progresa/Oportunidades and IPV is mixed. Angelucci (2008) finds that the impact of Progresa on a specific type of IPV — aggressive behavior after drinking — varies depending on the size of the transfer and the educational attainment of the husband. She estimates a decrease in drunken IPV among women entitled to the minimum transfer and women whose husbands completed primary school. In contrast, she finds an increase in drunken IPV among women entitled to large transfers if their husband has no education. Bobonis et al. (2013) show that physical IPV decreases, but psychological IPV increases, including threats of physical IPV without associated physical IPV, among Progresa beneficiaries in the short run. Bobonis et al. (2013) interpret their results as suggestive that partners use psychological IPV as an instrument to extract rent from their female partners. However, Bobonis et al. (2015) find no effect of Progresa on IPV in the long run.

Turning to other determinants of IPV, García-Ramos (2021) uses the enactment of unilateral divorce by some Mexican states as a natural experiment and finds that easier access to divorce increases physical, psychological, and economic IPV in the long run. The author interprets this result as suggestive that partners use IPV as an instrument to prevent women from leaving the marriage.

In sum, the findings of previous research on conditional cash transfers and unilateral divorce suggest that IPV tends to be instrumental in Mexico, which may be due to the overall high prevalence

of IPV and high levels of violence throughout the country. Our finding that women's pension eligibility increases IPV also suggests that men use violence as a tool to control women's resources. However, the forms of IPV found to be instrumental vary across studies.

7   Conclusion

Although gender-based violence remains a prevalent global issue, there is limited understanding of this issue among women of post-reproductive age. This study sheds light on the prevalence of IPV among older women and provides the first estimates of the effect of old-age pensions on IPV. Using detailed survey data from Mexico, we first document that although IPV decreases with age, older women still face significant risks. Second, we investigate the effect of a Mexican pension reform that expanded the coverage of a non-contributory program to individuals aged 65 and older using a DID approach. We show that the reform substantially increases the program take-up among men and women aged 66 to 69, but the effects on IPV vary with the gender and age of the recipient. We find that women's eligibility for the pension substantially raises the probability of experiencing IPV for women aged 66 to 67 but not for women aged 68 to 69. In contrast, men's eligibility for the pension decreases the probability that their wives are subjected to IPV. Further analysis suggests that the use of violence as an instrument to control women's resources and increased time spent at home with violent partners due to reduced labor supply may play a role in explaining the increase in IPV after women become eligible for the pension.

The results of this paper show the unintended consequences of a social protection program that has been demonstrated to reduce extreme poverty among the elderly in Mexico (Ávila-Parra et al., 2024). Our findings help to identify the women who are at higher risk of experiencing IPV after becoming eligible for a social pension: women who experienced family violence in childhood and women with low socioeconomic status. To mitigate the risk of increased IPV, the government may target interventions for this high-risk population. Evidence from numerous studies conducted in Asia and Sub-Saharan Africa suggests that community-level and group-based programs designed to combat IPV, for instance, gender training, couples' dialogue, and family coaching, are effective in reducing IPV (Chang et al., 2020; Leight et al., 2023). However, most of these studies include only men and women of reproductive age. More research is needed to examine if these anti-IPV interventions are also effective in reducing IPV in women of postreproductive ages. Some of these interventions reduced physical and/or sexual IPV while also changing attitudes towards IPV, suggesting that a change in attitudes may be a mechanism. However, it may be more difficult to change attitudes in elderly couples as attitudes may be less malleable in old age (Glenn, 1980; Krosnick and Alwin, 1989).

This study contributes to a better understanding of the relationship between income, social programs, and IPV for older women. It highlights the importance of considering age-specific factors when implementing policy responses to address IPV and emphasizes the need for more research on this vulnerable population. In particular, it is imperative to build more evidence on the forms of abuse that are specific to old age, as well as documenting abuse by family members other than the intimate partner, including children (WHO, 2024).

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Figures and Tables

Figure 1: The Age Gradient in Intimate-Partner-Violence: Descriptive Evidence from the Pre-Reform Surveys

At least one incidence of IPV in the past 12 months

Prevalence by type of IPV and age group
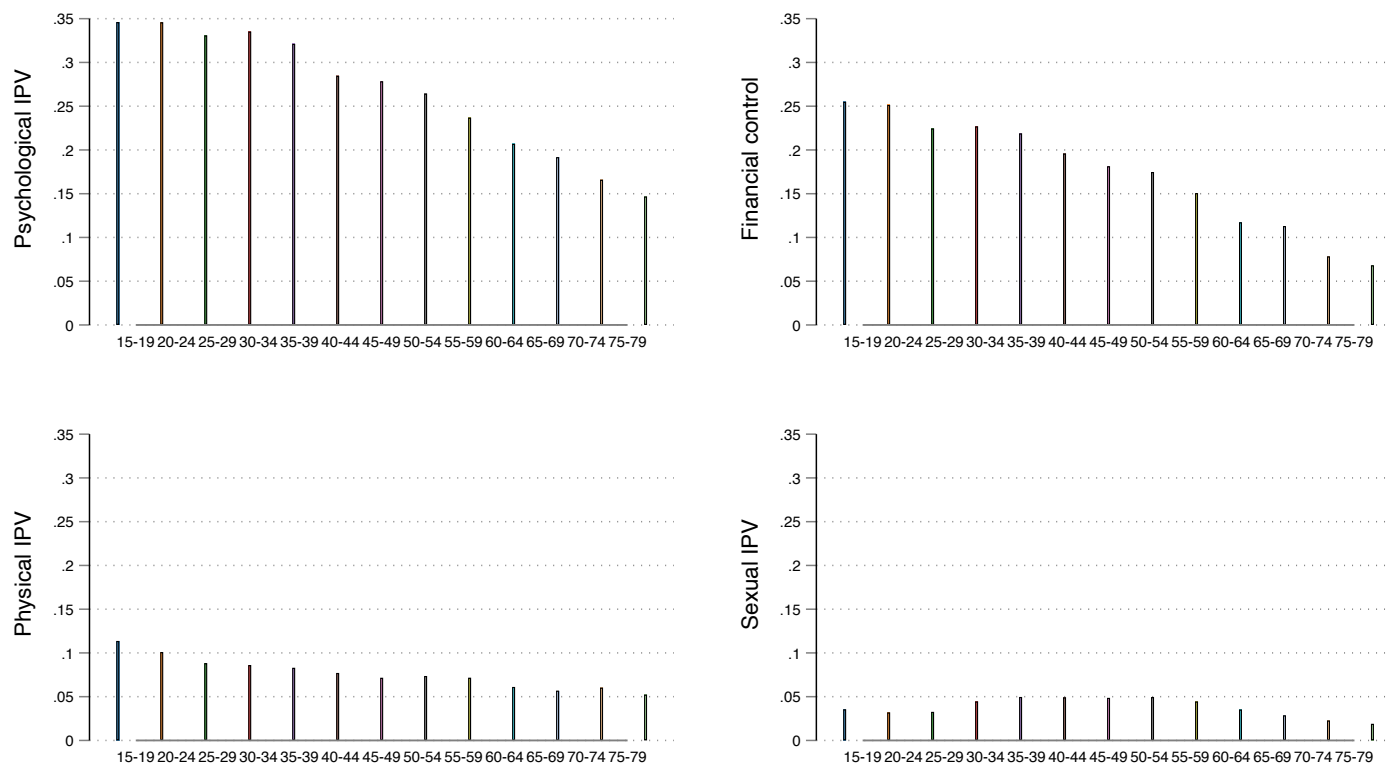
Data: 2006 and 2011 waves of the ENDIREH survey.

Notes: These figures show the incidence of intimate partner violence for women aged 15 to 79 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006 and 2011 ENDIREH surveys. The respondents are victims of violence whether they experienced at least once an act of psychological, physical, financial control, and sexual violence by their partner in the last 12 months prior to the interview.

