Women's Labor Supply, Decision Making Power, and Cultural Norms: The Case Study of Indonesia's Domestic Violence Law

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Abstract

Married women have the lowest labor force participation rate, a phenomenon that can be attributed to intrahousehold decision making dynamics and influenced by local cultural norms. Before 1999, the Indonesian authoritarian government enforced regulations and propaganda imposing control over women's role and discouraging divorce, as such shaping the cultural norms to view divorce as harmful for society. Afterwards, the government transformed into a more democratic regime leading to the enactment of the Domestic Violence Law, which changed the trend of divorce rate in Indonesia. To examine the impact of decision making power on women's labor supply, I utilize an instrumental variable strategy by using the variation in the regional divorce rate trend triggered by the Domestic Violence Law. I rule out possible explanation that changes in women's power are due to enforcement; instead, I lean the explanation on the increase in public awareness of domestic violence. I found that the changes in regional divorce rates cause an increase in female labor force participation and working hours through women's power. Furthermore, women living in regions with conservative gender norms experience a larger improvement in their household bargaining power than those living in progressive regions.

Keywords: Household decision power, Labor market outcomes, Domestic Violence Law

JEL Codes: J21, J12, J16

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1 Introduction

Women around the world are less likely to participate in the labor force and this tendency worsens once they are married. On average, the gender gap in labor force participation is 28 percentage point and the gap is larger for married couples[1], 47 percentage point (Women, 2019). The discrepancy may be related partly to the distribution of power within married couple, a dynamics influenced largely by gender norms[2]. On average in 70 developing countries, only half of married women have decision making power in the household and the number is worse in countries with restrictive gender norms (ICF, ICF), as such gender roles and expectations embedded in cultural norms can shape women's decision toward work and their ability to exercise power (Alesina et al., 2011; Fernández and Fogli, 2009; Bredtmann and Otten, 2022).

Research studying the impact of policies to address barriers limiting women's power and to improve female labor market outcomes are growing in the literature (Gray, 1998; Stevenson and Wolfers, 2006; Chiappori et al., 2002) and have become an important avenue in narrowing gender gaps in the labor market (Jayachandran, 2021). However, it is hard to identify the relationship between women's power and labor supply since it suffers from endogeneity problem. Working would improve women's power and at the same time having power would make women more likely to work or choose leisure. Empirical literature has indeed found conflicting evidence in regards to the signs of the women's power and labor supply relationship (Stevenson, 2008; Gray, 1998; Rangel, 2006). Several research examined laws that regulate the grounds for divorce, alimony, and property division as the source of exogenous shock on female labor force participation (Gray, 1998; Chiappori et al., 2002; Stevenson, 2008; Rangel, 2006), yet research investigating the impact of domestic violence law which is a significant global human rights law is limited. Moreover, research examining how regulations may yield heterogeneous effects across communities characterized by distinct cultural norms are scarce.[3]

Most of the literature on this topic has investigated the direct impact of changes in regulation on

[1] between 25 and 54 years old

[2] Norms in this paper is defined as a particular society's unwritten rules about appropriate or acceptable behavior. The terminology of cultural norms in this paper is defined as norms influenced by a specific culture related to a particular understanding or acceptability or conformity of a certain gender's behavior. Cultural norms and gender norms are used interchangebly here.

[3] Laszlo et al. (2020) provide a theoretical framework based on Chiappori et al. (2020)'s collective household bargaining model to examine the relationship between cultural norms, women's power, and labor supply.

female labor market outcomes using alimony rights, divorce law, and property division law. Rangel (2006) uses the extension of alimony rights regulation in Brazil and found a decrease in female labor force participation rate among those who are still married using difference-in-difference. Several papers use the enactment of the unilateral divorce law in the United States of America (USA) and found the law lead to an increase of married and unmarried women's labor force participation (Stevenson, 2008; Peters, 1986). Gray (1998) provides an emphasis on the impact of marital property law in the USA, which he argues play an important role in determining spouse's bargaining power in addition to the unilateral divorce law, and found that the law has a positive impact on married women's labor force participation. Voena (2015) exploits changes from title-based to equitable distribution in both mutual consent and unilateral divorce regimes shift women to become less likely to work, while Huang et al. (2023) investigate the impact of a change in China's title-based property division law upon divorce lead to a weakened bargaining power and reduction in women's leisure using difference in difference. However, these papers do not test the mechanism of which the regulations affect labor force participation through intrahousehold decision making power, nor do they look at how the norms change in response to the regulation enactment. To my knowledge, none have disentangled the effect of changes in regulation on the shift of cultural norms, and how cultural norms changed women's decision making power which in turn affects on women's labor force participation.

Indonesia provides an interesting settings for examining the impact of changes in regulation in FLFP. This is particularly relevant, as Indonesia, like many other developing countries, grapples with a significant gender gap in labor force participation (Cameron et al., 2019). It offers an interesting settings of variation in social norms as it is the home of nearly a thousand diverse ethnicities with matrilineal, bilineal, and patrilineal (Hefner, 2018; Cribb, 2013). There has also been a tranformation in the government regime. Before 2000 Indonesia was under an authoritarian government, called the New Order regime, which enacted state control over gender roles in the household. Specifically, through regulations and propaganda, the New Order regime impose norms that a woman's main role is to support men (husbands) in the household (O'Shaughnessy, 2009). The New Order regime also enacted law and ministerial regulations to prevent marriage separation and stigmatizing divorce as shameful, under the argument of preventing social conflict. Consequently, the regulations and propaganda result in the suppression of women's empowerment in Indonesia during the New Order regime (Robinson and Bessell, 2002).

After the New Order regime fell, the new Indonesia government issued Domestic Violence (DV) Law in 2004. The Law was the first marriage-related regulation to oppose New Order's regulations and propaganda providing support for women to seek divorce. Since each regions have various cultural norms, the divorce rate response post-DV Law varies across regions in Indonesia (Figure 1). Most of the regions shift to an increasing trend while several shows a stagnancy in the divorce rate trend after at least two decades of declining trend of divorce rate across the regions in Indonesia

Theoretically, there are two possible ways to view the relationship between divorce rate and women's bargaining power in the household. Firstly, in the collective household model the divorce rate can be seen as an outside option (Chiappori, 1992) or distribution factor (Chiappori et al., 2002). A higher divorce rate in the region would increase the divorce risk for each individual, which then influences women's bargaining power. In this mechanism, the relationship can be in two directions. If a woman feels that she needs to anticipate the risk of marriage separation causing income shock, she will exercise her power to join the workforce. Alternatively, if a woman feels that being compliant with her husband's power could avoid separation, she would not exercise her power to work. Second, norms of divorce acceptance directly affect intrahousehold bargaining power (Laszlo et al., 2020). Cultural norms that is more accepting of divorce in the community may influence woman's power and consequently their labor force participation. Based on the ideas in these papers, I use the divorce rate as an indicator for changes in cultural norms.

Using the rich information from a longitudinal survey called the Indonesia Family Life Survey (IFLS), I examine the relationship between women's decision making power and labor supply in Indonesia. To address the endogeneity issue, I use the changes in regional divorce rate from the national household survey (SUSENAS) which is triggered by the enactment of the Domestic Violence Law as the instrument variable. The exclusion restriction assumption may not hold, if an increase in divorce rate induced more divorcee or resouces to be allocated to support women to work. However, divorce rate in Indonesia is very small which is under 4%. To solve this problem, I include province-level divorce rate and district-level fixed effect in the first and second stage regression. Accordingly, any cultural norms of divorce variations across districts would be absorbed and the divorce changes due to the DV Law would operates only through the intrahousehold power dynamics. I also include woman's access to community support group and the year of marriage as covariates in the robustness checks and found similar result. Additionally, to control for any labor market regulations or norm

changes at the national level I include time fixed effect.

To examine the accuracy of the instrument variable, I explore whether the changes in regional divorce rate is due to regulation enforcement or public awareness and whether the transformation happened at the same time or differs in timing across regions. I utilize Indonesia's regional government's different timings in enacting the local level DV Law using staggered difference-in-difference estimation and found that regional regulations has no significant effect and the changes in divorce rate happened at the same time in 2005 when the national level DV Law was enacted. Furthermore, I utilize Google Trends dataset with regional level panel estimation and found that the divorce rate is associated with the changes in public awareness of domestic violence issue. I found a positive correlation between the changes in regional divorce rate and the online keyword search of "domestic violence". On the other hand, the regional divorce rate is not correlated with the keyword "divorce". This further implies that the instrumental variable indicates changes in domestic violence awareness at the national level rather than other factors contributing to divorce incidence nor regional level regulation changes.

I found that an increase of 1 percentage point in the regional divorce rate lead to an increase in the likelihood of women having decision-making power by around four percentage points (or 6%) in the household. In turn, having power in the household increases women's labor force participation by 67 percentage points. Among those who work, having power in the household increases an additional 26.7 hours per week. Although working more hours, women are more likely to be self-employed thereby receiving a lower monthly wage than before. The impact of women's decision making power on women's labor supply is larger in regions with more conservative cultural norms.

The contributions of this paper are threefold. First, while studies have discussed the direct impact of marriage-related regulation on women's labor force participation (Rangel, 2006; Stevenson, 2008; Gray, 1998; Voena, 2015), I use instrumental variable identification such that I am able to show the causal relationship between women's power and labor supply, the impact of changes in cultural norms on women's labor supply through women's power dynamics, and provide evidence of a positive relationship between women's bargaining power and labor supply. This is important to show because several theoretical models and empirical research in developed countries suggest that an increase in women's bargaining power may lead to a decrease in labor supply due to income effects (Basu, 2006; Chiappori, Costa-Dias, and Meghir, Chiappori et al.; Oreffice, 2007).

Second, I disentangle the effect of regulation changes through cultural norms channel on women's labor market outcomes in a country that previously imposed control over marriage and women's role in the household to a change in regulation regime that implement regulation of domestic violence protection. In particular, this research provides evidence that DV Law, as a part of human rights global advocacy, can have positive impact on women's labor market outcomes. Third, this research highlights the impact of changes in government regulation that consequently improves public awareness and has the ability to shift gender norms. Therefore, governments hold influential role to break existing cultural barriers for women to work, to improve gender equality, and to support an increasing role for women to contribute to economic development. To summarize, this paper contributes by examining the relationship between decision making power and labor force participation. This paper provides evidence to support that an increase in bargaining power leads to improvement in women's labor force participation, in particular, in a setting where marriage separation was discouraged and negatively stigmatized.

The remainder of the paper proceeds as follows. Section 2 provides an overview of the female labor force participation, cultural norms, religion, divorce, and the DV Law in Indonesia. Section 3 describes data and the sample construction. Section 4 elaborates the conceptual and empirical framework of this research. Section 5 presents the main results, and section 6 concludes.

2 Background

2.1 Married women's labor supply in Indonesia

Indonesia face a similar problem of a large gender gap in labor force participation, mirroring the situation in numerous other developing countries. However, Indonesia's FLFP is lower relative to other countries in the region with similar development stage, such as Vietnam, Cambodia, and Thailand (Organization), 2023). The FLFP rate in Indonesia has remained stagnant over the last three decades (Figure 2). The sluggish rate can be attributed to the fact that the labor force participation rate among married women in 2022 remains unchanged from that in 1990, which is around 52%. Compared to those who are single, the gender gap in labor force participation rate is on average 16.7 percentage point while being married is 41 percentage point. Despite large gains in overall income and education, the stagnation of the FLFP rate is attributed to the household and child-rearing responsibilities (Cameron et al., 2019; Comola and de Mello, 2009; Schaner and Das, 2016), decreasing FLFP rate of the bottom income and education percentile (Schaner and Das, 2016), and the anticipatory effect of having children of those entering marriage (Cepeda, 2013).

