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## The Price of Silence: Marriage Transfers and Women's Attitude Toward Intimate Partner Violence

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# The price of silence: Marriage transfers and women's attitude toward intimate partner violence

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## Abstract

This paper provides evidence about the relationship between marriage transfers and women's opinion on intimate partner violence (IPV) in Jordan. In Middle East countries, the social structure is particularly imbued by patriarchal norms and domestic violence is largely widespread. Marriages are shaped by well-dened customs. In particular, the groom has to offer a so-called *bride-price* to the bride and bride's parents might contribute to marriage costs by endowing her with a set of furniture, called *trousseau*. While women's attitude about IPV arises as a key concern, a lack of knowledge still exists about its association with those transfers. I estimate how women's attitude toward IPV is affected by (i) the *bride-price* amount (ii) the bride's contribution to the marriage costs. After accounting for potential endogeneity, I find that both payments are associated to a positive and significant increase of woman's likelihood to justify IPV. Woman's outside options are affected through the family pressure generated by pre-marital investment and requirement to return the *bride-price* in case of divorce.

J12 J16 D13

*Keywords:* Bride price, marriage assets, gender norms, IPV, Middle East countries

*JEL Classification:* J12, J16, D13.

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# 1 Introduction

Regarding the consequences of the domestic violence on the societies, a recent literature was developed. However, women's opinion on it remains still under questioned. The aim of this paper is to investigate, how women's perception of IPV can be influence by cultural and traditional customs. This cultural dimension is expressed in MENA (Middle East and North Africa) marriage's by the requirement of a bride price payment by the groom to the bride. In addition to this bride price, the marriage generate many expenses (housing, furniture, celebration) and patriarchal norm often encourage men to bear them all. Marriage then becomes the scene of important monetary transfers normed by traditions and customs. I therefore investigate how the amount of marriage transfers participate to influence woman's attitude toward intimate partner violence.

Following the feminist literature, I define the meaning of this violence by distinguish between to different form of domestic violence: "situational couple violence" and "patriarchal terrorism" ([Johnson \(2000\)](#)). The first one is define as all the daily arguments within a couple and which, under the exacerbation of alcohol or nancial diculties, gives rise to violence. The second one is the result of gender-based violence which responds to social and cultural motivations, a gender conict and a need to dominate and control the other gender. This control can be exercised at all levels: social (control of dating), economic (control of resources, expenses), domestic (control of household tasks) and intimate (control of sexuality).

Thus, we distinguish violence that results from personal dispositions within a couple and that can appear regardless to cultural patterns, from violence that results from cultural norms and that is based on mechanisms that are specific to each culture as marital transfers. By focusing on woman's opinion instead of violence occurrence, I believe that responses will capture the results of norms socialisation process [P.Bourdieu \(1972\)](#) instead of men individual predisposition to violence.

Gender norms can be particularly arm full for woman. Developing countries, where societal structure is shape by a patriarchal ideology - "(a) a set of beliefs that legitimizes male power and authority over women in marriage and (b) a set of attitudes or norms supportive of violence against wives who violate, or who are perceived as violating, the ideals of patriarchy" [Naved, Persson \(2010\)](#) - constitutes a challenge for woman status. Middle East countries are characterized by a strong impregnation of this ideology since law and social structure are shape by the requirement that a woman obey to her husband ([Al-Badayneh \(2012\)](#),[Haj-Yahia \(1998\)](#)).

Despite the lack of attention to norms regarding violence against women in those countries some recent qualitative studies present alarming findings. In rural Egyptian area, 80% of women surveyed in some rural area in Egypt said that beatings were common and often justified, particularly if the woman refused to have sex with her spouse ([El-Zanaty et al. \(1995\)](#)). [Oweis et al. \(2009\)](#) estimate from the Jordanian DOS 2003 2006,

that 87% of the woman in the national sample justified wife beating. Haj-Yahia (2000) showed that 68,5 % of the survey respondent justified this violence when the wife do not respect her husband family. In Jordan, and more generally in the Arab world, the marriage is holy and represent the biggest emotional and economic investment of people life. Both husbands, wives and parents invest and expect return in investment. Thus, Jordanian women are constraint by their role of mother even if they work outside the home (Haj-Yahia (2002)) and are pressure to succeed in their domestic roles (Oweis et al. (2009)). Social pressure can be so intense that even if they consider violence to be contrary to religious principals, they justify it in the case where the woman deviates from religious norms and does not comply to her gender role (Gharaibeh, Al-Ma'aitah (2002)).