Figure 2: Heterogeneous Effects of Pension Eligibility on Intimate Partner Violence for Women ages 66-67, by Characteristics of Women and Households
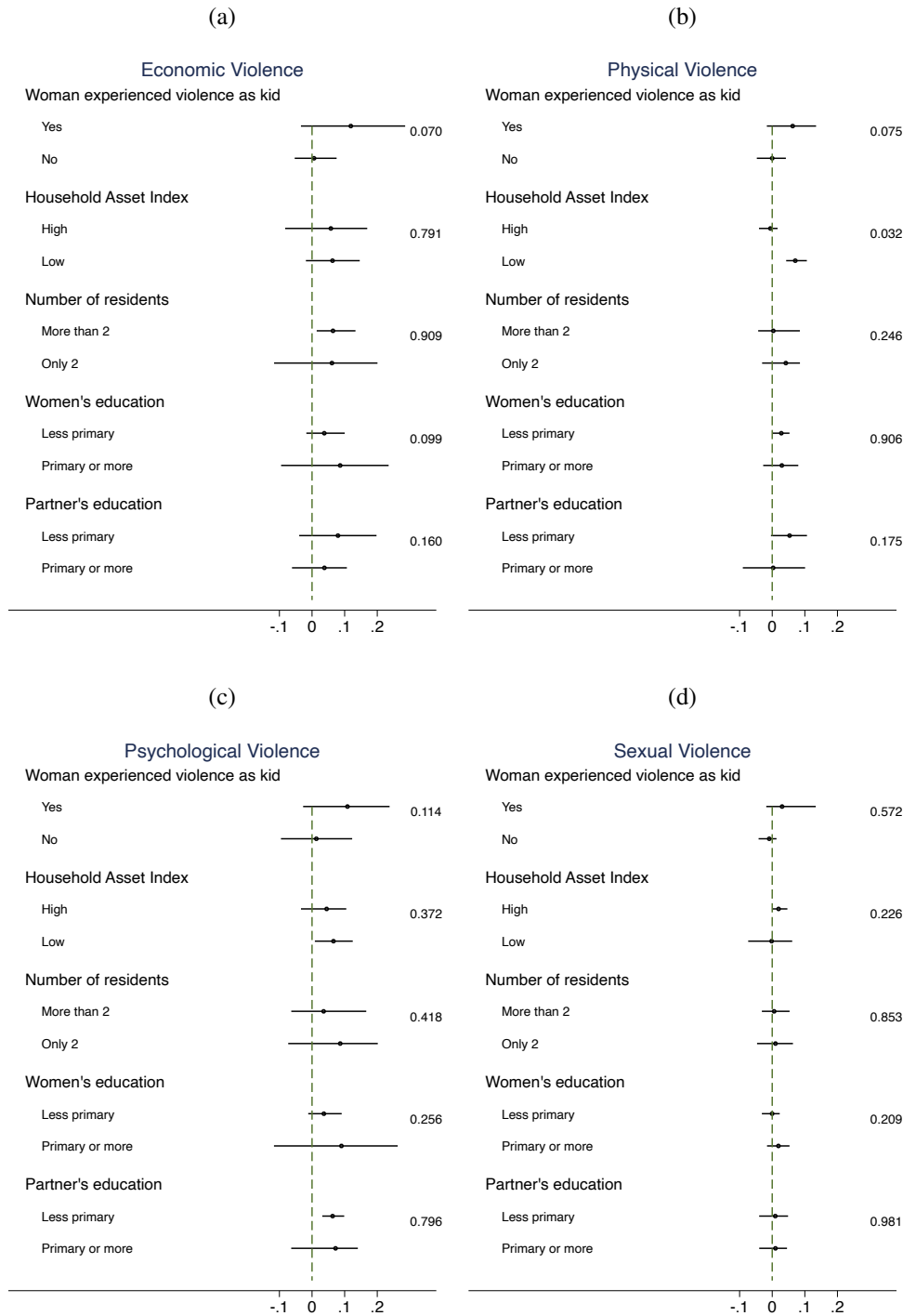
(a)

Economic Violence

(b)

Physical Violence

(c)

Psychological Violence

(d)

Sexual Violence

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. For each heterogeneity variable, the figure reports the coefficient estimate of the difference-in-differences coefficient, i.e., the interaction between "Age 66-67" and the "2016 Survey wave" indicators, for stratified regressions on the split samples. The figure shows the 95 percent confidence intervals estimated using Wild Cluster Bootstrap and the p-value for the test of equality of coefficients in a fully interacted regression.

29

Figure 3: Heterogeneous Effects of Pension Eligibility on Intimate Partner Violence for Women ages 66-67, by IPV Incidence in the Region Before the Reform

(a)
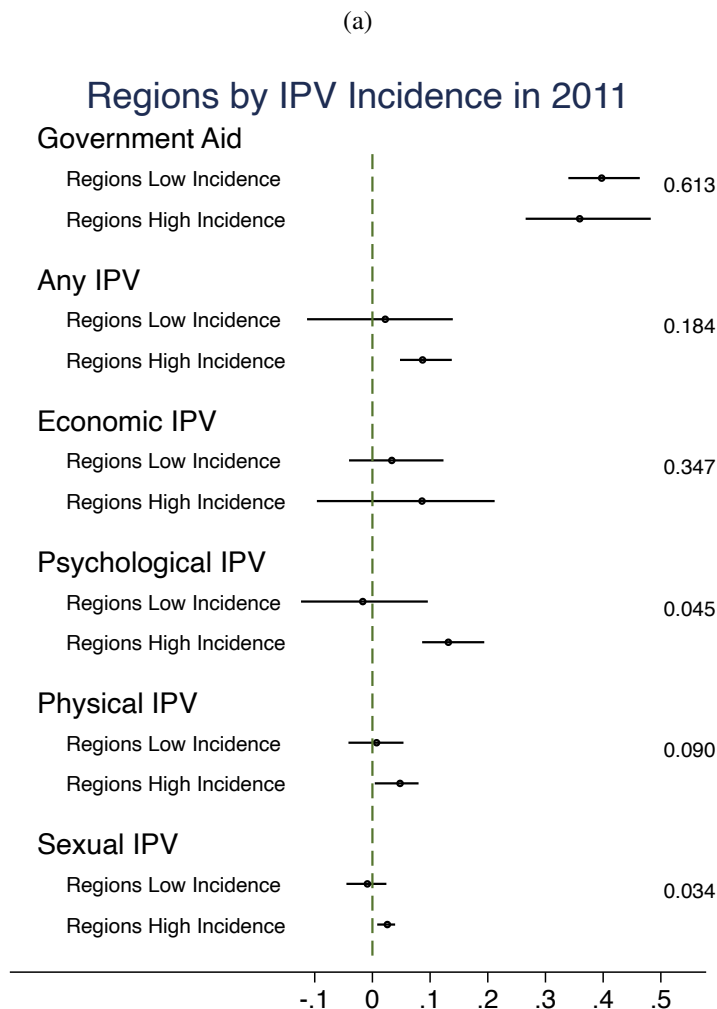
Notes: We study whether the effect of women's eligibility for the pension on IPV varies with the incidence of IPV in the region before the reform. "Government Aid", "Any IPV", "Economic IPV", "Psychological IPV", "Physical IPV", and "Sexual IPV" are the outcome variables. We run the regressions separately for regions with a high incidence of "Any IPV" before the reform and regions with a low incidence. We measure the incidence of IPV in the region by taking the mean of the "any IPV" variable among women aged 61-69 in the 2011 wave of ENDIREH, by region. We classify regions as having low incidence if their mean is less than the median and high incidence if their mean is greater than or equal to the median. See notes to Figure 2 for more details about the specification.

Table 1: Impacts on Sample Selection

	Married/Union		Married/Union with Partner		Receives Pension			
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2016	-0.003		-0.002		0.017		-0.013	
	(0.022)		(0.022)		(0.014)		(0.017)	
	[0.885]		[0.916]		[0.308]		[0.478]	
Age 66-67 X Wave 2016		-0.009		-0.007		0.013		-0.015
		(0.019)		(0.022)		(0.013)		(0.015)
		[0.736]		[0.787]		[0.505]		[0.452]
Age 68-69 X Wave 2016		0.004		0.004		0.021		-0.011
		(0.037)		(0.038)		(0.024)		(0.025)
		[0.886]		[0.871]		[0.609]		[0.762]
Observations	23,481	23,481	23,481	23,481	23,481	23,481	23,481	23,481
R^2	0.022	0.022	0.022	0.022	0.127	0.127	0.050	0.050
Mean Dep. Variable	0.555		0.546		0.193		0.484	
P-value 66-67 vs. 68-69		0.773		0.833		0.799		0.854

Notes: The sample includes women aged 61-64 and 66-69 in the 2006, 2011 and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 2: Impact on Receipt of Government Aid

	Receives Government Aid	
	(1)	(2)
Age 66-69 X Wave 2016	0.422***	
	(0.038)	
	[0.001]	
Age 66-67 X Wave 2016		0.377**
		(0.047)
		[0.022]
Age 68-69 X Wave 2016		0.474***
		(0.013)
		[0.000]
Observations	11,635	11,635
R^2	0.302	0.304
Mean Dep. Variable	0.048	0.048
P-value 66-67 vs. 68-69		0.240

Notes: The dependent variable is a binary indicator that equals one if the respondent receives a monetary transfer from the government other than Progresa/Oportunidades at the time of the interview. The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Impact on Intimate Partner Violence Incidence in the Past 12 Months

	Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2016	0.030		0.033		0.016		0.043**		0.008	
	(0.019)		(0.022)		(0.009)		(0.014)		(0.006)	
	[0.188]		[0.190]		[0.184]		[0.020]		[0.270]	
Age 66-67 X Wave 2016		0.058**		0.061*		0.028**		0.062***		0.010
		(0.011)		(0.016)		(0.006)		(0.006)		(0.008)
		[0.040]		[0.084]		[0.027]		[0.009]		[0.530]
Age 68-69 X Wave 2016		-0.003		0.001		0.002		0.021		0.007
		(0.011)		(0.017)		(0.010)		(0.016)		(0.007)
		[0.766]		[0.926]		[0.830]		[0.171]		[0.506]
Observations	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635
R^2	0.087	0.087	0.055	0.056	0.036	0.036	0.079	0.079	0.043	0.043
Mean Dep. Variable	0.245	0.245	0.103	0.103	0.058	0.058	0.182	0.182	0.030	0.030
P-value 66-67 vs. 68-69		0.035		0.044		0.134		0.115		0.814

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Placebo Test: Using Only the 2006 and 2011 Waves and the 2011 Wave as Post-reform Wave