2.2 Indonesia's diverse culture & Islamic teachings adoption

Nearly 90% of Indonesians professed Islam but the practise of Islamic teachings varies across regions and ethnicities (Mamahit, 2021). Islam adoption and the historical background of Indonesia's culture influenced the origins of women's involvement in the labor market. Between the 13th and 14th century, Islam came to Indonesia through traders from South Asia (Azra, 1990; Utomo, 1993). Specifically, the South Asian traders' brought about Islamic teachings which is characterized with a higher degree of flexibility in adoption by maintaining local cultural identity such that making Islam in Indonesia expressed differently than in the Middle East (Saragih, 2019; Levitzion, 1979). During the early stage of Islam adoption in Indonesia, Islam adherence was in harmony with the earlier adaptation of Hindu and Buddhism to the indigenous belief's of animism (Ricklefs, 2006, 2014).

Afterwards, during the Dutch colonization, there were Islamic groups with a more orthodox Islamic practise but those who adhered to a more syncretic tradition influenced by ancestral beliefs and practices remained large (Geertz, 1996; Ricklefs, 2007). Various syntheses of Islamic teachings and culture are evident across regions (Van Akkeren, 1970; Abdullah and Siddique, 1989). For example,

West Sumatera and Aceh provinces are located in the same island and are two of the first regions adhering to Islamic teachings. Until now Islam is still the predominant religion in both regions. West Sumatera people are matrilineal which suggests that the matrilineal cultural system have persisted alongside with the Islamic teachings. On the other hand, Aceh follows a conservative interpretation of Islamic law which limits women's freedom of movement and public behavior. The comparison between West Sumatera and Aceh exemplifies that cultural background shaped the interpretations of Islamic teachings which influence regional variations in norms.

2.3 The New Order's control over norms

Between 1966 and 1998 or during the New Order regime, the government set out an objective to build a unified nation's identity which weakened Islamic groups' influence in political matters (Ricklefs, 2012; Saragih, 2019; Ricklefs, 2014). Part of the New Order regime under Soeharto's leadership control over identity was an infiltration of control over marriage. The regime viewed marital harmony as the foundation for social stability and important contributor to economic development. Multiple regulations and propaganda were issued to support this traditional view, which were the Marriage Law 1/1974, followed by Government Regulation 10/1983, and Supreme Court Letter 5/1984 (Edwards and Roces, 2009).

The Marriage Law 1/1974 stipulated that "the goal of marriage is to preserve a happy and lasting family" implying that the regime disliked arbitrary divorce (Katz and Katz, 1975). The law was further reinforced through the Government Regulation 10/1983 imposed strict control over civil servant's marriage, such that civil servants had to ask approval from their supervisors for divorce. In the Letter to all regional courts, the Supreme Court instructed judges to scrutinize divorce proceedings and, at the same time, criticized judges who gave divorce verdicts without careful consideration (O'Shaughnessy, 2009).

In addition to the regulations, the New Order government launched propaganda to stigmatize divorce as shameful (Jones, 1994; Jones et al., 1994; Guest, 1992). The government did not use any religious teachings as an argument in their propaganda to suppress marriage separation, however many religious leaders across regions may have used religious teachings to support the government's propaganda. The New Order's efforts to prevent marriage separation had an important role in the declining trend of Indonesia's divorce rate, besides due to the reduction in child mar-

riage and improvements in education which resulted in better marriage-matching (Hirschman and Teerawichitchainan, 2003; Heaton et al., 2001).

2.4 Domestic Violence Law & divorce rate in Indonesia

After the fall of the New Order regime in 1999, the Indonesian government issued the Domestic Violence (DV) Law 23/2004, which is the first regulation governing Indonesia's familial policy issued by the democratic regime. In 2005 the government re-established the Women Commission intending to improve awareness of domestic violence and in general, protecting women's right. In the following years, the Indonesian government issued regulations enforcing the protection of victims and prevention. Figure 3 summarizes the timeline of the Marriage Law, DV Law, and other related policies and regulations.

The period also marked the changes in the regional divorce rate trend in all regions from previously decreasing trend to a stagnant rate or increase post-2004. Several pieces of evidence support that the DV Law mark the changes in the trend of divorce rate. Firstly, until 2004 the only legislation governing marriage are the Marriage Law 1/1974 and the DV Law 23/2004. The DV Law contradicts with the Marriage Law since the Law provides a justification to leave abusive marriage. Secondly, around 30% of the divorce verdicts documents since 2004 contain keywords of domestic violence incidence as the cause of separation.[4]

The decreasing trend of divorce rate in most of the major provinces in Indonesia has either halted or reversed to increasing since 2004 (Figure 1). I observe a reverse pattern in Jakarta, Central Java, Yogyakarta, South Sumatra, Lampung, South Sulawesi, South Kalimantan, and even in regions following patriarchy culture like Bali and North Sumatra. In Bali, where the dominant religion is Hindu, almost all partners live in the husband's family house or village. Women are younger than their husbands, and parents-in-law prefer women from a lower social status family since higher social status women are perceived to be the source of marital problems (Rimbawan, 1982). Hindu religion has a patrilineal and patriarchy culture such that married women receive minimum support from their parents and rely on their husband's family (Geertz and Geertz, 1975). This pattern

[4] I compiled verdict documents from the Supreme Court website (https://putusan3.mahkamahagung.go.id) and searched for words related to domestic violence, e.g., hit, yell, neglect. I discuss the divorce verdicts in Section 5 where I found that the share of domestic violence related keywords in divorce verdicts increased significantly after the law enactment.

follows the male dominated culture where divorce is generally lower (Heaton et al., 2001). In North Sumatera province, Batak people follow a patrilineal lineage, similar to the Bali province, leading to an overall low divorce rate. Getting a divorce is hard for women, particularly since Batak ethnicity follows a strict regulations forbidding marriage separation and tight-knit social groups (Sihotang, 2020; Simanjuntak, 2006).

East Java and West Java, the major provinces in Java, had a stable divorce rate after 2004. Unlike other provinces, East Java's and West Java's cultural norms may not have changed drastically in response to the introduction of the Domestic Violence law. In East Java province, the community stigmatized divorcee with negative connotations as "the seducer" (Nakamura, 1981; Parker et al., 2016; O'Shaughnessy, 2009), which explains why the divorce rate trend did not drastically reversed. Similarly, as in West Java. Although, being a divorcee in West Java has a less negative connotation than other provinces in Java. Early marriage, divorce, and remarriage are common for Sundanese, the main ethnic group in the West Java province such that the DV Law may have less effect (Hirschman and Teerawichitchainan, 2003; Jones, 1994).

West Nusa Tenggara's and West Sumatera's divorce rate pattern seems to increase by a slower rate. Both region's divorce rate is already high compared to other provinces. Sasak people, the main ethnicity group, obey community religious leaders and are less connected to formal state-based institutions such that only around 40% of couples registered their marriage (Nasir, 2016). Sasak people are reluctant to use the religious courts as their primary means of dissolving marriage. State-appointed court judges often find their authority to be challenged or disregarded by the community (Platt, 2017). The power of community-based laws rendered the official state-based law resulted in the divergence in divorce patterns with other regions (Nasir, 2016). On the other hand, West Sumatra is one of the few regions in Indonesia with the main ethnicity, Minangkabau people, following matrilineal culture. The divorce rate in West Sumatera is the second highest after West Nusa Tenggara. It has decreased over the years due to improvements in education and increased piety amongst the Minangkabau people, who are almost all Muslim (Ascandra et al., 2019; Hadler, 2013).

3 Data

3.1 Data source and sample construction

IFLS is a rich dataset containing various information at community, household, and individual levels. It is also the only longitudinal survey in Indonesia available for public. IFLS launched its first wave in 1993, covering 7,224 households from 13 provinces, representing 83% of Indonesia's population. Afterward, IFLS was conducted in 1997, 2000, 2007, and 2014, tracking the household members of the 1993 wave households. The survey provides information regarding an individual's demographic, cognitive ability test results, and labor force participation, as well as household's characteristics. Studies have found that the estimates of labor force participation are similar to those estimates using SAKERNAS, a nationwide survey conducted by the government's statistics office (Dong, 2016). IFLS also provides information on community leader's views on women working in society which I will use to measure gender norms in the community and women's participation in community activities. Most importantly, the survey has information about the main decision makers in the household, e.g., who are the decision maker for large purchases, children's education, and whom to work.

I use the sample of married women's and their spouse's characteristics, household's demographics including their labor market outcomes information from the last four IFLS waves (excluding the 1993 wave).[5] The sample comprises 15,460 married women from the last four waves or around eight thousand married women for each wave. From this sample, 200 observations have no information about either their's or their husband's opinion on the household's decision maker. Due to the risk of bias in the decision making variable, I use the sample of married women with their husband's information (see Appendix A for analysis on decision making variable). I restrict the sample from the original 13 provinces to 14,785 married women. Among the sample, 44 couples stated that the decision maker for the couple's labor supply is not the couple. My final sample comprises of 14,741 married women.

I use SUSENAS, a government-led survey representative at the province level with a sample of

[5]The sample is restricted for married women with the individual's and household's information. By including these covariates, the sample is reduced from initially 33,551 observations to 15,460 observations, in particular due to the cognitive ability test result and last period's household expenditure per capita. I argue that cognitive ability and household expenditure are important confounders in the estimation specifically including cognitive ability and household expenditure per capita in the estimation absorb the channel of self-efficacy and wealth in the distribution factor of women's bargaining power, leaving the cultural norms as the only distribution factor taking into effect

more than 350,000 households in each round since 1993 to construct regional divorce rate. To answer the research question, I match the province code between SUSENAS and IFLS. I rely on IFLS to get decision making, individual characteristics, and gender norms information.

To examine the accuracy of my instrument as well as investigating the correlation of the divorce rate with the public awareness of divorce, I use the Google Trends dataset.[6] The dataset measures the popularity of keyword topics by analyzing the keyword's relative search frequencies on the internet. Specifically, the statistics in Google Trends are computed using the percentage of a particular keyword search out of the total number of searches at a specific time and geographical location. Afterward, the percentages are normalized or divided with the maximum percentage of searches within the observation period for each province, thereby constructing an index of interest between 0 and 100. However, the dataset has been made available since 2004, exactly the time when internet use started to take off in Indonesia and the introduction of the DV Law so I could not investigate the changes before 2004 using Google Trends dataset.

3.2 Descriptive statistics

Based on the 1997 IFLS wave, on average, married women's labor force participation is 48% and 62% of them are decision maker in the household (Table 1). Women are on average 38 years old and four years younger than their husbands. Almost 90% of the sample are Muslims, and 48% are Javanese. More than half of women and men either have no formal education or completed primary education. More women are lower secondary graduates (15%) compared to married men (12%), and fewer women are upper secondary graduates than men. In terms of cognitive ability, women have a lower cognitive ability test result compared to their husbands.[7] 39% of the married women live in urban areas, and only 7% co-resides with their parents. The number of children below 15 years old is, on average is 2 children. Furthermore, within couples, almost half of the women in both samples have the same education level, religion, and ethnicity, suggesting a high degree of assortative mating

[6]The dataset is collected using random sampling of Google searches and is not computed using the exact number for any keywords. The dataset is available at the city level; however, the city-level data for Indonesia is limited. Google Trends also eliminates repeated searches from the same user over a short period to remove duplicates. Google Trends data is available online in https://trends.google.com/trends/.