The aim of this paper is to explore, the effect of amount of the brideprice (mehr) receive by the bride and the value of her participation to marriage costs (housing, furniture, marriage celebration) on her domestic violence acceptance. I estimate this relationship using data on marriage payment and gender attitude from the Jordan Labor Market Panel 2016. I consider a sample of Jordanian woman who were 15 old between 1986 and 2016 giving me an exposure treatment of 30 years old. From the JLMPS 2016 questionnaire, I construct my outcome variable as an indicator taking the value one if the women declare, at least once among six different situations<sup>1</sup>, tolerate a husband beating his wife . I therefore estimate by probit model, my outcome variable on (i) the deflate amount of bride price she received ; (ii) the deflate value of her (parents) participation to the marriage costs.

I explore the robustness of my results to three main treat of endogeneity : measurement error, omitted variable, reverse causality. I first approach consisted on estimate different specification including additional controls. I therefore test for measurement error by including older marriages for which the exposure is greater. I then control for past local characteristic and spouses bargaining power. Finally I change the specification of the model by using other estimation methods and standard errors clustering. Results are robust to the different specifications. The second approach consist on instrumenting the marital transfers by the a stochastic cyclical variation of the per capita GDP a year before marriage as source of exogenous change. I control for the potential undirect correlation by detrending the instrument with an Hodrick Prescott filter and including additional control at the household, local and national level. The exclusion restriction of the instrument is ensured by showing that (i) these variations follow a random walk and cannot be predicted by the parents (ii) there is no empirical correlation between the instrument and the timing of the wedding or the quality of the match. I found a positive association between woman opinion toward IPV and (i) the bride price; (ii) the value of her to the marriage costs. Heterogeneous analysis among women suggest that those two effects are based on different mechanisms. While the effect of bride price on woman's opinion toward IPV concern the most socioeconomic vulnerable woman ; the effect of bride participation to marriage costs on her opinion about IPV is conditioned by the bride's relationship with her parents. Since the bride price must be reimbursed in case the woman

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<sup>1</sup>if she burn the food, waste money, not take care of children, refuse sex, argue with him or talk to another men

requests a divorce, a high value contributes to trapping women in the union and the most vulnerable one, with fewer outside options, are more affected. While bride premarital assets can decrease her outside options since she do not possess property rights over them in case she ask for divorce. Moreover, they can increase family pressure since parental endowment is made to encourage her to have a child faster and are made publicly to increase family social status.

I contribute to the existing literature by three different ways.

First, effect of marriage payments on woman domestic violence have so far been focus on Asian countries and on the payment of a dowry (from the bride family to the groom family) (Bloch, Rao (2002), Srinivasan, Bedi (2007), Naved, Persson (2010)). Few papers focus on the link between bride-price and woman well being Lowes, Nunn (2017) and have been essentially focus on fertility and education.(Ashraf et al. (2016)Mbaye, Wagner (2017)) in Africa. As far as I know, this paper is the first one to provide evidence on the association between bride price and woman's opinion on IPV in a MENA countries. Second, bride participation to the marriage costs haven't give raised to lot of studies. Existing papers focus on parents strategy (Fafchamps, Quisumbing (2005)) and woman intra-household decision Quisumbing, De La Brière (2000) Anderson, Eswaran (2009) in Asia. I therefore contribute to fills a gap in this literature by providing first evidence that pre-marital assets impact her opinion about marital mistreatment. Finally, by analysing the specific context with regard to Islamic divorce and its impact on property rights over marriage transfers, I contribute to the literature on intra-household bargaining model by assessing the role of marital transfers on woman outside's options from the union.

This paper is organised as following :the first section is dedicate to a presentation of a background in marriage and domestic violence in the Arab world, an of the Jordanian culture. In the second section I present the data used and some summary statistics on the main variables. The third section is dedicated to the identification strategy. After identifying the expected effect of marital transfers on woman attitude toward IPV and accounting for the exposure to endogeneity bias, I turn to an heterogeneous analysis in the section 5.