Panel A: All States

	Receives Government Aid		Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2011	0.037***		-0.010		0.012		0.009		-0.031***		0.001	
	(0.008)		(0.019)		(0.018)		(0.016)		(0.011)		(0.011)	
	[0.004]		[0.628]		[0.523]		[0.546]		[0.006]		[0.890]	
Age 66-67 X Wave 2011		0.025*		-0.016		0.010		-0.014		-0.041*		0.002
		(0.006)		(0.021)		(0.018)		(0.018)		(0.011)		(0.014)
		[0.067]		[0.558]		[0.600]		[0.544]		[0.057]		[0.915]
Age 68-69 X Wave 2011		0.051**		-0.003		0.013		0.035**		-0.020		0.001
		(0.005)		(0.018)		(0.019)		(0.011)		(0.012)		(0.010)
		[0.015]		[0.872]		[0.549]		[0.035]		[0.225]		[0.974]

Panel B: Excluding States That Passed Other Programs Between 2006 and 2011

	Receives Government Aid		Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2011	0.016		-0.017		0.011		0.009		-0.031**		0.005	
	(0.011)		(0.017)		(0.022)		(0.014)		(0.011)		(0.010)	
	[0.213]		[0.419]		[0.636]		[0.530]		[0.019]		[0.656]	
Age 66-67 X Wave 2011		-0.002		-0.015		0.016		-0.009		-0.035		0.010
		(0.003)		(0.017)		(0.021)		(0.019)		(0.010)		(0.012)
		[0.618]		[0.441]		[0.493]		[0.638]		[0.109]		[0.598]
Age 68-69 X Wave 2011		0.036**		-0.019		0.005		0.029**		-0.027		-0.000
		(0.004)		(0.017)		(0.022)		(0.005)		(0.013)		(0.009)
		[0.019]		[0.394]		[0.865]		[0.031]		[0.213]		[0.980]
Observations	6,854	6,854	6,854	6,854	6,854	6,854	6,854	6,854	6,854	6,854	6,854	6,854
R^2	0.032	0.033	0.095	0.095	0.067	0.067	0.040	0.041	0.090	0.090	0.052	0.052
Mean Dep. Variable	0.032	0.032	0.273	0.273	0.126	0.126	0.067	0.067	0.215	0.215	0.051	0.051
P-value 66-67 vs. 68-69		0.022		0.669		0.145		0.198		0.488		0.607

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006 and 2011 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1. In Panel B, we exclude the following states because they implemented policies providing transfers to individuals aged 66-69 between 2006 and 2011 (Aguila et al., 2012): Chiapas, Tabasco, Tlaxaca, and Zacatecas.

Table 5: Impact on Economic Violence in Combination with Other Types of Violence

	Economic and Psychological (1)	Economic and Physical (2)	Economic and Sexual (3)	Economic, Psychological and Physical (4)	Economic, Psychological and Sexual (5)	Economic, Physical and Sexual (6)
Age 66-67 X Wave 2016	0.022	0.005**	0.002	0.028**	0.007**	-0.000
	(0.012)	(0.001)	(0.001)	(0.009)	(0.002)	(0.000)
	[0.154]	[0.045]	[0.109]	[0.049]	[0.037]	[0.424]
Age 68-69 X Wave 2016	0.014	-0.002	0.002	0.004	0.002	-0.000
	(0.013)	(0.001)	(0.001)	(0.006)	(0.003)	(0.000)
	[0.362]	[0.427]	[0.148]	[0.608]	[0.625]	[0.451]
Observations	11,635	11,635	11,635	11,635	11,635	11,635
R^2	0.038	0.008	0.009	0.022	0.046	0.008
Mean Dep. Variable	0.035	0.001	0.000	0.013	0.008	0.000
P-value 66-67 vs. 68-69	0.468	0.058	0.125	0.038	0.148	0.643

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 6: Impact on Labor Market Outcomes

	Receives Money from Employment (1)	Partner Receives Money from Employment (2)	Receives Monetary Help from Family (3)	Housewife (4)	Receives Money from Progresa (5)
Age 66-67 X Wave 2016	-0.041*	0.013	-0.027	0.059*	0.002
	(0.009)	(0.015)	(0.012)	(0.014)	(0.006)
	[0.052]	[0.659]	[0.129]	[0.058]	[0.777]
Age 68-69 X Wave 2016	-0.037	0.046*	-0.028	0.077*	0.013
	(0.020)	(0.016)	(0.031)	(0.030)	(0.007)
	[0.102]	[0.061]	[0.621]	[0.054]	[0.178]
Observations	11,627	11,635	11,635	11,635	11,633
R^2	0.045	0.091	0.085	0.047	0.298
Mean Dep. Variable	0.151	0.472	0.224	0.759	0.209
P-value 66-67 vs. 68-69	0.829	0.347	0.921	0.546	0.035

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDI-REH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Online Appendix

Social Pensions and Intimate Partner Violence against Older Women

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Contents

List of Figures

List of Tables

A Definition of Key Variables

A.1 Outcome Variables

A.1.1 Intimate Partner Violence

See Appendix Table A1 for the definition of the following key variables: *Any IPV, Economic IPV, Physical IPV, Psychological IPV, Sexual IPV, Theft and coercion, Economic control, Failure to provide, Moderate physical violence, Severe physical violence, Indifference, Intimidation, Isolation, Threats*.

A.1.2 Other Outcomes

- *Receives government aid*: It is a dummy that is equal to one if the respondent reports receiving money from a program of the government other than Oportunidades/Progresa, at the moment of the interview.

- *Receives money from employment*: It is a dummy that is equal to one if the respondent reports receiving money from employment, at the moment of the interview.

- *Partner receives money from employment*: It is a dummy that is equal to one if the respondent reports that their partner is receiving money from employment, at the moment of the interview.

- *Receives monetary help from family*: It is a dummy that is equal to one if the respondent reports receiving money from relatives or acquaintances who live abroad or within the country, at the moment of the interview.

- *Housewife*: Binary indicator that equals one if the respondent reports that she is not employed because she is dedicated to doing the household chores, at the moment of the interview.

- *Receives money from Progresa*: It is a dummy that is equal to one if the respondent reports receiving money from the government program Oportunidades/Progresa, at the moment of the interview.

A.2 Variables Defining the Sub-groups for Heterogeneity Analysis

- *Women experienced violence as kids*: It is a dummy that is equal to one if the respondent reports that when she was a child, her family would hit her, insult her, or offend her.

- *Household Asset Index*: Continuous variable created by the authors following García-Ramos

3

(2021). We use the first component of principal component analysis of the following variables: binary indicators for having an earth floor, a cement floor, a wood floor, access to public water in the house, access to public water out of the house, other types of water access, a public drain system, a septic tank, other types of drain; binary indicators for owning a radio, a computer, a landline, a mobile phone, a washing machine, a car; a crowding index, defines as the number of residents divided by number of rooms.

- *Low*: It is a dummy that is equal to one if the respondent's household asset index belongs to the first and second quantile of the distribution of the index in our sample.

- *High*: It is a dummy that is equal to one if the respondent's household asset index belongs to the third, fourth, or fifth quantile of the distribution of the index in our sample.

- *Number of residents*: Total number of residents living in the same household as the respondent, at the moment of the interview.

- *Women's education*:

  - *Less than primary*: It is a dummy that is equal to one if the respondent reports that when she has no education or did not complete primary education.

  - *More than primary*: It is a dummy that is equal to one if the respondent reports that when she completed primary education, secondary education, or tertiary education.

- *Partner's education*:

  - *Less than primary*: It is a dummy that is equal to one if the respondent reports that her partner has no education or did not complete primary education.

  - *More than primary*: It is a dummy that is equal to one if the respondent reports that her partner completed primary education, secondary education, or tertiary education.

A.3 Variables for Sample Selection

- *Married/union*: It is a dummy that is equal to one if the respondent is married or cohabiting with a partner at the moment of the interview.

- *Married/union with partner*: It is a dummy that is equal to one if the respondent is married or cohabitates with a partner and the partner lives in the household at the moment of the interview.

- *Receives pension*: It is a dummy that is equal to one if the respondent reports receiving money from retirement or pension at the moment of the interview.

A.4 Variables Defining Co-residence Patterns

- *More than 2 members in the house*: It is a dummy that is equal to one if the respondent reports that there are more than two members living in the household at the moment of the interview.

- *Parents live in the house*: It is a dummy that is equal to one if the respondent reports that her parents or the parents of her partner are living in the same household at the moment of the interview.

- *Children live in the house*: It is a dummy that is equal to one if the respondent reports that her children or the children of her partner are living in the same household at the moment of the interview.

- *Grandchildren live in the house*: It is a dummy that is equal to one if the respondent reports that her grandchildren are living in the same household at the moment of the interview.

- *Siblings live in the house*: It is a dummy that is equal to one if the respondent reports that her siblings or the siblings of her partner are living in the same household at the moment of the interview.

- *Others live in the house*: It is a dummy that is equal to one if the respondent reports that other family members are living in the same household at the moment of the interview.

A.5 Variables Defining Decision-making

- *The respondent decides when to work*: It is a dummy that is equal to one if the respondent reports that she is the only one who decides if she can work and when.

- *The respondent decides when to leave the house*: It is a dummy that is equal to one if the respondent reports that she is the only one who decides if she can leave her house.

- *The respondent decides about the expenditures*: It is a dummy equal to one if the respondent reports that she is the only one who decides how to spend the money she earns.