[7]The cognitive ability test measures memory, fluid intelligence, and numeracy. For the memory test, enumerators read ten nouns and asked respondents to repeat the words, recall the survey date, and subtract numbers backward. For fluid intelligence, IFLS uses Raven's test and numerical ordering questions. Lastly, numeracy skills are measured using arithmetic questions. The aggregated score of cognitive ability test is available in wave 5, thereby I assume that individual's cognitive ability is time variant

in the sample.

IFLS asked a set of decision maker questions to all married individuals including who is the decision maker for food expenditure or choice, routine purchases, large spending, give money to parents, savings, time for socializing and contraception use. Out of the eighteen decision maker information, only one is related to the household's labor market which I utilize in this research to indicate women's decision making power on their labor supply. Specifically, the question asks "who do you think makes the decision on whether husband or wife should work?" and the response is either him/herself, their partner, or other person in the household. I use the response when the decision maker is the couple since only 0.44% says the decision maker is another person in the household. One concern regarding this question is that the framing could be ambiguous whether a woman is thinking about her or her husband's labor force participation and the response might not be the same within couple (Devine et al., 2008). I examine these problems in Appendix A where I found that women are thinking about their own labor force participation and I use women's response that matches her husband's opinion to remove any misperceptions. I also use the number of decision making dimensions where women are involved in decision making out of all 18 dimensions to measure power in the robustness check and found similar result.

In deciding who to work in the family, almost half of the married couples in the sample agree to decide jointly. Table 2 tabulates each person's perception of their decision making power. Around 62% of the couples have the same opinion that a woman has the power to decide, which is higher than the average of 70 developing countries in the DHS survey (ICF, ICF). Furthermore, the comparisons also show that the response is prone to misperceptions within the couple. I address this concern in Appendix A and move forward with the analysis by using the couple's matching responses.

4 Empirical Framework

4.1 Conceptual framework

This paper follows the collective model of household labor supply developed by Chiappori (1992) and the extended model which include bargaining power for analyzing the impact of divorce legislation on household labor supply in Chiappori et al. (2002). The model is based on two members, where member i ($i = m, f$) decides on his/her labor supply h^i and consumption good in quantity C^i. Each

member supplies work and receives w^i, wage, and has non-labor income, y. Member i's preferences are represented by some utility function $U^i(1-h^m, C^m, 1-h^f, C^f, z)$. Here z is a vector of preference factors, such as age and education of the couple.

Under the collective household model, intrahousehold decisions are Pareto efficient and there exists a bargaining factor $\mu(w_m, w_f, y, z, s)$ where s denote the distribution factors, in the following model:

$$\max_{h^i, C^i} \quad \mu \cdot U^f + (1-\mu) \cdot U^m \tag{1a}$$

$$\text{subject to} \quad w_m h^m + w_f h^f + y \geq C^m + C^f \tag{1b}$$

$$0 \leq h^i \leq 1, i = m, f \tag{1c}$$

The distribution factors, s, are defined as variables that affect the household members' bargaining position but not preferences or joint budget set. Following a Marshallian labor supply, then $h^f(w_m, w_f, y, z, s) = H^f(w_m, w_f, y, z, \mu(w_m, w_f, y, z, s))$ such that the distribution factor affect labor supply choices only through the bargaining power of each spouse's utility.

Cultural factors and psychosocial factors are important distribution factors in determining women's bargaining power (Kabeer, 1999). Nevertheless, intrahousehold models mainly take the bargaining parameter as being purely exogenous or a function of a woman's income share in the household budget (Laszlo et al., 2020). This provide a very narrow representation of bargaining power by omitting the significant role that cultural factors may play. Laszlo et al. (2020) considers cultural norms and psychosocial factors as important distributive factor following Kabeer (1999)'s interpretation and constructed the following bargaining power function:

$$\mu(y, \psi, \Phi) = \left(\frac{w_f}{w_f + \Phi w_m} \right)^{e^{(1-\psi)}} \tag{2}$$

where Φ is cultural norms for gender equality such that if $\Phi = 1$ for gender equal norms, $\Phi > 1$ is norms favoring men over women, i.e. even when income being equal $y_f = y_m$ women would not have equal bargaining power. The psychosocial component is ψ which is a measure of self-efficacy (where $\psi > 1$ correspondents women having more self-esteem and self-confidence). Chiappori et al. (2002) and Laszlo et al. (2020) are similar in arguing that distribution factor has a direct relationship with

bargaining power.

This paper is similar with Chiappori et al. (2002) which uses regulation as the household's distribution factor. In my paper, I use the enactment of the DV Law as the exogenous shock on household's distribution factor, while Chiappori et al. (2002) use the index of various divorce laws in the region consisted of unilateral divorce, property division, and enforcement of support orders used in Chiappori et al. (2002)'s paper. Specifically, besides utilizing the regulation changes, I use regional divorce rate in response to changes in the DV Law as the cultural norms indicator to mimic Laszlo et al. (2020)'s model. Furthermore, Chiappori et al. (2002) shows the labor supply model can be solved in two stages, where at the first stage the distribution factor and other variables influenced bargaining power and at the second stage spouses chooses their labor supply subject to their individual budget constraint. The two stage solution is similar to my empirical strategy of using instrumental variable estimation.

4.2 Empirical strategy

4.2.1 Main estimation

I estimate the impact of married women's decision making power on women's labor force participation specified in the following equation:

$$FLFP_{idt} = \alpha_0 + DMPower_{idt} \cdot \alpha_1 + Divorce_{pt} \cdot \alpha_2 + X_{idt} \cdot \alpha_3 + \pi_t + \gamma_d + \epsilon_{idt} \tag{3}$$

$FLFP_{idt}$ is the FLFP indicator for women i living in district d and survey implementation years t, where $t = 1997, 2000, 2007, 2014$. π_t and γ_d is time and district fixed effect.

$DMPower_{idt}$ is a woman's decision making power with a value of 0 or 1. A woman can respond to as the sole decision maker in determining her labor supply, jointly decide with her spouse, or not the decision maker. I assign a value of 1 to $DMPower_{idt}$ for women who stated as the sole decision maker or jointly decide with their spouse, and if their response matches their husband's. In other cases, when at least one member of the couple indicates that woman is not the sole nor joint decision maker, I assign a value of 0 to $DMPower_{idt}$ to resolve misperception problem between spouse. In Appendix A I show that decision making on work is the only dimension related to female's labor force participation and women has lower labor supply power compared to other dimensions making it a

good candidate for decision making power indicator for the estimation. Furthermore, I test if there is any misperception of whose labor supply and found that the indicator is measuring women's labor supply instead of their husband. Finally, I show that the estimation result is inline using another indicator of power, the number of dimensions where women has power.

X_{idt} is a vector of control variables, which includes age and age squared for both the woman and her husband, their education level, ethnicity, and cognitive abilities. Additionally, it incorporates household characteristics such as the number of children under 15 years old, whether they live in an urban area, whether they live in a different household from their parents, and the per capita expenditure from the last wave. $Divorce_{pt}$ captures the variations in women's outside options across provinces over time due to social norm and other related factors.

Equation (3) suffers from reverse causality problem because, on one hand, work affects decision making because earning increases women's self-esteem and social status. On the other hand, decision making power affects working status (Basu, 2006). A woman would prefer to work less if she likes more leisure (negative effect of a higher power), or she prefers to work more to gain more control (positive effect), or the husband may prefer the wife to work less due to cultural norms (negative effect). Furthermore, unobserved factors of women's and their partner's characteristics may also affect women's agency and labor market outcomes. For example, their ability or attributes of marriage sorting.

To address the endogeneity problem, I employ the instrument variable approach. The IV used is the interaction term between the provincial level divorce rate and the post-2004 dummy variable to represent the change in cultural norms after the enactment of DV Law. In Indonesia, divorce is uncommon and can be seen as a sign of independence or breaking cultural norms, suggesting that the divorce rate in the region can be a good indicator of cultural norms. However, a potential threat to the exclusion restriction validity is when cultural norm differences might directly affect women's labor supply. In this case, I include time varying province-level divorce rate and district-level fixed effect in the second stage regression; hence, any cultural norms differences would be absorbed and the cultural norms changes due to the DV Law operates through the intrahousehold bargaining power dynamics. Additionally, I include time fixed effect to control for any regulations or norm changes at the national level.

The first stage of the IV estimation is as follows:

$$DMPower_{idt} = \psi_0 + \mathbb{1}(t \geq 2004) \cdot Divorce_{pt} \cdot \psi_1 + Divorce_{pt} \cdot \psi_2 + X_{idt} \cdot \psi_3 + \pi_t + \gamma_d + u_{idt} \quad (4)$$

The first stage estimation implies that the DV Law affects women's decision making power through the probability of a woman to be divorced in the district i.e. her outside options. The estimations in equation Equation (3) and Equation (4) are clustered at the province level since the IFLS sampling strategy is cluster random sampling at the province level (Abadie et al., 2017). The instrument variable is constructed using SUSENAS at province level. The instrument variable has a strong correlation at the first stage, indicated by a significant coefficient of interest and high F-statistics (more than 20) in all specifications.

However, more divorcees in the region would provide better group support for women to participate in the labor force. For example, more divorcee improves women-led services of child care or training provision which directly affects women's labor force participation, then the exclusion restriction assumption is violated. However, the number of divorcees in Indonesia is small and, thus, may not have enough capacity to support women in the community. To examine this problem, in the robustness check, I include women's access to a nation-wide female community group, called as PKK (*Empowerment of Family Program*), and the estimation result is similar. Another potential concern is whether the domestic violence regulation timing would have a direct impact on couples who married in years following the regulation, or another possibility is that different couple cohorts may have various responses. I also included years of marriage in the estimation and found similar results.

4.2.2 Public awareness

I examine the accuracy of the instrument variable in the estimation. In Appendix Appendix B I provide evidence that province level regulation enactment is inaccurate in affecting changes in regional divorce rate, suggesting that national level changes is the accurate instrument to represent changes in cultural norms. Since regulation enforcement in Indonesia is decentralized, I am interested in examining how national level law affects changes in cultural norms. Another potential explanation is public awareness shifted due to the national DV Law. To investigate the role of public awareness, I examine the relationship between regional divorce rate with keywords that online users searched

in Google to examine the correlation with the public awareness of domestic violence. Google Trends index shows the keywords that people searched or interested, indicating public awareness. I use a balanced panel estimation at province level, as follows:

$$Divorce_{pt} = \alpha_0 + GoogleTrends_{pt} \cdot \alpha_1 + \delta_t + \Sigma_p + \Psi_{pt} + \mathbb{1}(t \geq 2014) \cdot \Sigma_p + u_{pt} \tag{5}$$

where $GoogleTrends_{pt}$ is the normalized index from Google Trends for a particular keyword in province p at year t. I use the keyword of "domestic violence" and examine other related keywords as placebo test, which are "violence", "affairs", "polygamy", and "divorce". I expect to find significant positive coefficient for "domestic violence" and insignificant result for the rest to show that the divorce rate increase correlates with the rise of awareness on domestic violence. Furthermore, since there is no available internet use or internet access penetration from 2004, I include time trend fixed-effect (δ_t), province fixed effect (Σ_p), and interaction of time trend and province fixed effect (Ψ_{pt}).