## 2 Background

### 2.1 Marriage in the Arab world.

Marriage and marital relations are particularly shaped by religious requirement in the Arab world. (Rashad et al. (2005)). Marriage represent the turning point of each young people in their life. Sexual practices and reproduction are prohibiting by religion outside marriage. Marriage is therefore the key institution regimenting the formation of a new household since it's the moment where young people move from their parental family

and start living with their partner. In Arab culture, family is a unit and the marriage of a member of it define the reputation and the prestige of the whole family. Normative requirement surrounding marriage can therefore generate pressure for parents, especially regarding female<sup>2</sup> members. Marriage is therefore not only the union of two members, but rather a social and economic contract between two families. The terms of this contract will affect both the bride and groom and their parents.

The marriage process is regulated by Islamic laws “sharia” and parents are the main actors in this decision, especially concerning daughters. In practice, the process is made up of several steps, although some of them can be combined (Salem (2012)). Traditionally, the man and his (restricted) family present themselves to the bride’s family to ask permission to marry her. It is at this time that the terms of the marriage are negotiated. If agreement is reached, families make an informal commitment (*qirayet el fatha*). The rest of the family is invited to a more formal engagement (*khutuba*). Then follows the signature of the contract (*katb al kitaab*) in presence of an Islamic judge (*imam*) and finally the wedding ceremony (*urs*). It is only after all these steps that they can cohabit (*dukhla*) (Gebel, Heyne (2016)).

Islamic marriage contract requires the payment of a bride price (the *mahr*) from the groom to the bride to legalise the marriage. Sharia rules do not determine the amount, a minimum (symbolic) payment is mandatory but there is no upper limit. It’s a fundamental right for wives and remain her property. It can be prompt at the moment of the marriage or deferred at the moment of husband death or repudiation (Martin (2004)). Its aim is to provide her financial independence within the union or a guarantee for her in the event of involuntary separation (Anderson et al. (2017)). On the other hand, in case of desired separation, if she wants to divorce, she must repay this amount (Platteau, Gaspart (2007)). Since marriage is associated with the beginning of the concubine life, it generates other economic transactions and costs. They are represented by the acquisition (or rental) of a new home, its furnishings, and the cost of celebrations. In the Arabic culture, the participation of marriages costs follows a well-defined tradition (Elbadawy, Assaad (2007)). The bride (family) bring to the new union what is called the “trousseau” (mainly housing furniture)<sup>3</sup> and they can marginally participate to marriage celebrations and housing costs. Each part contribution is made public and bride’s parents one is aim to increase her social status Amin, Al-Bassusi (2004).

## 2.2 Domestic violence context

Domestic violence is a particularly challenging issue in this culture as it is supported by Islamic tradition and laws. Overall, Arab culture is particularly impregnated by a patriarchal ideology since the laws and social structure are shaped by the requirement that a woman obey to her husband (Al-Badayneh (2012), Haj-Yahia

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<sup>2</sup>Traditional requirement of virginity before marriage can motivate harmful practices on daughter as early marriage or female genital mutilation in order to save family honour.

<sup>3</sup>generally contains : bedding, cooking facilities, smaller furniture and appliances, clothing and personal items.

(1998)). The legitimacy of domestic violence find itself in the famous Quran verse 4:34<sup>4</sup> who allows a husband to beat his wife if necessary. Although there is still a debate on the meaning of the term "beat"<sup>5</sup>, and on the religious justification for harmful practices<sup>6</sup> domestic violence was recognize as an acceptable tool of discipline (Yount, Li (2009)).

As a result, research shows that women in this region largely justify the use of violence when they do not conform to the prevailing gender norms ; Jordan ( Gharaibeh, Al-Ma'aitah (2002)Al-Badayneh (2012) Oweis et al. (2009)); Palestine ( Haj-Yahia (1998)), Syria (Maziak, Asfar (2003)) and Egypt (Yount, Li (2009)).

Because families in Arab culture are particularly attached to the preservation of reputation, family issues are always handled in a private sphere and violence are never the subject of legal intervention (Rashad et al. (2005)). Hence, in this particular socio-cultural context, women's opinions are the key target and the most relevant approach to domestic violence.