- *The respondent decides when to move*: It is a dummy equal to one if the respondent reports that she is the only one who decides about moving.

- *The respondent decides about money*: It is a dummy equal to one if the respondent reports that she is the only one who decides about her money.

- *The respondent decides what to buy*: It is a dummy equal to one if the respondent reports that she is the only one who decides if she can buy things for herself.

- *The respondent decides about her social life*: It is a dummy equal to one if the respondent reports that she is the only one who decides when to participate in her community's social or political life.

B Robustness to Alternative Specifications

In this Section, we conduct several tests to examine how robust our results are to the choice of specification. Table A5 shows how the coefficient estimates change when we vary the independent variables: controlling only for the non-interacted main effects $Age66-67$ and $Wave2016$ (column 1); controlling only for interview year and age fixed effects (column 2); adding state fixed effects to the specification (column 3); adding educational attainment of the respondent and rural residency (column 4); adding partner's education, number of children, a binary indicator for speaking an indigenous language (for both the woman and her partner), partner's age, age at marriage, age when they started the current relationship, and experience of violence in childhood (for both the woman and her partner) (column 5); adding state-specific age fixed effect or state-specific survey-year fixed effect (columns 6 and 7 respectively); controlling for a binary indicator for whether unilateral divorce is allowed in the respondent's state of residence at the time of the survey (column 8). Column 5 indicates our baseline specification. We find that our results are not affected, suggesting that they are not sensitive to the choice of control variables and are robust to holding constant time-varying or age-varying characteristics at the state level. Panel A reports estimates for the first stage: the probability of receiving any government aid, Panel B reports estimates for any type of IPV, Panel C for economic IPV, Panel D for physical IPV, Panel E for psychological IPV, and Panel F for sexual IPV.

Furthermore, we conduct a robustness check by excluding the 2006 wave from our sample and focusing solely on the wave closest to the 2013 reform (2011) and the wave after it (2016). This exercise helps to rule out that our estimates are driven by using a survey wave collected a long time before the implementation of the reform. The results, presented in Table A15, show a high degree of similarity with our baseline estimates in Table 3, reinforcing the robustness of our findings.

Finally, in Table A16, we show that our results are robust to using the doubly-robust DID estimator proposed by Sant'Anna and Zhao (2020), which is consistent when either a propensity score model or an outcome regression model is correctly specified, in cases where the parallel trends assumption is satisfied after conditioning on covariates.[1]

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[1]We apply the doubly robust estimator for the restricted sample that includes only the 2011 and 2016 survey waves because the estimator requires a two-by-two research study.

C Appendix Tables and Figures

Figure A1: Prevalence of IPV by Type, Age Groups and Survey Waves

At least one incidence of IPV in the past 12 months

Prevalence by type of IPV, age group and survey year
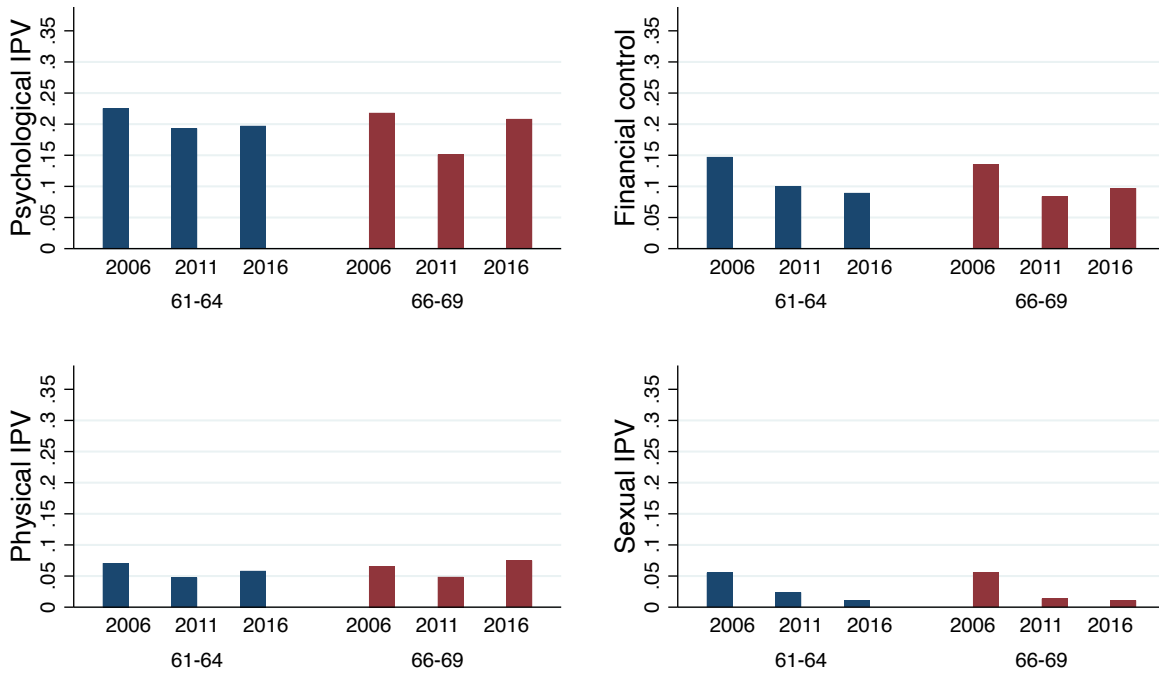
Data: 2006, 2011 and 2016 waves of the ENDIREH survey.

Notes: These figures show the incidence of intimate partner violence for women aged 61-64 and 66-69 who are currently married or in a union, live with their partners and do not receive a contributory pension in the 2006, 2011 and 2016 ENDIREH surveys. The respondents are victims of violence if they experienced at least once an act of psychological, physical, economic or sexual violence by their partner in the last 12 months before the interview.

Figure A2: Impact of Eligibility on Predetermined Characteristics
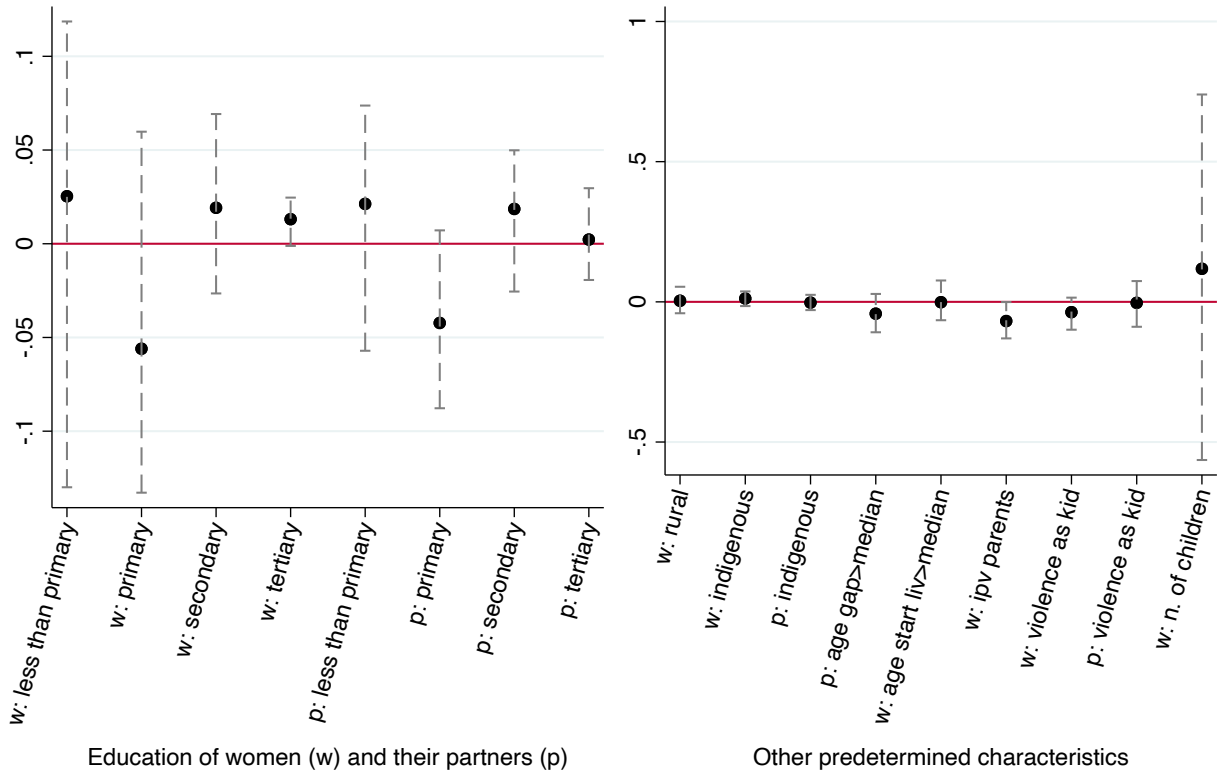
Education of women (w) and their partners (p)

Other predetermined characteristics

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, and state fixed effects. Regressions are weighted using household survey weights. The figures reports the coefficient estimate of the interaction between "Age 66-67" and the "2016 Survey wave" indicators of the different outcomes described in the x-axis. w: refers to the respondent characteristics, p: refers to the characteristics of her partner. The figures show the 95 percent confidence intervals estimated using Wild Cluster Bootstrap and the p-value for the test of equality of coefficients.