Based on the Statistics of Indonesia data, shown in Figure 4, the internet use has increased significantly since 2014 because President Joko Widodo has prioritized the installation of Base Transceiver Station (BTS) for internet access in all provinces. Accordingly, I include the interaction between the BTS nation-wide installation program period with province fixed effect, $\mathbb{1}(t \geq 2014) \cdot \Sigma_p$ to check the robustness of the result.

5 Results

5.1 Decision making power effect on women's labor force participation

Table 3 provides a comparison between the OLS and IV estimation. Panel A is the result of the OLS estimation, Panel B is the first-stage of the IV estimation using the interaction between divorce rate and DV Law regime as the instrument variable, and Panel C is the second-stage of the IV estimation. I estimate without including any individual and household characteristics in column (1), column (2) includes woman's characteristics as additional controls, column (3) further controls for their husband's characteristics, and column (4) adds household characteristics.

In Panel A Table 3, I begin by estimating the effect of having decision making power in the household with women's labor force participation using OLS estimation. While the estimation is

biased due to the endogeneity problem, the result can be used as a baseline to examine the direction of bias by comparing it with the IV estimation. Before including any covariates, the effect of an increase likelihood to have decision making power in the household of 10 percentage point lead to an increase in the likelihood to participate in the labor force by 3.30 percentage point (see column 1 in Panel A). The result is smaller compared to the IV estimation which found that an increase of 10 percentage point of the likelihood of having power would increase the likelihood to participate in the labor force by 8.49 percentage point (see column 1 in Panel B).

After conditioning for individual characteristics the decision making power effect, the decision making power effect in the OLS estimation is reduced to 3 percentage point (see column 2 in Panel A) indicating that woman's characteristics in particular education level, religion, and age can have a significant correlation with their labor force participation (Hacker and Elcorobairutia, 1987; Conn, 1990). In the following OLS estimations, the decision making power effect does not change after including husband's and household's characteristics (see column 3 and 4 in Panel A).

Similarly, the IV estimation result does not change significantly when including woman's characteristics, their husband's characteristics, and household characteristics which shows that the result is robust of covariates inclusion (see column 2, 3, and 4 in Panel B). The IV estimations shows that an increase likelihood of becoming a decision maker or having a decision making power of 10 percentage point lead to an increase of the likelihood to participate in the labor force by 6.7 percentage point or 1.3 standard deviation.

The first stage estimation shows a strong correlation between women's decision making power and the divorce rate post-2004. Furthermore, F-statistics for all estimations are above 27. Together, it suggests that the regional divorce rate post-2004 DV Law is a strong instrument. The coefficient of interest after including all covariates is larger than the OLS estimation, suggesting a downward bias due to the endogeneity problem. Furthermore, the coefficient of interest is consistently positive across estimations, providing evidence supporting (Stevenson, 2008) argument that an increase in divorce risk leads to women's decision making power, thereby raising women's labor force participation due to a higher opportunity cost of exiting the labor market.

5.2 Instrument variable accuracy

5.2.1 Ruling out regulation enforcement

Another possible concern is to disentangle whether the regulation affects the citizen's awareness or the implementation of domestic violence enforcement. To examine if the regulation enforcement matters more, I exploit Indonesia's decentralization which give autonomy to regions to manage their regions through local regulation enactment or institution establishment. The local regulations act as the technical guidance for national-level regulation enforcement such that different regions issued local law concerning DV Law with different timings. The local laws can covers the budget for DV Law enforcement, coordination across institution, and also additional support for DV victims, and also local institution establishment. In particular, the regional governments may issued domestic violence regulations to establish P2TP2A (in Bahasa Indonesia: *Pusat Pelayanan Terpadu Pemberdayaan Perempuan dan Anak*, or translated as Integrated Service Center for Empowerment Women and Children). P2TP2A handles reports and manages domestic violence cases in regional level. The establishment of P2TPA is important in the regional level as the institution oversees and coordinates activities related to DV Law enforcement or improving awareness.

In this subsection, I construct an instrument variable of the interaction between province level divorce rate and the dummy variable of the year when the province DV Law was enacted.[8] There are reasons to believe that regional-level regulation may not have any effect, and the timing of regional regulations may not be exogenous. For example, several regions stated in the legal document that the regulations are motivated by the increasing reports of domestic violence law over the years. If this is the case, then the timings of the province level law is not exogenous and would depend on the public awareness of domestic violence.

Table 4 shows that the instrument variable is weak and the results are insignificant in both first and second stage. I further test the accuracy of using province divorce rate changes in response to the province level regulation as the instrument variable. I examine the first stage estimation using event analysis of staggered timings. I found that province divorce rate response of the province level regulation has no significant effect on women's decision making power (see Appendix B for further

[8] One might argue that district level regulation have a stronger influence in enforcement than province level, however since IFLS is representative in province level I could not estimate the district level regulation enactment. Nevertheless, I plot the district regulation timings with the changes in divorce rate and found that the changes in the trend of divorce rate does not intersects with the district timings.

details).

5.2.2 Changes in public awareness

Since there is no evidence that implementation of regulation at the provincial level does not change the divorce rate between provinces and years, I explore whether the DV Law affected awareness. I examine the universe of divorce verdicts and use text analysis to identify keywords related with domestic violence. Section 8 illustrates the share of divorce verdicts with keywords related to domestic violence has increased significantly since 2005.[9]

I utilize the Google Trends dataset, which provides information on topics people search on the internet. The dataset has been made available since 2004 at the province level when internet use started to take off in Indonesia, at the same time as the DV Law was introduced. Table 5 column (1) shows that the relative frequency of people searching the keyword "domestic violence" on the internet correlates with the regional divorce rate. The coefficient remains similar after including the nationwide internet BTS (Base Transceiver Station) installation. I also test the regional divorce rate with an online search that might be related to the divorce rate, which is "violence", "polygamy", "affairs", and the word "divorce" itself as placebos. Column (2), (3), (4), and (5) show that there is an insignificant correlation between the divorce rate with the placebo keywords. Specifically, the keyword "divorce" is not significant, indicating that the regional divorce rate is not correlated with the awareness of divorce in general, but specifically related to the domestic violence awareness.

5.3 Robustness test

I conducted a robustness check by including women's membership in nationwide women's community groups (PKK). From its establishment in the 1960s, PKK has been entrenched in all communities across Indonesia as a women's organization with activities from the government or initiated by the community, comprising training on reproductive health, child immunizations, and religious or community gatherings. PKK groups are notorious for their active role in ensuring the nationwide take up of children basic immunizations. The implementation of the DV law can increase the awareness of women empowerment amongst women group or increase the number of women members which then

[9] In 2005 the Supreme Court require all regional courts to upload their verdicts in the Supreme Court website thereby I could not compare before and after DV Law enactment.

affect the female labor supply. I condition women's participation in the PKK group in the estimation to close the possible channel and the result shows there are no changes in the coefficient of interest (Column (1) Table 6).

Intrahousehold decision making power dynamics may affect a woman's labor supply differently according to the timing of marriage. Older cohort married women may be influenced by the New Order regime's propaganda and have less decision making power effect than younger cohort couples. In column (2), I added the year of marriage in the estimation and found the result in line with my prediction, and the decision making power effect is reduced to 4.64 percentage point. However, the sample size is reduced to 7,826 because of missing values and the F-statistic decreases to 15.15. I investigate the marginal effect of having different marriage timing on woman's labor force participation and found that FLFP decreases coinciding with the timing of the New Order's marriage and divorce-control regulations then flattens after 2000 Figure 7.

Another concern is that women with a higher pre-marital asset is more likely to participate (Duflo, 2012). Including this variable can shut down the possible channel of resource endowments. One could construct a story of when divorce risk increases, women's labor market outcomes may change due to human capital investment and pre-marital asset mechanism. I have conditioned women's education and pre-marital assets such that the estimated effect is conditional on possible mechanisms (see column 3), and I found no evidence that the impact changes significantly. In the last column (4), I use all the variables in column (1) to (3) to investigate the combined effect. The impact of an increase of 10 percentage point in women's power would lead to an increase of 4.85 percentage point on their labor force participation. The result is lower than the previous result and the sample size is reduced to 7,796.

I also estimate using various combination of fixed effect and cluster standard error (Table 7). Column (1) shows that using balanced panel inflates the impact of power on labor force participation with a large uncertainty. Column (2), (3), and (4) have similar result with the main estimation. Note here that using district cluster standard error reduced the instrument variable strength but the F-stat is still larger than the rule of thumb of 10.

5.4 Other labor market outcomes

I replace the dependent variable with other labor supply outcomes of women who are in the labor force, which are hours of work, monthly wage, and the main economic activity of those who are working. Column (1) estimate hours of work as dependent variable, column (2)-(5) estimate the main economic activity with unpaid family work as the control group, and column (6) use log of monthly wage as the dependent variable. Table 8 provides the result of the IV estimation.

Column (1) shows that when having decision making power improves hours of work by 44.53 hours per week or working full time. However, the increase in decision making power does not translates to an improvement in their job and wage. Compared to being an unpaid worker, women with power are less likely to become a self employed, government officer, or private workers (column 2 to 4) thereby resulting in a decrease in monthly wage (column 5).

5.5 Heterogeneity in cultural norms

I further test whether the changes are heterogeneous between regions with different cultural norms. I use a question in the 1997 wave asking community leaders about traditional laws and community customs and whether, in their community, women are allowed to work out of home in IFLS. The result in Table 9 shows that the DV Law regulation had more effect on women's decision making power in provinces with conservative gender norms, which ultimately lead to a larger effect for women's decision making power on their labor force participation (see column (1)). An increase of the likelihood to have power in the household of 10 percentage point lead to an increase of the likelihood for women to participation in the labor force by 20.92 percentage point.

While in the already progressive provinces where it is more acceptable for women to work out of home, the changes of divorce rate due to the DV Law lead to a lower decision making power thus less impact on women's labor force participation. An increase in 10 percentage point of the likelihood to have power in the household lead to an increase in 5.39 percentage point of labor force participation.

6 Conclusion

This paper investigates the impact of women's decision making power in the household on their labor supply by utilizing the changes in Indonesia's cultural norms resulted by government regime tran-

sition. I use instrumental variable estimation to provide a causal relationship of decision making power in the household and women's labor supply. I exploit the response variation of regions induced by the Domestic Violence Law representing the heterogeneity of cultural norms across different regions in Indonesia. Combining a rich panel survey and nationwide household survey, the results provide evidence that women's decision making power increase their labor force participation, hours of work, but do not improve their monthly wage and type of main activity.

To examine the instrument variable accuracy, I use difference-in-difference estimation to rule out that the changes of cultural norms are inline with the different timing of the regulation enforcement. The changes in cultural norms is plausibly due to public awareness as the changes happened at the same time as the national level regulation enactment post-2004. Using data from online search, I found that the regional divorce rate is highly correlated with the public awareness of domestic violence and unrelated with other types of divorce nor divorce itself. Lastly, I explore heterogeneity across regions and found women living in conventional gender norms regions experience a larger household bargaining power adjustment than those living in progressive region.

In this paper I provide evidence that DV Law can have positive impact on women's labor market outcomes through changes in women's decision making power, in particular in settings where cultural norms are restrictive in determining women's empowerment. Furthermore, this research highlights the impact of changes in government regulation that consequently improves public awareness and has the ability to shift gender norms.