## 2.3 Jordanian context

The Jordanian case is a particularly representative setting of this Arabic issue for which recent data on marital transfers and women's opinion toward violence are available. Jordan is strongly rooted in patriarchal culture and one of the most attached to religious tradition concerning marriage. To provide contextual statistics, I investigate the third wave (2012 - 2014) of the Arab Barometer<sup>7</sup> and find that 80% of the Jordanian population declare that *"country's laws regulating marriage and divorce shall be based on an accurate explanation of the Islamic Shari'a"*. In comparison, the mean response for all Arabic countries is 67.77 % (table 8).

Social structure of the country is shaped by traditional gender roles and men have authority on their spouses and children's. Domestic violence is socially accepted as control and punishment of misbehaviour on women and children. In case of family issue, women's are strongly reprobate if they do not preserve the reputation of the family (Al-Badayneh (2012) ,Al-Badayneh, Abuhejleh (2005)).

The Jordanian jurisdiction is under the religious court<sup>8</sup> and family issues are judge following religious rules.

Although few informations are available on jurisdictional conditions for women in Middle East, a World Bank

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<sup>4</sup>4:34 Quran verse : *"Men are the protectors and maintainers of women, because Allah has given the one more (strength) than the other, and because they support them from their means. Therefore the righteous women are devoutly obedient, and guard in (the husband's) absence what Allah would have them guard. As to those women on whose part ye fear disloyalty and ill-conduct, admonish them (first), (Next), refuse to share their beds, (And last) strike them (lightly); but if they return to obedience, seek not against them Means (of annoyance): For Allah is Most High, great (above you all). If ye fear a breach between them twain, appoint (two) arbiters, one from his family, and the other from hers; if they wish for peace, Allah will cause their reconciliation: For Allah hath full knowledge, and is acquainted with all things"*

<sup>5</sup>Even if the English translation of "daraba" as "strike them" or "beat them" is not recognise as true among all people. According to Laleh Bakhtiar, Edward William Lane's 3,064-page 19th century Arabic-English Lexicon proposes, among the six pages of denitions of "daraba", a denition was "to go far". This translation would be reinforced by the fact that the word "darabtum", which means "to go abroad" in the interest of God, is used in the same Sura (4 :94) and comes from the same basic word (daraba) as "idribuhunna" in Sura 4 :34.(2007). (Bakhtiar, Laleh. *Verse in Koran on beating wife gets a new translation*. *NYTimes.com*)

<sup>6</sup>Islamic religion explicitly prohibit all form of violence that can hurt physically, sexually or emotionally and promote well behave (Al-Badayneh (2012))

<sup>7</sup>The Arab barometer is a national representative survey based on face-to-face interview on politically-relevant attitudes in Middle East and North African countries. The project is a partnership between Princeton University, University of Michigan and the Arab Reform Initiative.

<sup>8</sup>Sharia Courts for Muslims and Ecclesiastical Courts for Christians

study <sup>9</sup> shows that Jordanian women are significantly more subject to case related to marriage issues than men. Among all case reported by women, 41% concern marriage rights (divorce, alimony, child custody and support, inheritance and access to bride price). However, their rights are still under represented since they face strong difficulties to access jurisdictional services as lawyers and court (Prettitore (2013)).

Furthermore, Jordan is the only MENA countries where marriage patterns remains relatively stable and not sensitive to external shock. While we could be concern that the Jordanian marriage market might be influence by historical conflict and migration shocks in this region, recent evidences shows that its not the case (Sieverding et al. (2018)). This is mainly due to the fact that, even if marriage represent a significant expense for young people, specifically in term of housing. The healthy Jordanian housing market can adjust to economic shock more easily than other Arabic housing market. While in Tunisia and Egypt, costs of marriage have significant effect on delaying marriage, it is not the case in Jordan (Assaad et al. (2017) Gebel, Heyne (2016)) .

### 3 Data and descriptive statistics

#### 3.1 Data

My data come from the 2016 round of the Jordanian Labour Market Panel Survey (JLMPS 2016), conducted by the Economic Research Forum (ERF) and the Jordanian Department of Statistics (DoS). This nationally representative survey provides different socio-economics informations at both household and individual levels. It's a Panel survey who follow individuals and household interviewed in 2010. It present the advantage of dedicate a specific section to marriage and woman status. I obtain from it details informations on marriage payments and woman's attitude toward IPV for all ever married woman between 15 and 59 years old. In order to reduce concerns about misreporting, my estimation sample is limited to only Jordanian women who were 15 years old between 1986 and 2016. I obtain a final sample of 2,936 women with 30 years of temporal variation and exposure treatment.