Figure A3: Heterogeneous Effects on Probability of Receiving Government Aid

(a) Age 66-67

(b) Age 68-69

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Figure (a) reports the coefficient estimate of the interaction between "Age 66-67" and the "2016 Survey wave" indicators and figure (b) reports the coefficient estimate of the interaction between "Age 68-69" and the "2016 Survey wave" indicators. The figures show the 95 percent confidence intervals estimated using Wild Cluster Bootstrap and the p-value for the test of equality of coefficients.

Figure A4: Heterogeneous Effects of Pension Eligibility on IPV for women ages 66-67 and 68-69, by Whether the State Allowed Unilateral Divorce at the Time of the Survey

(a) Age 66-67

(b) Age 68-69

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Figure (a) reports the coefficient estimate of the interaction between "Age 66-67" and the "2016 Survey wave" indicators and figure (b) reports the coefficient estimate of the interaction between "Age 68-69" and the "2016 Survey wave" indicators. The figures show the 95 percent confidence intervals estimated using Wild Cluster Bootstrap and the p-value for the test of equality of coefficients.

Table A1: Definition of IPV Variables

Category	Sub-category	Question: In the past 12 months, the respondent's partner ...
Economic IPV	Theft or economic coercion	Appropriated or took money or possessions from her
Economic IPV	Economic control or blackmail	Complained about how she spent money
Economic IPV	Economic control or blackmail	Has been stingy with the household expenses even if he has money
Economic IPV	Economic control or blackmail	Has forbidden the respondent from working or studying
Economic IPV	Failure to fulfill economic responsibility	Did not provide the respondent with economic support or threatened the respondent to not support her financially
Economic IPV	Failure to fulfill economic responsibility	Spent money needed for the household
Psychological IPV	Degradation	Shamed her, underestimated or humiliated her
Psychological IPV	Degradation	Said she cheated on him
Psychological IPV	Degradation	Became angry because household chores were not done like he wanted
Psychological IPV	Indifference	Ignored her, did not show his affection
Psychological IPV	Indifference	Stopped talking to her
Psychological IPV	Intimidation	Made her feel fear
Psychological IPV	Intimidation	Destroyed, threw away, or hid things belonging to her or the household
Psychological IPV	Intimidation	Watched over, spied on, followed
Psychological IPV	Isolation	Locked her in, forbid her from going out or being visited
Psychological IPV	Isolation	Turned her children or relatives against her
Psychological IPV	Threat	Threatened her with a weapon
Psychological IPV	Threat	Threatened to kill her, himself or the children
Psychological IPV	Threat	Threatened to leave her, hurt her, take her children away or kick her out
Physical IPV	Moderate physical IPV	Pushed her or pulled her hair
Physical IPV	Moderate physical IPV	Kicked her
Physical IPV	Moderate physical IPV	Kicked her
Physical IPV	Moderate physical IPV	Threw objects at her
Physical IPV	Moderate physical IPV	Beat her with his hands or an object
Physical IPV	Severe physical IPV	Tied her up
Physical IPV	Severe physical IPV	Tried to choke her or hang her
Physical IPV	Severe physical IPV	Assaulted her with a knife or a blade
Physical IPV	Severe physical IPV	Fired a weapon at her
Sexual IPV		Demanded that you have sexual intercourse
Sexual IPV		Forced you to do sexual things that you do not like
Sexual IPV		Used physical strength to force you to have sexual intercourse

Table A2: Impact of Eligibility on PAM Take-up and Amount

	Married Women				Married Men			
	Take up		Monthly amount		Take up		Monthly amount	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Age 66-69 X Wave 2016	0.509***		257.851***		0.491***		246.867***	
	(0.034)		(17.521)		(0.049)		(23.245)	
	[0.000]		[0.000]		[0.002]		[0.002]	
Age 66-67 X Wave 2016		0.468***		245.282***		0.442***		226.025***
		(0.044)		(29.232)		(0.070)		(35.006)
		[0.014]		[0.015]		[0.027]		[0.023]
Age 68-69 X Wave 2016		0.555***		272.175***		0.549***		272.020***
		(0.019)		(6.869)		(0.001)		(2.511)
		[0.001]		[0.000]		[0.000]		[0.000]
Observations	13,593	13,593	13,573	13,573	12,302	12,302	12,275	12,275
R^2	0.472	0.474	0.370	0.370	0.462	0.465	0.361	0.363
Mean Dep. Variable before 2016	0.132	0.132	98.696	98.696	0.123	0.123	94.695	94.695
P-value 66-67 vs. 68-69		0.177		0.584		0.381		0.513

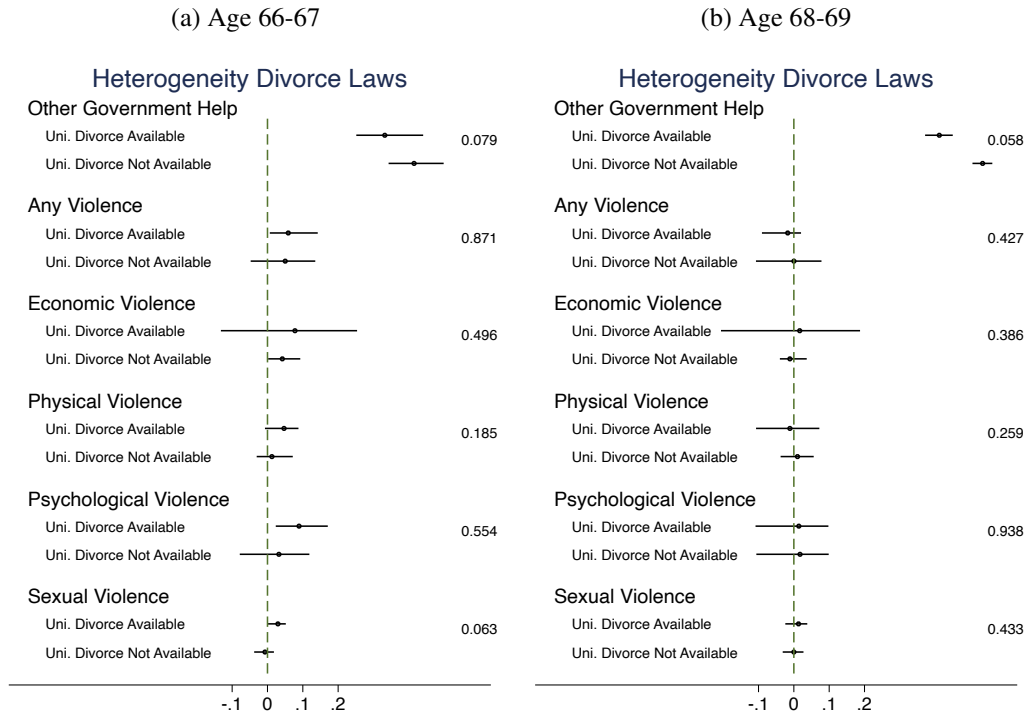*Notes:* The sample includes women and men who are currently married or in a union, live with their partners and do not receive a contributory pension in 2008, 2010, 2012, 2014 and 2016 waves of Mexico's Socioeconomic Conditions Module of the National Survey of Household Income and Expenditure (ENIGH). All regressions control for age fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A3: Impact of Eligibility by Women's Age

	Receives Government Aid (1)	Any Violence (2)	Economic Violence (3)	Physical Violence (4)	Psychological Violence (5)	Sexual Violence (6)
Age 66 X Wave 2016	0.321***	0.054	0.063	0.034*	0.059	0.018
	(0.003)	(0.011)	(0.016)	(0.003)	(0.007)	(0.004)
	[0.010]	[0.260]	[0.310]	[0.083]	[0.152]	[0.327]
Age 67 X Wave 2016	0.449***	0.063	0.058	0.021	0.066	-0.001
	(0.002)	(0.009)	(0.015)	(0.003)	(0.005)	(0.003)
	[0.001]	[0.301]	[0.417]	[0.342]	[0.168]	[0.717]
Age 68 X Wave 2016	0.490***	-0.008	-0.001	-0.008	0.004	-0.000
	(0.003)	(0.008)	(0.016)	(0.004)	(0.003)	(0.003)
	[0.002]	[0.522]	[0.966]	[0.409]	[0.381]	[0.897]
Age 69 X Wave 2016	0.454***	0.003	0.003	0.015	0.042	0.015
	(0.003)	(0.012)	(0.017)	(0.004)	(0.009)	(0.004)
	[0.010]	[0.838]	[0.820]	[0.382]	[0.523]	[0.423]
Observations	11,635	11,635	11,635	11,635	11,635	11,635
R^2	0.306	0.087	0.056	0.037	0.079	0.043
Mean Dep. Variable	0.023	0.262	0.123	0.056	0.212	0.038

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A4: Impact of Eligibility on Experiencing IPV More than Once in the Past 12 Months

	Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2016	0.039		0.032		0.014		0.048**		0.011	
	(0.023)		(0.025)		(0.010)		(0.016)		(0.006)	
	[0.190]		[0.277]		[0.267]		[0.034]		[0.155]	
Age 66-67 X Wave 2016		0.076**		0.068*		0.029**		0.068**		0.015*
		(0.012)		(0.013)		(0.003)		(0.011)		(0.007)
		[0.018]		[0.058]		[0.020]		[0.020]		[0.080]
Age 68-69 X Wave 2016		-0.004		-0.011		-0.003		0.024		0.006
		(0.008)		(0.015)		(0.009)		(0.018)		(0.006)
		[0.628]		[0.489]		[0.703]		[0.283]		[0.530]
Observations	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635
R^2	0.080	0.081	0.048	0.050	0.032	0.032	0.076	0.076	0.030	0.030
Mean Dep. Variable	0.207	0.207	0.090	0.090	0.040	0.040	0.146	0.146	0.024	0.024
P-value 66-67 vs. 68-69		0.056		0.035		0.072		0.278		0.471