7 Tables

Table 1: Summary of statistics

	Mean (1)	Std. Dev (2)	Min (3)	Max (4)
Woman's characteristics				
Labor force participation	0.48	0.50	0.00	1.00
Woman has decision making power	0.62	0.49	0.00	1.00
Age	35.11	8.38	15.00	63.00
Islam	0.88	0.32	0.00	1.00
Javanese	0.48	0.50	0.00	1.00
No formal education	0.33	0.47	0.00	1.00
Primary education	0.42	0.49	0.00	1.00
Lower secondary	0.10	0.31	0.00	1.00
Upper secondary	0.12	0.32	0.00	1.00
Tertiary education	0.02	0.14	0.00	1.00
Cognitive ability	466.76	79.32	299.00	635.00
Husband's characteristics				
Age	40.00	9.08	18.00	70.00
Islam	0.88	0.32	0.00	1.00
Javanese	0.47	0.50	0.00	1.00
No formal education	0.32	0.47	0.00	1.00
Primary education	0.36	0.48	0.00	1.00
Lower secondary	0.09	0.29	0.00	1.00
Upper secondary	0.18	0.38	0.00	1.00
Tertiary education	0.04	0.19	0.00	1.00
Cognitive ability	481.97	76.60	299.00	635.00
Household's characteristics				
Living in urban area	0.39	0.49	0.00	1.00
Live separately from parent	0.93	0.26	0.00	1.00
Number of children < 15 yo	1.98	1.27	0.00	9.00
Ln per capita expenditure	10.70	0.73	7.88	14.13

Notes. Education categories in the table is completed education. Tertiary education completion includes one-year Diploma degree, as well as the longest PhD degree. Cognitive ability is based on the test conducted in IFLS. Sample is restricted to the original 13 provinces of the 1993 IFLS.
Source. 1997 IFLS

Table 2: Couple's perception of their power to determine the household's labor supply (in %)

	Husband's perception			Total
	Woman solely	Husband solely	Jointly	
Woman's perception				
Woman solely	6.62	3.48	5.88	15.98
Husband solely	1.80	12.83	7.52	22.15
Jointly	4.80	12.05	45.02	61.87
Total	13.22	28.36	58.42	100.00

Note. Woman and husband are asked separately on who decides who between the couple gets to work. Rows are woman's response and columns are husband's response. The first row represents the share of women who think they are the sole decision maker in the family, the second row is the share of women who thinks that their husband is the sole decision maker, and the third row is the share of those who think it is a joint decision.

Table 3: The impact of woman's decision making power on their labor force participation

	Dependent variable:			
	Woman's labor force participation			
	(1)	(2)	(3)	(4)
Panel A: OLS estimation				
Woman has power	0.330***	0.303***	0.303***	0.298***
	(0.00693)	(0.00825)	(0.00856)	(0.00748)
Woman's covariates		✓	✓	✓
Husband's covariates			✓	✓
Household's covariates				✓
District fixed effect	✓	✓	✓	✓
Time fixed effect	✓	✓	✓	✓
Obs.	14,758	13,977	13,217	12,223
Adj. R2	0.152	0.178	0.178	0.178
Panel B: IV estimation				
First-stage:	Woman has power			
Divorce rate post-2004	3.660***	3.706***	3.727***	3.537***
	(0.644)	(0.701)	(0.657)	(0.597)
Second-stage:	Woman's labor force participation			
Woman has power	0.814***	0.719**	0.727**	0.674*
	(0.248)	(0.280)	(0.291)	(0.371)
Woman's covariates		✓	✓	✓
Husband's covariates			✓	✓
Household's covariates				✓
District fixed effect	✓	✓	✓	✓
Time fixed effect	✓	✓	✓	✓
F stat	32.26	27.92	32.14	35.06
Obs.	14,758	13,977	13,217	12,223

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note. The sample used in the estimation is women who are married, with the age between 15 and 64 years old, and not in school from 1997 - 2014 IFLS. The endogenous variable is whether woman has decision making power including having sole or joint power is 1 if married woman stated that they have any power to decide to work and 0 for otherwise. Women's covariates are age, age-square, being a moslem, being a javanese, highest education level graduated, and cognitive ability test. Husband's covariates are the same as women's covariates. Household covariates are number of children under 15 years old in the household, whether living in splitoff household, log expenditure per capita is the log of the household's expenditure per capita in previous wave, and receive social assistance. If there is no information in the last period I use the last available wave. F statistics is the Kleibergen-Paap Wald rk F statistics, with the critical value is 16.38 under the null hypothesis of weak instrument. The IV estimation used is using robust as there might be heterokedasticity and cluster by district due to IFLS sampling frame. Panel A is the OLS estimation, Panel B is the IV estimation using women's divorce rate in the province post 2004 as instrument.

Table 4: IV estimation using province level regulation timings

	Dependent variable:			
	Woman's labor force participation			
	(1)	(2)	(3)	(4)
First-stage:	Woma has power			
Divorce rate post-provinces' regulation	-3.657	-3.341	-3.388	-3.409
	(2.391)	(2.407)	(2.391)	(2.535)
Second-stage:	Woman's labor force participation			
Woman has power	-1.046	-1.242	-1.189	-1.203
	(0.692)	(0.875)	(0.817)	(0.833)
Woman's covariates		✓	✓	✓
Husband's covariates			✓	✓
Household's covariates				✓
District fixed effect	✓	✓	✓	✓
Time fixed effect	✓	✓	✓	✓
F stat	2.338	1.927	2.008	1.808
Obs.	14,758	14,758	14,758	14,758

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note. The sample used in the estimation is women who are married, with the age between 15 and 64 years old, and not in school from 1997 - 2014 IFLS. The endogenous variable is whether woman has decision making power including having sole or joint power is 1 if married woman stated that they have any power to decide to work and 0 for otherwise. Women's covariates are age, age-square, being a moslem, being a javanese, highest education level graduated, and cognitive ability test. Husband's covariates are the same as women's covariates. Household covariates are number of children under 15 years old in the household, whether living in splitoff household, log expenditure per capita is the log of the household's expenditure per capita in previous wave, and receive social assistance. If there is no information in the last period I use the last available wave. F statistics is the Kleibergen-Paap Wald rk F statistics, with the critical value is 16.38 under the null hypothesis of weak instrument. The IV estimation used is using robust as there might be heterokedasticity and cluster by district due to IFLS sampling frame.

Table 5: Divorce rate and public awareness on Domestic Violence Law

	Dependent variable: Divorce rate				
Keywords in Google Trends	(1)	(2)	(3)	(4)	(5)
"KDRT" = Domestic Violence	0.0174**				
	(0.00792)				
"Kekerasan" = Violence		-0.00223			
		(0.0111)			
"Poligami" = Polygamy			0.0000233		
			(0.00544)		
"Selingkuh" = Affairs				0.00235	
				(0.00220)	
"Cerai" = Divorce					0.00843
					(0.0129)
Province fixed effect	✓	✓	✓	✓	✓
Province-trend fixed effect	✓	✓	✓	✓	✓
BTS policy-province fixed effect	✓	✓	✓	✓	✓
Obs.	252	252	252	252	252
Adj. R2	0.924	0.923	0.923	0.923	0.923

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: The divorce rate is a weighted mean of the number of divorce women out of the number of women who have ever married in each province from SUSENAS. The Google Trends data is available online in https://trends.google.com/trends/. The sample is restricted to IFLS 13 provinces.

Table 6: Robustness test

	Dependent variable:			
	(1)	(2)	(3)	(4)
First-stage:	Woman has power			
Divorce rate post-2004	3.544***	2.849***	3.507***	2.817***
	(0.604)	(0.732)	(0.582)	(0.725)
Second-stage:	Woman's labor force participation			
Woman has power	0.667*	0.464	0.715*	0.485
	(0.368)	(0.436)	(0.371)	(0.421)
PKK group participation	0.0160			0.0516*
	(0.0201)			(0.0270)
Year of marriage		-0.00102		-0.000920
		(0.00113)		(0.00110)
Log of premarital asset			-0.00612	-0.00653
			(0.00977)	(0.0102)
All covariates & FEs	✓	✓	✓	✓
F stat	34.37	15.15	36.32	15.09
Obs.	12,223	7,826	12,193	7,796

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note. Endogenous variable in the estimation is woman's perception of her decision making power to work. PKK group participation has the value of 1 if woman participate in PKK group's activity in her community, and 0 for otherwise. Column (2) includes the couple's year of marriage. Column (3) includes log of pre-marital asset that woman has. Column (5) is including all the covariates in the robustness test.

Table 7: Robustness test

	Dependent variable:			
	(1)	(2)	(3)	(4)
First-stage:	Woman has power			
Divorce rate post-2004	0.743	3.730***	3.730***	3.537***
	(2.566)	(0.617)	(0.913)	(0.970)
Second-stage:	Woman's labor force participation			
Woman has power	0.961	0.689*	0.689***	0.674**
	(5.487)	(0.376)	(0.265)	(0.275)
All covariates	✓	✓	✓	✓
Time fixed effect	✓	✓	✓	✓
Balanced sample	✓			
Province fixed effect		✓	✓	
District fixed effect	✓			✓
Individual fixed effect				
Province cluster s.e.	✓	✓		
District cluster s.e			✓	✓
F stat	0.0838	36.57	16.68	13.29
Obs.	2510	12,223	12,223	12,223

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note. Endogenous variable in the estimation is woman's perception of her decision making power to work. Column (1) restrict the sample with a balanced sample with the original estimation strategy. Column (2) use province fixed effect instead of district fixed effect. Column (3) use province fixed effect and province cluster standard error. Column (4) use province fixed effect and district cluster standard error. Column PKK group participation has the value of 1 if woman participate in PKK group's activity in her community, and 0 for otherwise. Column (2) includes the couple's year of marriage. Column (3) includes log of pre-marital asset that woman has.

Table 8: Other labor supply outcomes

	Dependent variable:				
	(1)	(2)	(3)	(4)	(5)
First-stage:	Woman has power				
Divorce rate post-2004	2.855***	4.259***	4.183**	3.776*	2.855***
	(0.677)	(1.167)	(1.645)	(2.010)	(0.677)
Second-stage:	Hours of work	Self employed	Govt officer	Private workers	Log monthly wage
Woman has power	44.53***	-0.490**	-0.391**	-0.714	-15.46**
	(14.73)	(0.225)	(0.179)	(0.965)	(7.281)
Woman's covariates	✓	✓	✓	✓	✓
Husband's covariates	✓	✓	✓	✓	✓
Household's covariates	✓	✓	✓	✓	✓
District fixed effect	✓	✓	✓	✓	✓
Time fixed effect	✓	✓	✓	✓	✓
Mean of control group	7.45	0.49	0.05	0.32	0.82
F stat	17.80	13.32	6.469	3.527	17.80
Obs.	5,714	3,504	1,838	2,715	5,714

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: Column (1) is hours of work for women who are in the labor force. Column (2), (3), and (4) use the main activity as dummy variable with being self employed, government officer, and private workers as 1 and unpaid family work as 0 or the control group for each estimations. In the 2014 wave, IFLS provide additional response of casual work which was not available in the previous waves thereby coded as missing value. Column (5) use log monthly wage as the outcome