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners and do not receive a contributory pension in the 2006, 2011 and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A5: Robustness Test: Excluding States that Passed Other Programs Between 2006 and 2011

	Receives Government Aid		Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2016	0.422***		0.044*		0.042		0.025*		0.064***		0.011	
	(0.038)		(0.020)		(0.026)		(0.011)		(0.015)		(0.007)	
	[0.001]		[0.073]		[0.154]		[0.074]		[0.009]		[0.194]	
Age 66-67 X Wave 2016		0.378**		0.076**		0.075*		0.042**		0.086**		0.015
		(0.046)		(0.013)		(0.017)		(0.006)		(0.010)		(0.008)
		[0.020]		[0.031]		[0.063]		[0.020]		[0.017]		[0.134]
Age 68-69 X Wave 2016		0.472***		0.007		0.003		0.006		0.039**		0.006
		(0.017)		(0.010)		(0.018)		(0.007)		(0.014)		(0.008)
		[0.006]		[0.529]		[0.830]		[0.478]		[0.038]		[0.580]
Observations	10,193	10,193	10,193	10,193	10,193	10,193	10,193	10,193	10,193	10,193	10,193	10,193
R^2	0.308	0.311	0.087	0.088	0.056	0.057	0.037	0.037	0.081	0.081	0.043	0.043
Mean Dep. Variable	0.039	0.039	0.247	0.247	0.103	0.103	0.055	0.055	0.181	0.181	0.028	0.028
P-value 66-67 vs. 68-69		0.283		0.031		0.014		0.073		0.022		0.534

Notes: See notes to Table 3. We exclude the following states because they implemented policies providing transfers to individuals aged 66-69 between 2006 and 2011 (Aguila et al., 2012): Chiapas, Tabasco, Tlaxaca, and Zacatecas.

Table A6: Placebo Tests: Placebo Eligibility Ages at 25, 35, 45 and 55.

	Receives Government Aid		Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Panel A: Placebo Eligibility Age at 25 (Sample: Ages 21-24 & 26-29. N=38,132)												
Age 26-29 X Wave 2016	-0.000		0.012		0.021		0.017		0.003		-0.000	
	(0.004)		(0.010)		(0.015)		(0.010)		(0.013)		(0.004)	
	[0.953]		[0.311]		[0.270]		[0.156]		[0.823]		[0.942]	
Age 26-27 X Wave 2016		0.002		0.012		0.023		0.010		-0.001		0.002
		(0.004)		(0.016)		(0.023)		(0.012)		(0.014)		(0.005)
		[0.730]		[0.652]		[0.538]		[0.508]		[0.942]		[0.662]
Age 28-29 X Wave 2016		-0.002		0.013		0.019		0.025*		0.007		-0.003
		(0.004)		(0.008)		(0.016)		(0.009)		(0.013)		(0.003)
		[0.660]		[0.210]		[0.378]		[0.074]		[0.653]		[0.463]
Panel B: Placebo Eligibility Age at 35 (Sample: Ages 31-34 & 36-39. N=51,174)												
Age 36-39 X Wave 2016	0.003		0.018		0.011		0.003		0.013		-0.001	
	(0.003)		(0.012)		(0.009)		(0.008)		(0.013)		(0.006)	
	[0.561]		[0.213]		[0.247]		[0.647]		[0.412]		[0.944]	
Age 36-37 X Wave 2016		-0.001		0.003		0.002		0.003		-0.000		0.004
		(0.003)		(0.011)		(0.010)		(0.008)		(0.011)		(0.007)
		[0.733]		[0.848]		[0.844]		[0.674]		[0.962]		[0.692]
Age 38-39 X Wave 2016		0.006		0.033**		0.020*		0.004		0.026		-0.005
		(0.003)		(0.012)		(0.007)		(0.008)		(0.012)		(0.007)
		[0.159]		[0.040]		[0.074]		[0.711]		[0.136]		[0.656]
Panel C: Placebo Eligibility Age at 45 (Sample: Ages 41-44 & 46-49. N=40,672)												
Age 46-49 X Wave 2016	0.005		-0.006		0.003		0.007		-0.003		0.001	
	(0.004)		(0.015)		(0.011)		(0.007)		(0.017)		(0.005)	
	[0.211]		[0.719]		[0.786]		[0.428]		[0.867]		[0.825]	
Age 46-47 X Wave 2016		0.003		0.010		0.017		0.016**		0.010		0.004
		(0.003)		(0.010)		(0.008)		(0.004)		(0.011)		(0.006)
		[0.454]		[0.398]		[0.146]		[0.034]		[0.443]		[0.636]
Age 48-49 X Wave 2016		0.008		-0.023		-0.011		-0.003		-0.018		-0.001
		(0.004)		(0.015)		(0.009)		(0.007)		(0.025)		(0.007)
		[0.158]		[0.330]		[0.343]		[0.697]		[0.645]		[0.912]
Panel D: Placebo Eligibility Age at 55 (Sample: Ages 51-54 & 56-59. N=24,818)												
Age 56-59 X Wave 2016	-0.006*		0.018		0.009		-0.001		0.015		0.001	
	(0.002)		(0.017)		(0.013)		(0.008)		(0.016)		(0.010)	
	[0.083]		[0.376]		[0.530]		[0.908]		[0.412]		[0.937]	
Age 56-57 X Wave 2016		-0.007*		0.022*		0.025*		-0.011		0.012		-0.005
		(0.002)		(0.007)		(0.007)		(0.004)		(0.010)		(0.007)
		[0.067]		[0.099]		[0.052]		[0.150]		[0.323]		[0.591]
Age 58-59 X Wave 2016		-0.004		0.014		-0.009		0.010		0.018		0.007
		(0.003)		(0.033)		(0.017)		(0.009)		(0.028)		(0.015)
		[0.170]		[0.673]		[0.684]		[0.615]		[0.649]		[0.684]

Notes: The sample includes women who are currently married or in a union, live with their partners and do not receive a contributory pension in the 2006, 2011 and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A7: Robustness Tests:Alternative Specifications

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Receives **government aid** (mean=0.048)								
Age 66-67 X Wave 2016	0.380**	0.379**	0.379**	0.378**	0.377**	0.374**	0.374**	0.376**
	(0.047)	(0.047)	(0.048)	(0.047)	(0.047)	(0.047)	(0.044)	(0.047)
	[0.023]	[0.022]	[0.021]	[0.022]	[0.022]	[0.023]	[0.021]	[0.022]
Age 68-69 X Wave 2016	0.474***	0.474***	0.472***	0.472***	0.474***	0.473***	0.475***	0.474***
	(0.015)	(0.015)	(0.014)	(0.015)	(0.013)	(0.011)	(0.015)	(0.013)
	[0.002]	[0.002]	[0.000]	[0.000]	[0.000]	[0.000]	[0.002]	[0.000]
P-value 66-67 vs. 68-69	0.286	0.278	0.283	0.286	0.240	0.211	0.220	0.236
Panel B: Experienced **any type** of violence in the last 12 months (mean=0.245)								
Age 66-67 X Wave 2016	0.067**	0.068**	0.065**	0.064**	0.058**	0.059**	0.055**	0.056**
	(0.012)	(0.012)	(0.014)	(0.012)	(0.011)	(0.011)	(0.010)	(0.011)
	[0.034]	[0.037]	[0.046]	[0.042]	[0.040]	[0.041]	[0.031]	[0.042]
Age 68-69 X Wave 2016	0.007	0.007	0.006	0.004	-0.003	-0.001	-0.001	-0.003
	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)	(0.015)	(0.011)	(0.011)
	[0.528]	[0.561]	[0.644]	[0.695]	[0.766]	[0.959]	[0.930]	[0.764]
P-value 66-67 vs. 68-69	0.040	0.039	0.026	0.026	0.035	0.030	0.050	0.037
Panel C: Experienced **economic** violence in the last 12 months (mean=0.103)								
Age 66-67 X Wave 2016	0.063*	0.064*	0.063*	0.062*	0.061*	0.065*	0.058*	0.059*
	(0.016)	(0.017)	(0.017)	(0.017)	(0.016)	(0.015)	(0.013)	(0.015)
	[0.080]	[0.080]	[0.082]	[0.082]	[0.084]	[0.074]	[0.064]	[0.085]
Age 68-69 X Wave 2016	0.004	0.003	0.004	0.002	0.001	0.003	0.002	0.001
	(0.017)	(0.017)	(0.018)	(0.017)	(0.017)	(0.016)	(0.017)	(0.016)
	[0.788]	[0.795]	[0.782]	[0.849]	[0.926]	[0.835]	[0.872]	[0.919]
P-value 66-67 vs. 68-69	0.035	0.016	0.019	0.018	0.044	0.039	0.057	0.049
Panel D: Experienced **physical** violence in the last 12 months (mean=0.058)								
Age 66-67 X Wave 2016	0.031**	0.031**	0.031**	0.030**	0.028**	0.031**	0.029**	0.028**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.005)	(0.006)
	[0.036]	[0.036]	[0.035]	[0.031]	[0.027]	[0.030]	[0.044]	[0.031]
Age 68-69 X Wave 2016	0.005	0.005	0.004	0.004	0.002	0.004	0.003	0.002
	(0.007)	(0.008)	(0.008)	(0.007)	(0.010)	(0.012)	(0.011)	(0.010)
	[0.607]	[0.635]	[0.650]	[0.678]	[0.830]	[0.764]	[0.793]	[0.828]
P-value 66-67 vs. 68-69	0.050	0.057	0.083	0.091	0.134	0.171	0.190	0.164
Panel E: Experienced **psychological** violence in the last 12 months (mean=0.182)								
Age 66-67 X Wave 2016	0.072**	0.073**	0.069**	0.067**	0.062***	0.065***	0.059**	0.060**
	(0.009)	(0.008)	(0.009)	(0.008)	(0.006)	(0.006)	(0.007)	(0.007)
	[0.015]	[0.011]	[0.019]	[0.017]	[0.009]	[0.008]	[0.018]	[0.012]
Age 68-69 X Wave 2016	0.030	0.030*	0.029*	0.027**	0.021	0.029	0.021	0.021
	(0.013)	(0.014)	(0.011)	(0.011)	(0.016)	(0.020)	(0.016)	(0.016)
	[0.101]	[0.098]	[0.076]	[0.048]	[0.171]	[0.105]	[0.265]	[0.198]
P-value 66-67 vs. 68-69	0.046	0.048	0.050	0.048	0.115	0.254	0.195	0.144
Panel F: Experienced **sexual** violence in the last 12 months (mean=0.030)								
Age 66-67 X Wave 2016	0.009	0.010	0.010	0.010	0.010	0.012	0.009	0.009
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
	[0.505]	[0.566]	[0.529]	[0.548]	[0.530]	[0.283]	[0.550]	[0.589]
Age 68-69 X Wave 2016	0.007	0.006	0.008	0.007	0.007	0.009	0.006	0.007
	(0.005)	(0.005)	(0.006)	(0.006)	(0.007)	(0.006)	(0.007)	(0.007)
	[0.248]	[0.340]	[0.253]	[0.298]	[0.506]	[0.189]	[0.636]	[0.518]
P-value 66-67 vs. 68-69	0.826	0.810	0.838	0.824	0.814	0.803	0.800	0.831
Survey Year FE & Age FE		✓	✓	✓	✓	✓	✓	✓
Reg FE			✓	✓	✓	✓	✓	✓
Basic Controls				✓	✓	✓	✓	✓
All Controls					✓	✓	✓	✓
State X Age FE						✓		
State X Survey Year FE							✓	
Unilateral-Divorce Allowed								✓
Observations	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635

Notes: See notes to Table 3.

Table A8: Anticipation Effect

	Receives Government Aid		Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 61-64 X Wave 2016	0.025***		0.006		-0.002		0.005		-0.013		-0.000	
	(0.003)		(0.018)		(0.020)		(0.008)		(0.014)		(0.008)	
	[0.002]		[0.761]		[0.919]		[0.608]		[0.479]		[0.979]	
Age 61-62 X Wave 2016		0.022**		-0.010		-0.031		-0.001		-0.018		0.003
		(0.002)		(0.016)		(0.012)		(0.009)		(0.015)		(0.009)
		[0.011]		[0.565]		[0.126]		[0.964]		[0.343]		[0.788]
Age 63-64 X Wave 2016		0.028**		0.022		0.028		0.010		-0.007		-0.003
		(0.002)		(0.017)		(0.013)		(0.007)		(0.014)		(0.009)
		[0.014]		[0.320]		[0.197]		[0.298]		[0.682]		[0.737]
Observations	17,662	17,662	17,662	17,662	17,662	17,662	17,662	17,662	17,662	17,662	17,662	17,662
R^2	0.026	0.026	0.100	0.100	0.058	0.058	0.047	0.047	0.084	0.084	0.038	0.038
Mean Dep. Variable	0.023	0.023	0.262	0.262	0.123	0.123	0.056	0.056	0.212	0.212	0.038	0.038
P-value 61-62 vs. 63-64		0.025		0.037		0.012		0.088		0.262		0.439

Notes: The sample includes women aged 56-59 and 61-64 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011 and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A9: Impact of Husband's Eligibility on IPV Incidence

	Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
Panel A: Women of all ages	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age Partner 66-69 X Wave 2016	0.002		-0.022**		-0.003		-0.002		-0.008	
	(0.017)		(0.008)		(0.005)		(0.015)		(0.006)	
	[0.911]		[0.034]		[0.672]		[0.912]		[0.247]	
Age Partner 66-67 X Wave 2016		-0.005		-0.021		-0.004		-0.011		-0.014**
		(0.021)		(0.008)		(0.005)		(0.020)		(0.006)
		[0.824]		[0.107]		[0.656]		[0.702]		[0.044]
Age Partner 68-69 X Wave 2016		0.011		-0.023		0.000		0.010		-0.000
		(0.016)		(0.008)		(0.010)		(0.011)		(0.004)
		[0.564]		[0.120]		[0.996]		[0.526]		[0.899]
Observations	17,268	17,268	17,268	17,268	17,268	17,268	17,268	17,268	17,268	17,268
R^2	0.100	0.100	0.064	0.064	0.044	0.044	0.084	0.084	0.031	0.031
Mean Dep. Variable	0.265		0.130		0.061		0.210		0.031	
P-value 66-67 vs. 68-69		0.590		0.733		0.768		0.548		0.137
Panel B: Women aged 64 or younger	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age Partner 66-69 X Wave 2016	-0.009		-0.022*		-0.006		-0.013		-0.011	
	(0.018)		(0.009)		(0.007)		(0.014)		(0.007)	
	[0.653]		[0.078]		[0.495]		[0.523]		[0.285]	
Age Partner 66-67 X Wave 2016		-0.015		-0.029		-0.003		-0.018		-0.017**
		(0.018)		(0.009)		(0.003)		(0.020)		(0.008)
		[0.545]		[0.124]		[0.435]		[0.685]		[0.034]
Age Partner 68-69 X Wave 2016		0.002		-0.011		-0.011		-0.006		-0.001
		(0.028)		(0.008)		(0.017)		(0.011)		(0.008)
		[0.953]		[0.295]		[0.630]		[0.637]		[0.810]
Observations	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930
R^2	0.101	0.101	0.063	0.063	0.044	0.044	0.086	0.086	0.037	0.037
Mean Dep. Variable	0.265	0.265	0.130	0.130	0.061	0.061	0.210	0.210	0.031	0.031
P-value 66-67 vs. 68-69		0.725		0.039		0.624		0.739		0.317

Notes: The sample includes women who are married or in a union and live with men ages 61-64 and 66-69 in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for the husband's age-fixed effects, survey year-fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the husband's age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A10: Impact of Women's Eligibility on Household Income

	Dependent variable: log HH Monetary income			
	Women's Eligibility for PAM		Men's Eligibility for PAM	
	(1)	(2)	(1)	(2)
Age 66-69 X Post	0.102***		0.085	
	(0.024)		(0.050)	
	[0.002]		[0.170]	
Age 66-67 X Post		0.095*		0.089
		(0.025)		(0.071)
		[0.070]		[0.437]
Age 68-69 X Post		0.111*		0.080
		(0.035)		(0.037)
		[0.070]		[0.233]
Observations	13,593	13,593	12,302	12,302
R^2	0.305	0.305	0.285	0.285
Mean Dep. Variable	7.319	7.319	7.069	7.069
P-value 66-67 vs. 68-69		0.720		0.836

Notes: The sample includes women and men who are currently married or in a union, live with their partners and do not receive a contributory pension in 2008, 2010, 2012, 2014 and 2016 waves of Mexico's Socioeconomic Conditions Module of the National Survey of Household Income and Expenditure (ENIGH). All regressions control for survey year fixed effects, age fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A11: Impact on Physical, Psychological or Sexual Violence, Excluding Economics Voilence

	Only One Type			Combinations without Economic Violence			
	Psychological (1)	Physical (2)	Sexual (3)	Physical and Psychological (4)	Physical and Sexual (5)	Psychological and Sexual (6)	Physical, Psychological and Sexual (7)
Age 66-67 X Wave 2016	0.003	-0.010*	0.002	0.003	0.000	-0.003	0.002
	(0.013)	(0.002)	(0.001)	(0.007)	(0.000)	(0.004)	(0.001)
	[0.863]	[0.082]	[0.272]	[0.729]	[0.394]	[0.583]	[0.137]
Age 68-69 X Wave 2016	-0.012	-0.012*	0.003	0.013	0.000	0.002	0.002
	(0.013)	(0.002)	(0.001)	(0.005)	(0.000)	(0.004)	(0.001)
	[0.414]	[0.061]	[0.148]	[0.132]	[0.406]	[0.674]	[0.209]
Observations	11,635	11,635	11,635	11,635	11,635	11,635	11,635
R^2	0.028	0.019	0.028	0.020	0.004	0.014	0.015
Mean Dep. Variable	0.099	0.023	0.004	0.009	0.000	0.006	0.002
P-value 66-67 vs. 68-69	0.063	0.030	0.719	0.211	0.418	0.540	0.903