Table 9: Heterogeneity in regional gender norms

	Dep. variable: Woman has power	
	Conservative norms (1)	Progressive norms (2)
Panel A: OLS estimation		
Divorce rate post-2004	0.297***	0.297***
	(0.0124)	(0.0105)
Woman covariates	✓	✓
Husband covariates	✓	✓
Household covariates	✓	✓
Time fixed effect	✓	✓
District fixed effect	✓	✓
Obs.	7017	7960
Adj. R2	0.176	0.156
Panel B: IV estimation		
First-stage:	Woman has power	
Divorce rate post-2004	3.876**	4.147***
	(1.748)	(0.860)
Second-stage:	Woman's labor force participation	
Woman has power	2.092***	0.539*
	(0.774)	(0.296)
Woman's covariates	✓	✓
Husband's covariates	✓	✓
Household's covariates	✓	✓
District fixed effect	✓	✓
Time fixed effect	✓	✓
F stat	15.40	23.23
Obs.	6,900	7,858

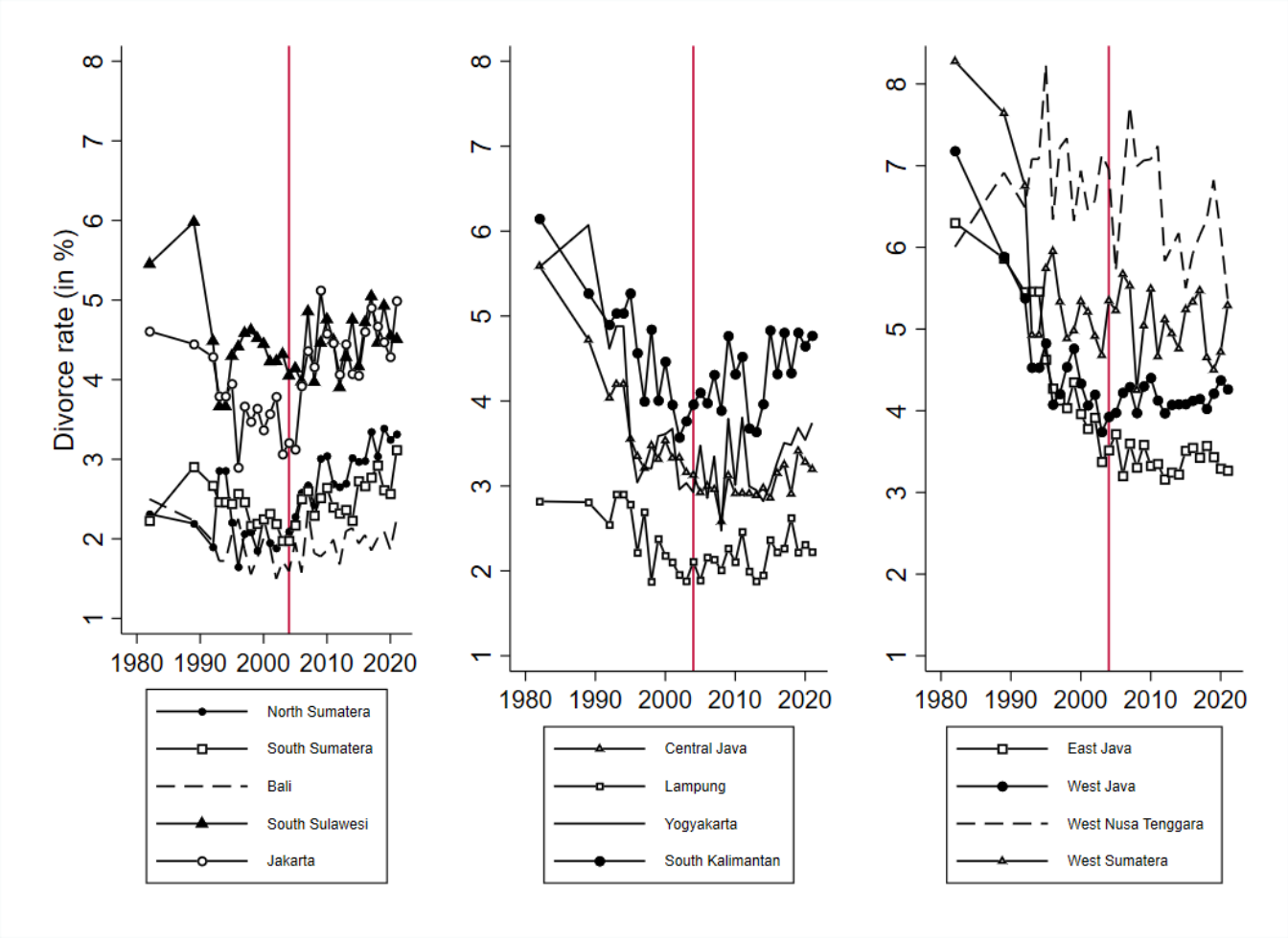
Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: 1997 IFLS asked community customs to community leaders whether women are allowed to work out of home. I recoded the responses to 1 for "Yes" and 0 for "Yes, if needed" or "No" to get a conservative answer then I take the mean of each province. Column (1) is limited to provinces with below median or conservative gender norms for women to work out of home. Column (2) is restricted to provinces with greater or equal than the median or progressive gender norms. On average the gender norms in the provinces is 57.17% with the standard deviation of 18.09%.

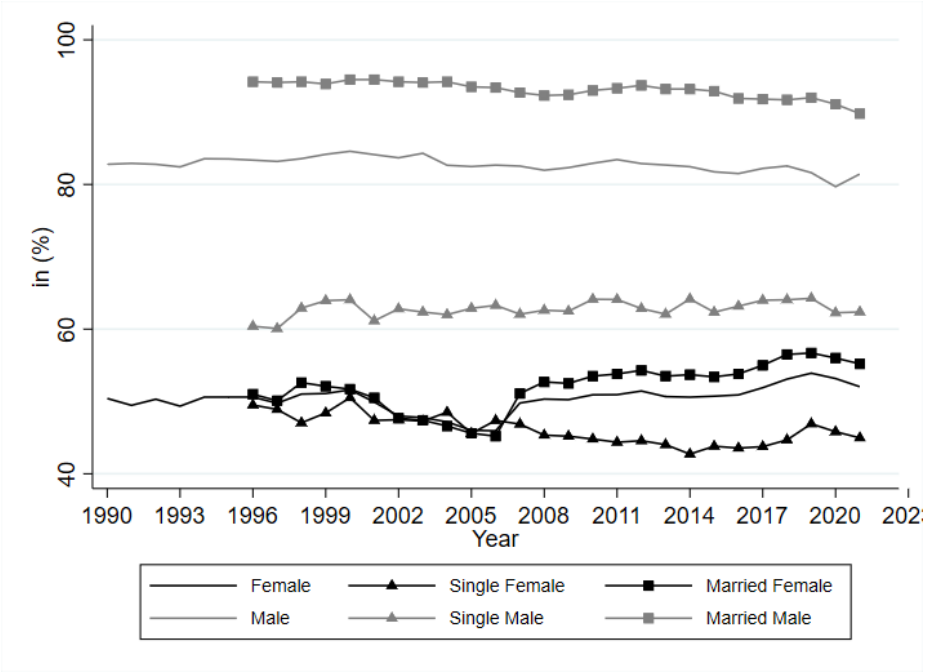
8 Figures

Figure 1: Divorce Rate Across Selected Provinces in Indonesia



Notes. Y-axis in each figure varied to provide a better illustration of the trend in divorce rate across the years. Divorce rate is the number of divorce women with the age of older or equal than 15 years old divided by the number of married, widowed, and divorce women in a particular province. The provinces selected in the figure are the initial provinces in the 1993 IFLS sample. The red vertical line is on 2004 when the Domestic Violence Law was enacted.
Source. 1995 - 2021 Susenas.

Figure 2: Labor Force Participation by Gender and Marital Status



Source. ILO STAT

Figure 3: Timeline of regulation changes

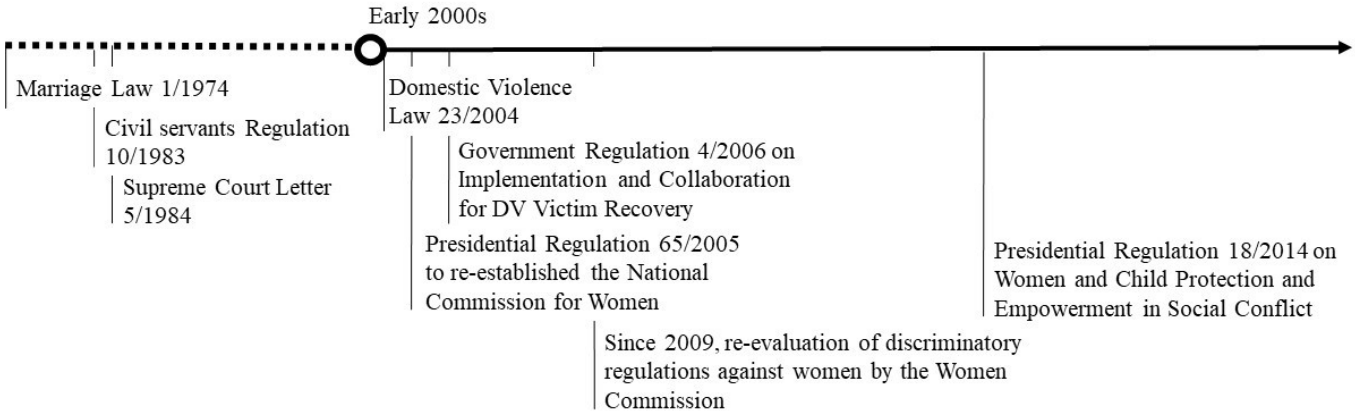
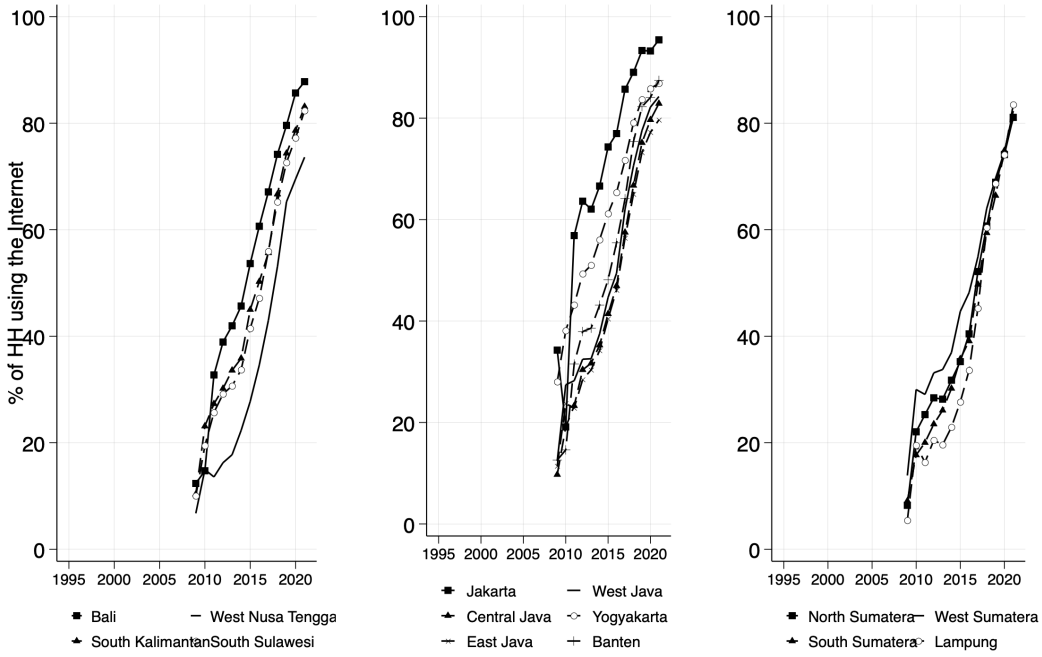


Figure 4: Internet Access in the Provinces



Source: 2009 - 2021 Statistics of Indonesia

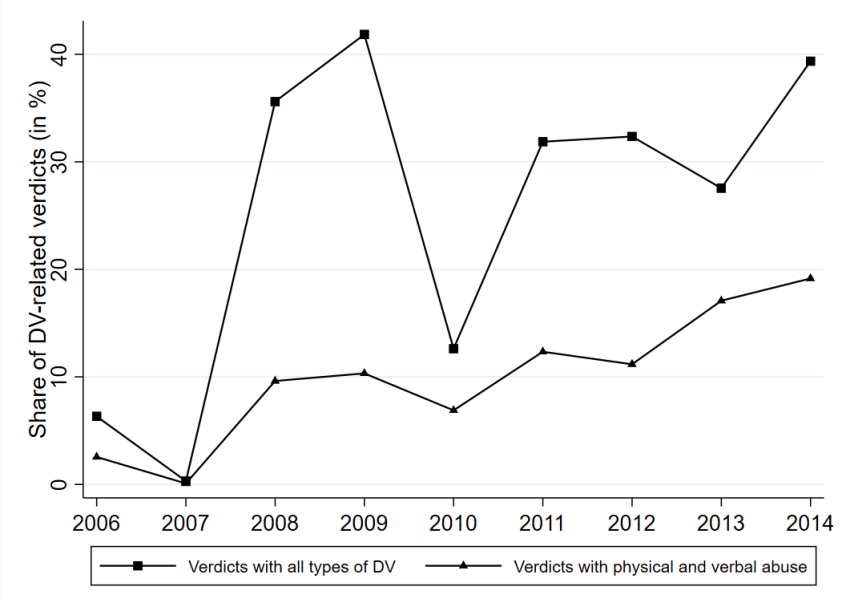
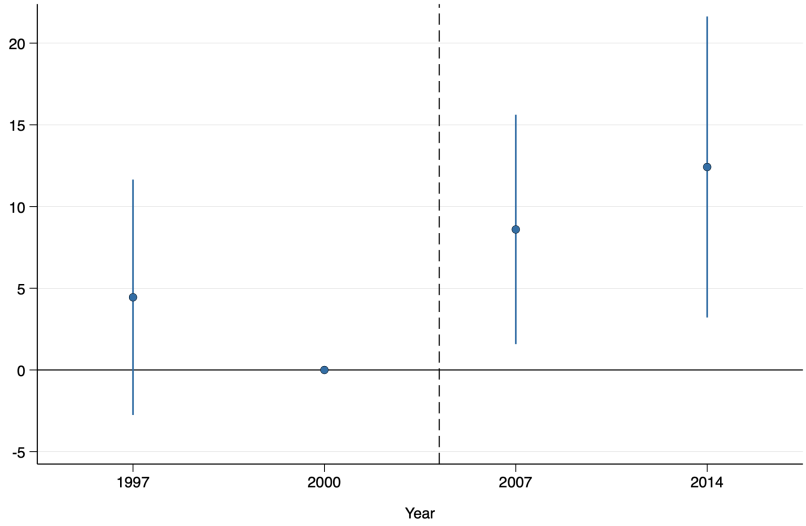


Figure 5: Share of DV-related verdicts

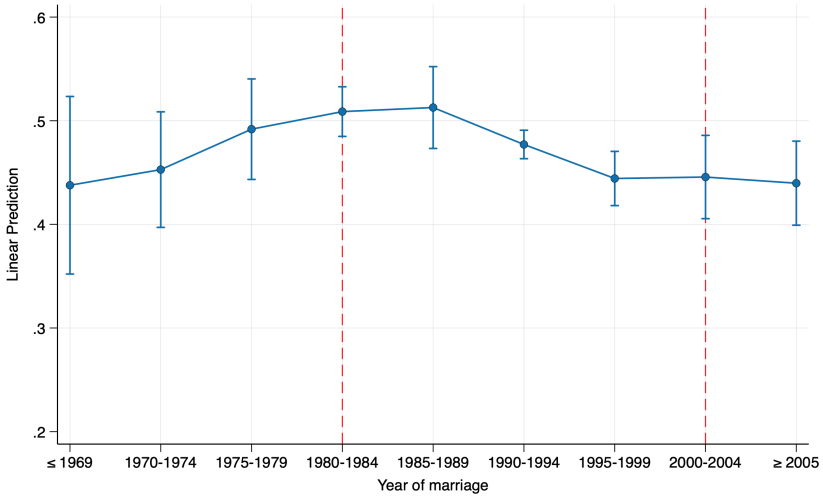
Note. The line with square marker is the share of verdicts with keywords on physical and verbal abuse, plus “argue”, “not harmonious”, “dispute”, and “negligence”. Whilst the line with triangle marker is the share of verdicts with physical and verbal abuse which are “hit”, “hard”, “bad words”, “chase away”, “angry”, “curse”, “intimidate”.

Figure 6: Event study of Domestic Violence Law effect on women's decision making power



Notes. 2000 wave is baseline thus omitted from the analysis.

Figure 7: Marginal effect of different timings of marriage



Appendix A Intrahousehold decision making power

IFLS asks a set of household's decision making question to the panel respondents comprising various aspects in daily live, such as the decision maker for food choice, routine purchase, savings allocation, and time use. I use decision maker to work as it is directly related to the context of labor outcomes analysis. Compared to the routine decision making where around 86.13% woman are the decision maker, less woman has power in the household's labor supply decisions which is 76.89% which indicates that the labor supply decision making question may be able to reflect the actual decision making process in the family (Table A1). Furthermore, only a small percentage of woman stated that other household member is the decision maker in the household, hence I remove these observation from this study's sample.

Table A1: Woman's perception on their decision making power in the household

	Woman solely or jointly (1)	Woman solely (2)	Jointly (3)	Other HH member (4)
Food expenditure	86.13	67.67	18.46	5.31
Food choice	88.81	71.19	17.62	5.85
Routine purchases	88.08	70.96	17.11	5.17
Wife's clothes expenditure	89.71	63.81	25.91	2.66
Husband's clothes expenditure	75.92	41.13	34.79	1.86
Children's clothes expenditure	81.24	39.20	42.04	7.73
Children's education expenditure	86.87	22.74	64.14	5.03
Children's health expenditure	89.77	19.25	70.52	3.89
Large expensive expenditure	81.32	13.23	68.09	4.80
Give money to wife's parents	86.55	13.81	72.74	2.22
Give money to husband's parents	88.05	12.09	75.96	0.36
Gifts for parties	91.01	20.79	70.22	1.05
Rotated savings	91.01	36.75	54.25	1.50
Savings	87.04	35.01	52.04	1.85
Time for husband to socialize	56.32	12.17	44.15	0.46
Time for wife to socialize	81.33	35.00	46.33	0.19
Husband or wife to work	76.89	16.08	60.81	0.44
Contraception use	85.31	22.76	62.55	0.50

Note. Woman has power is define as either woman as the sole decision making power or woman jointly decide with their husband. Column (1) is the share of women who perceived that they have sole or joint power, a combination of column (2) and (3). Column (2) is the share of women who thinks they are the sole decision maker. Column (3) is the share of women with joint decision making power. Column (4) is the share of women who stated there is other household member as the decision maker, instead of the couple.

A possible problem in decision making power measurement is the ambiguity of phrasing and response options, since decision making is inter-relational perspective where men might think decision making as who effectively manages the household (Devine et al., 2008). Furthermore, the question in the IFLS survey does not ask directly whether woman's decision making power is on

their own labor force participation or her spouse's. Specifically, the question asks, "who do you think makes the decision on whether husband or wife should work". I resolve this problem by, firstly, I test women's power on her husband's labor force participation to examine whether when responding to the question women is thinking only her own labor force participation or her husband. Secondly, I use woman's response that matches her husband's opinion to avoid misperception of the question.

Table A2 estimates woman's decision making power on her husband's labor force participation. In column (1) - (3), I split the sample into husband's perception whether woman as sole decision maker, has joint decision making power with her husband, and her husband is the sole decision maker. Panel A estimate a dummy variable of when woman as the sole decision maker on husband's labor force participation. Panel B use a dummy variable when woman has any decision making power (of either sole or joint decision maker). The estimation results in column (1) shows that when the husband thinks that women are the sole decision maker in the household, there is no significant effect of woman's decision woman on her husband's labor supply. This is suggesting that indeed woman is thinking about their own labor force participation.

Table A2: Is there any misperception within couple?

	Dep. variable: Husband's labor force participation		
	Sample of Husband's perception:		
	Wife solely	Discuss jointly	Husband solely
	(1)	(2)	(3)
Panel A:			
Woman's perception: has sole power	-0.0152	-0.0276*	-0.0112
	(0.0144)	(0.0155)	(0.0136)
Woman's labor force participation	0.00134	0.0325***	0.0368***
	(0.0202)	(0.00824)	(0.00983)
Obs.	1,456	8,425	4,502
Adj. R2	0.0682	0.0330	0.0328
Panel B:			
Woman's perception: has sole or joint power	-0.0177	-0.000411	-0.0175**
	(0.0247)	(0.0103)	(0.00783)
Woman's labor force participation	0.00211	0.0322***	0.0412***
	(0.0208)	(0.00930)	(0.0101)
Obs.	1,456	8,425	4,502
Adj. R2	0.0681	0.0319	0.0339
All covariates	✓	✓	✓
District fixed effect	✓	✓	✓
Time fixed effect	✓	✓	✓

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note. Women have power is either woman is the sole decision making power or jointly decide with their husband. Column (1) is the sample of couple of which the husband perceive that his wife is the sole decision maker in the household, (2) is the sample of couple of which the husband perceive that the decision making process is done jointly, and (3) is couple of which the husband perceive that he is the sole decision maker. All covariates included are woman's and husband's characteristics mentioned in the main IV specification.

In column (2) when husband thinks that decision making is jointly done, woman who are the sole decision maker an increase woman's power has significant negative effect on husband's labor supply but insignificant if woman has joint power. Similarly in column (3), contradicting perception within couple would result a negative significant on husband's labor force participation. The result suggests that woman's decision making power on household's labor supply do not have any correlation with husband's labor force participation whenever both couple agrees about woman's decision making power.

The estimation results in Table A2 rules out that women's perception of her own power is associated with her husband's labor supply. Furthermore, the result provides evidence that there might be misperception within spouse. To address the possible problem of spouse negotiation and misper-

ception of woman's own power, in the following analysis I use woman's decision making power that matches with her husband's perception.

Another possible approach is to use all decision making dimensions to measure woman's power. Although all decision making dimension information may not be relevant to estimate woman's labor force participation, it provide an alternative decision making power measure. Table A3 provides result inline to the main estimation where woman's power has positive effect on their labor force participation and hours of work (column 1 and 2), but a negative effect on working as self-employed and their log wage (column 3 and 4). However, the instrument variable is weak in all estimations (except for estimation 3) as indicated by F-stat smaller than 10. At the end, I choose to use woman's decision making power on working in the main estimation because it directly related to woman's labor supply outcome.