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A12: Disaggregating Economic, Physical and Psychological Violence into Sub-Categories

	Theft and Coertion		Economic Control		Fail to Provide		Moderate		Severe		Indifference		Degradation		Intimidation		Isolation		Threats	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2016	0.001		0.022		0.010		0.016		0.003		0.018		0.050***		0.000		0.007		0.005	
	(0.003)		(0.019)		(0.017)		(0.009)		(0.003)		(0.017)		(0.009)		(0.006)		(0.007)		(0.009)	
	[0.786]		[0.328]		[0.602]		[0.195]		[0.411]		[0.345]		[0.003]		[1.000]		[0.378]		[0.624]	
Age 66-67 X Wave 2016		0.006*		0.040		0.038**		0.027**		0.006		0.035**		0.054**		0.008		0.012		0.007
		(0.001)		(0.018)		(0.008)		(0.007)		(0.003)		(0.009)		(0.012)		(0.004)		(0.009)		(0.011)
		[0.064]		[0.120]		[0.032]		[0.032]		[0.147]		[0.044]		[0.036]		[0.161]		[0.373]		[0.676]
Age 68-69 X Wave 2016		-0.004		0.001		-0.023*		0.002		-0.001		-0.002		0.044*		-0.009		0.001		0.002
		(0.004)		(0.016)		(0.008)		(0.010)		(0.003)		(0.025)		(0.011)		(0.004)		(0.005)		(0.014)
		[0.607]		[0.940]		[0.066]		[0.823]		[0.795]		[0.867]		[0.053]		[0.152]		[0.803]		[0.841]
Observations	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635
R^2	0.017	0.018	0.055	0.055	0.040	0.041	0.036	0.036	0.017	0.017	0.065	0.065	0.069	0.070	0.032	0.033	0.025	0.025	0.033	0.033
Mean Dep. Variable	0.004	0.004	0.091	0.091	0.057	0.057	0.058	0.058	0.005	0.005	0.140	0.140	0.090	0.090	0.043	0.043	0.021	0.021	0.038	0.038
P-value 66-67 vs. 68-69		0.088		0.078		0.045		0.387		0.088		0.342		0.701		0.066		0.490		0.818

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in square brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A13: Impact of Eligibility on Decision-making within the Household

	Panel A: The woman decides						
	(1) When to Work	(2) When Leave House	(3) Expenditures	(4) When to Move	(5) About Money	(6) What to Buy	(7) Social Life
Age 66-67 X Wave 2016	-0.009	0.007	0.013**	0.014	0.001	-0.001	0.004
	(0.027)	(0.036)	(0.004)	(0.028)	(0.006)	(0.023)	(0.022)
	[0.767]	[0.888]	[0.038]	[0.638]	[0.914]	[0.973]	[0.892]
Age 68-69 X Wave 2016	-0.028	0.041	-0.011	-0.004	0.040	0.026	0.000
	(0.059)	(0.052)	(0.023)	(0.007)	(0.032)	(0.037)	(0.056)
	[0.711]	[0.631]	[0.672]	[0.608]	[0.330]	[0.595]	[0.991]
Observations	11,631	11,633	11,632	11,632	11,633	11,633	11,632
R^2	0.083	0.083	0.060	0.022	0.046	0.070	0.085
Mean Dep. Variable	0.285	0.539	0.393	0.046	0.461	0.627	0.402
P-value 66-67 vs. 68-69	0.742	0.708	0.497	0.582	0.466	0.614	0.911
	Panel B: The woman and her partner decide jointly						
	When to Work	When Leave House	Expenditures	When to Move	About Money	What to Buy	Social Life
Age 66-67 X Wave 2016	0.017	0.030	-0.006	0.034	0.021	0.023	-0.018
	(0.018)	(0.016)	(0.008)	(0.028)	(0.015)	(0.030)	(0.012)
	[0.564]	[0.131]	[0.531]	[0.389]	[0.306]	[0.561]	[0.387]
Age 68-69 X Wave 2016	0.053	0.003	0.049	0.047	-0.008	-0.006	-0.021
	(0.052)	(0.027)	(0.044)	(0.029)	(0.016)	(0.030)	(0.014)
	[0.540]	[0.901]	[0.503]	[0.209]	[0.647]	[0.842]	[0.244]
Observations	11,631	11,633	11,632	11,632	11,633	11,633	11,632
R^2	0.027	0.038	0.031	0.040	0.032	0.042	0.038
Mean Dep. Variable	0.210	0.276	0.485	0.394	0.353	0.253	0.290
P-value 66-67 vs. 68-69	0.663	0.536	0.439	0.642	0.075	0.509	0.847

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners and do not receive a contributory pension in the 2006, 2011, and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A14: Impact of Eligibility on Co-residence Patterns

	More than 2 members in the house		Parents live in the house		Children live in the house		Grandchildren live in the house		Siblings live in the house		Others live in the house	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2016	-0.004		0.008		-0.017		0.035*		-0.004		-0.007	
	(0.028)		(0.004)		(0.038)		(0.018)		(0.004)		(0.018)	
	[0.915]		[0.195]		[0.683]		[0.075]		[0.329]		[0.726]	
Age 66-67 X Wave 2016		-0.021		0.003		-0.050		0.032		-0.003		0.011
		(0.037)		(0.006)		(0.033)		(0.012)		(0.002)		(0.013)
		[0.706]		[0.691]		[0.209]		[0.142]		[0.341]		[0.432]
Age 68-69 X Wave 2016		0.015		0.013*		0.022		0.038		-0.006		-0.029
		(0.029)		(0.003)		(0.058)		(0.032)		(0.007)		(0.021)
		[0.689]		[0.059]		[0.709]		[0.379]		[0.612]		[0.428]
Observations	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635	11,635
R^2	0.050	0.050	0.013	0.013	0.053	0.054	0.049	0.049	0.015	0.015	0.054	0.054
Mean Dep. Variable	0.605	0.605	0.011	0.011	0.486	0.486	0.266	0.266	0.012	0.012	0.113	0.113
P-value 66-67 vs. 68-69		0.488		0.359		0.355		0.737		0.674		0.174

Notes: The sample includes women aged 61-64 and 66-69 who are currently married or in a union, live with their partners and do not receive a contributory pension in the 2006, 2011 and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A15: Robustness Test: Excluding the 2006 Wave

	Receives Government Aid		Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2016	0.407***		0.033		0.029		0.012		0.054**		0.008	
	(0.035)		(0.017)		(0.024)		(0.015)		(0.015)		(0.007)	
	[0.002]		[0.185]		[0.294]		[0.454]		[0.012]		[0.357]	
Age 66-67 X Wave 2016		0.367**		0.063**		0.057		0.033**		0.076**		0.009
		(0.045)		(0.007)		(0.019)		(0.005)		(0.007)		(0.007)
		[0.017]		[0.012]		[0.102]		[0.015]		[0.010]		[0.328]
Age 68-69 X Wave 2016		0.454***		-0.002		-0.004		-0.013		0.029**		0.006
		(0.011)		(0.009)		(0.019)		(0.015)		(0.015)		(0.010)
		[0.000]		[0.864]		[0.857]		[0.622]		[0.045]		[0.662]
Observations	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218
R^2	0.320	0.322	0.086	0.086	0.053	0.055	0.034	0.035	0.080	0.080	0.057	0.057
Mean Dep. Variable		0.059		0.225		0.087		0.051		0.157		0.015
P-value 66-67 vs. 68-69		0.286		0.052		0.056		0.065		0.116		0.782

Notes: The sample includes women who are currently married or in a union, live with their partners and do not receive a contributory pension in the 2011 and 2016 ENDIREH surveys. All regressions control for age fixed effects, survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A16: Robustness Test: Doubly Robust Difference-in-differences Estimator

	Receives Government Aid		Any Violence		Economic Violence		Physical Violence		Psychological Violence		Sexual Violence	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Age 66-69 X Wave 2016	0.390*** (0.024)		0.062*** (0.029)		0.030 (0.022)		0.001 (0.018)		0.073*** (0.025)		-0.006 (0.012)	
Age 66-67 X Wave 2016		0.349*** (0.008)		0.074*** (0.019)		0.056** (0.018)		0.030** (0.011)		0.077*** (0.014)		0.002 (0.010)
Age 68-69 X Wave 2016		0.427*** (0.016)		0.041 (0.029)		0.000 (0.026)		-0.035 (0.025)		0.060* (0.034)		-0.014 (0.018)
Year Interview FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reg FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Weights	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218
Mean Dep. Variable	0.066	0.066	0.233	0.233	0.099	0.099	0.061	0.061	0.163	0.163	0.014	0.014

Notes: The table reports (Sant'Anna and Zhao, 2020) doubly robust difference-in-differences estimator based on the inverse probability tilting and weighted least squares estimators. The sample includes women who are currently married or in a union, live with their partners, and do not receive a contributory pension in the 2011 and 2016 ENDIREH surveys. The estimates for the effect of receiving the pension at ages 66-67 and 68-69 were obtained by estimating two separate models. All regressions control for survey year fixed effects, state fixed effects, individual and household characteristics. Regressions are weighted using household survey weights. Standard errors clustered at the age level are reported in parenthesis. P-values for wild cluster bootstrap with Webb weights are reported in brackets. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.