Table A3: All decision making power dimensions

	Dependent variable:			
	(1)	(2)	(3)	(4)
First-stage:	Number of dimensions with woman has power			
Divorce rate post-2004	30.64***	30.64***	42.27***	30.64***
	(10.10)	(10.10)	(8.039)	(10.10)
Second-stage:	Labor force participation	Hours of work	Self employed	Log monthly wage
Number of dimensions with woman has power	0.0778*	3.315	-0.0189	-1.758**
	(0.0412)	(2.123)	(0.0150)	(0.785)
Woman's covariates	✓	✓	✓	✓
Husband's covariates	✓	✓	✓	✓
Household's covariates	✓	✓	✓	✓
District fixed effect	✓	✓	✓	✓
Time fixed effect	✓	✓	✓	✓
F stat	9.208	9.208	27.65	9.208
Obs.	12,223	12,223	5092	12,223

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note. Women have power is either woman is the sole decision making power or jointly decide with their husband. Column (1) is the sample of couple of which the husband perceive that his wife is the sole decision maker in the household, (2) is the sample of couple of which the husband perceive that the decision making process is done jointly, and (3) is couple of which the husband perceive that he is the sole decision maker. All covariates included are woman's and husband's characteristics mentioned in the main IV specification.

Appendix B DV Law enactment and enforcement in regional level

B.1 Testing the first-stage of the main estimation

I conduct an event study of the first-stage estimation to examine whether before the domestic violence law issued regional divorce rate have no effect on women's decision making power within household. I use an event study identification strategy, as follows:

$$DMPower_{idt} = \Delta_t + \Gamma_d + \sum_{\tau=1997}^{2003} \psi_\tau \cdot Divorce_{p\tau} \cdot D_\tau + \sum_{\tau=2004}^{2014} \psi_\tau \cdot Divorce_{p\tau} \cdot D_\tau + X_{idt} \cdot \psi_1 + u_{idt} \quad (6)$$

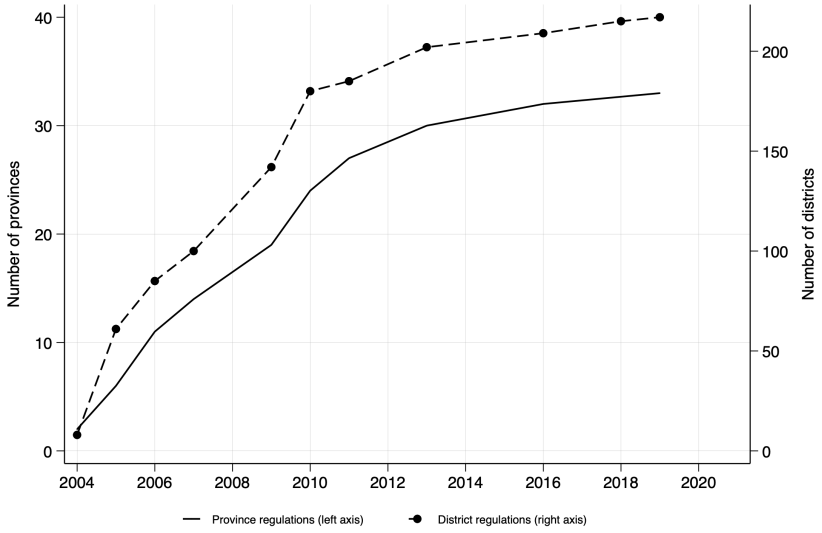
Treatment occurs in 2004 and since there are four IFLS waves with intrahousehold decision making power information, I can use the 1997 and 2000 wave as pre-treatment periods, 2007 and 2014 waves as post-treatment period. Since the 2000 wave is omitted in the analysis, I only have 1 pre-treatment period to check whether before the law enactment there is any effect. Equation (6) suggests that there is no pre-treatment effect and significant post-treatment effect.

Using Roth (2022), I conducted a simulation to examine the power to correctly not rejecting the null hypothesis of parallel trend assumption. The simulation shows that the estimation result has 63% power to correctly accept the null hypothesis of parallel trend. Furthermore, the event study estimation provides evidence that there is significant treatment effect on decision making power after the regulation changes in 2004 (see Figure 6).

B.2 Enforcement matters? Different timings of regional regulations

Figure A1 illustrates the number of regulations issued by local governments in Indonesia increased significantly between 2007 (wave 4) and 2014 (wave 5). Furthermore, the rate of regulations seems to be similar between province and district level. I test the different timing of the provincial regulation, however I could not test the district regulations timing due to the limited sample size and IFLS is representative at the province level.

Figure A1: Number of Regional Regulations



Source: The Audit Board of The Republic of Indonesia

Due to different regional regulations timing, the identification strategy could not follow the event analysis in equation (6). Recent literature argued the problems of using two-way fixed effect in staggered difference-in-difference (DID) design and provide solutions to solve the bias (Goodman-Bacon, 2021; De Chaisemartin and D'Haultfœuille, 2020). For example, using non-parametric ATT estimates as in Callaway and Sant'Anna (2021), assigning weights for different group of treatment timings as in Sun and Abraham (2021), stacking event-specific data as in Cengiz et al. (2019), and high-frequency fixed effect in TWFE as recommended by **?**. I use **?**'s TWFE with high frequency fixed effect to examine whether provincial regulations matters because, firstly, the province level regulation has no never-treated group. Secondly, the data might have unconditional covariates common trend violation due to individual characteristics time variant changes on their intrahousehold decision power. Lastly, there might be heterogenoeus effect due to treatment heterogeneity with year fixed effect or due to individual covariates. Accordingly, I use **?**'s recommendation to include interaction terms in the TWFE method to address the above mentioned concerns in different timing settings, with the following identification:

$$
\begin{aligned}
DMPower_{idt} = & \Delta_t + \Gamma_d + \sum_{\tau=1997}^{2003} \psi_\tau \cdot Divorce_{p\tau} \cdot D_\tau + \sum_{\tau=2004}^{2014} \psi_\tau \cdot Divorce_{p\tau} \cdot D_\tau + X_{idt} \cdot \psi_1 \\
& + \sum_{\tau=1997}^{2003} \psi_{\tau,t} \cdot Divorce_{p\tau} \cdot D_\tau \cdot \Delta_t + \sum_{\tau=2004}^{2014} \psi_{\tau,t} \cdot Divorce_{p\tau} \cdot D_\tau \cdot \Delta_t \\
& + Divorce_{pt} \cdot \Delta_t \cdot \psi_2 + Divorce_{pt} \cdot X_{idt} \cdot \psi_3 + Divorce_{pt} \cdot \Delta_t \cdot X_{idt} \cdot \psi_4 \\
& + X_{idt} \cdot \Delta_t \cdot \psi_5 + u_{idt}
\end{aligned} \tag{7}
$$

Table A4 column (1) use the first row specification in equation (7) with relative timing. Column (1) result shows that the treatment effect with different timing are significant. However, the estimation result may have potential bias due to contamination from the 'forbidden comparison' of the early and late treated group. In column (2) I included the first and second row specification in equation (7) thus satisfy the assumption of unconditional common trend. Result in column (2) shows that the treatment effect of the 1 period after the policy implementation is significant. Yet, the result may be bias since it violate the common trend assumption if we believe that the common trend is conditional on the covariates. Column (3) includes all of the interaction terms in equation (7) by interacting the covariates with all treatment interaction variables. Result in column (3) shows violation of the conditional common trend assumption and the treatment effects are insignificant in all periods.

Table A4: Event study with staggered policy timing in province level

	Dependent variable: Woman has power		
	Staggered TWFE with potential bias (1)	Staggered TWFE with unconditional common trend (2)	Staggered TWFE with conditional common trend (3)
$Divorce_{p,-3}$	2.655		
	(3.786)		
$Divorce_{p,-2}$	4.410		
	(2.735)		
$Divorce_{p,0}$	12.04**		
	(4.089)		
$Divorce_{p,1}$	15.21***		
	(3.776)		
$Divorce_{p,-3} \cdot \mathbb{1}(t = 1997)$		-3.268**	-15.96
		(1.152)	(9.661)
$Divorce_{p,-2} \cdot \mathbb{1}(t = 1997)$		2.743	-13.54*
		(3.086)	(7.543)
$Divorce_{p,-2} \cdot \mathbb{1}(t = 2000)$		-2.591	-10.17
		(1.869)	(13.01)
$Divorce_{p,0} \cdot \mathbb{1}(t = 2007)$		3.726	-7.383
		(3.292)	(13.40)
$Divorce_{p,0} \cdot \mathbb{1}(t = 2014)$		3.009	1.573
		(1.795)	(10.48)
$Divorce_{p,1} \cdot \mathbb{1}(t = 2014)$		9.096***	6.204
		(2.031)	(21.08)
All non-interaction covariates	✓	✓	✓
Interaction term			
- Lead/Lag with Δ_t		✓	✓
- X_{it} with $Divorce_{pt}$ and/or Δ_t			✓
Obs.	12154	12154	12154
Adj. R2	0.148	0.148	0.151

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes. Column (1) use TWFE in equation 6 with potential violations in common trend assumption and time heterogeneity bias. Column (2) assume common trend in staggered policy timing which is similar to Sun and Abraham (2021) assumptions. Column (3) use Wooldridge (2021)'s recommendation to interact the covariates with the treatment interaction variables.

Since IFLS only have 4 waves with decision making power, I grouped the provinces based on the year when the province level regulation was enacted to examine any heterogeneity in timings and use Cengiz et al. (2019)'s stacked TWFE regression method. Table A5 shows that all the treatment effects are insignificant, as in column (3) in Table A4. The common trend assumption is violated in the stacked regression.

Table A5: Event study with staggered policy timing in province level at 2007

	Dependent variable: Woman has power				
	$\tau = 2004$ (1)	$\tau = 2005$ (2)	$\tau = 2006$ (3)	$\tau = 2007$ (4)	Stacked (5)
- $Divorce_{p,-2}$ (Lead)	2.22	3.92*	5.55	2.75	3.95**
p-val	0.44	0.07	0.44	0.47	0.02
- $Divorce_{p,0}$ (Instantaneous)	19.04	-6.33	0.06	-1.36	7.53
p-val	0.25	0.65	0.88	0.59	0.58
All non-interaction covariates	✓	✓	✓	✓	✓
Interaction term					
- Lead/Lag with Δ_t					✓
- X_{it} with $Divorce_{pt}$ and/or Δ_t					✓
Treatment Obs.	912	3,460	372	552	5,296
Control Obs.	2,881	2,881	2,881	2,881	11524
Adj. R2	0.13	0.12	0.12	0.12	0.14

Notes. column (1) - (4) use TWFE with unconditional common trend comparing each of the early treated group with all the late treated group after 2007. When using the conditional common trend covariates, the coefficients are larger negative and all is not significant. The stacked regression use the conditional common trend covariates because there is concern of the violation the common trend assumption. All of the estimations use wild bootstrap cluster standard error in province level for column (1) - (4) and cluster standard error in province and policy timing groups for column (5). Jakarta and Bali provinces are the treatment group in column (1), South Sumatera, East Java, Central Java and Yogyakarta provinces are the treatment group in column (2), Lampung province is the treatment province in column (3), and North Sumatera province is treated in column (4). All estimations use West Nusa Tenggara, South Kalimantan, West Java, South Sulawesi and West Sumatera as never treated. Wave 5 is removed from the analysis. The analysis need never treated group as comparison thereby provinces which issued regulation after 2007 are used as control group thus could not be analyzed. Furthermore, I dropped wave 5 period since all provinces in IFLS sample is treated by 2014. Accordingly, the estimation could only examine the instantaneous treatment effect and limited to the early treated provinces before 2008.

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