#### Woman attitude toward IPV.

I construct my outcome variable using the following question of the questionnaire:

"Sometimes, disagreements arise between a husband and his wife pertaining to things the wife does. In your opinion, does the husband have the right to hit his wife, or punish her, in any of the following situations?"

Table 1: Caption

Situation described by the questionnaire	
When she burns the food	4.39 %
When she neglects the children	8.54 %
When she argues with him	8.21 %
When she talks to other men	14.14%
When she wastes his money	8.31 %
When she refuses him sex	8.07 %
Say yes to at least one of these questions	15.96 %

<sup>9</sup>Study is based on the Statistical Survey on the Volume of Demand for Legal Aid (LAS) – conducted by the Department of Statistics in 2011.



All the different situations describe a woman non conformity to the patriarchal gender norms. The questionnaire propose a binary response "Yes" or "No". The respective percentage of women saying "yes" for each of the 6 situation is given in the preceding table. I construct the last category "Say yes to at least one of these questions" as a binary variable who takes the value one if she declare "yes" to at least one of the 6 situations listed. 15.96 % of analytic sample declare that a husband has right to beat his one on at least one situation.

### Transfers during the marriage.

Table 2: Caption

Variable	N	Mean	Std.	Min	Max
Percentage of the sample receiving a <i>Bride - Price</i>	2,931	93	25	0	100
Value of the <i>Bride - Price</i> received	2,931	4120	4183	0	47448
Percentage of the sample <i>participating to the marriage costs</i>	2,931	9	28	0	100
Mean share (%) of the total cost payed by bride side	174	22	16	1	70
Mean value of the total cost payed by bride side	174	2519	3107	54	18265
Mean value of the different marriage costs component					
Housing Furniture's	2,898	2834	3346	0	71506
Housing	2,898	3153	8955	0	131993
Celebrations	2,881	2116	2649	0	62114

Note : author calculation. Value in constant Jordanian dinar

Since the bride price is a religious requirement, 93 % of sample declare received one, While 9% declare participate to marriage costs. When they participate, they declare paying 22% percent of the total cost in average which represent 2.519 Jordanian dinars (constant). Information about the value of the different component of the total cost are presented. Finally, the value of the bride price received equal 4.120 Jordanian dinar in mean.

## 3.2 Descriptive statistics

More details information on woman attitude toward IPV are provided [table 9](#) while more details information in marriage payment are provided [table 10](#) and [table 11](#)

[to be developed]

## 4 Identification

### 4.1 Marital transfers effects on women attitude toward IPV

#### A. Bride-Price

The economic analysis of marriage payments highlights two main roles: market clearing price and leg-premortem. The analysis of the bride price falls particularly into the first category. The marriage market brings together individuals competing to attract the best match, whose value is determined by the production potential in the union. Thus, the payment marriage will be the price that will compensate for any imbalances in the initial situation (Becker (1981); Anderson (2007) ) Parent marital investment fall in two possibility. Parents can invest

in children human capital (Chiappori et al. (2009)) or wealth (Peters, Siow (2002)) to attract better match, or can compensate by a higher bride price. (Brandt et al. (2013)). The marriage market particularly values two qualities in a bride: human capital and chastity. ; Gaspart, Platteau (2010) ); Then, recent evidences shows that the value of the bride price is positively associate with woman level of education (Ashraf et al. (2016) Platteau, Gaspart (2007) Lowes, Nunn (2017) Gaspart, Platteau (2010) ). While in the marriage market, the "virginity price" is signaling by family reputation (Hughes (2015), premarital confinement (Rai, Sengupta (2013)) or in some cultures, by practices as female genital cutting (Hombrados, Salgado (2018) Ouedraogo, Koissy-Kpein (2012)) . Moreover, in the Middle East, the bride price is a legal obligation validating the marriage and above all authorizing relations between spouses. It then appears as a counterpart for women's sexual rights. This is further reinforced by the recognition of the "divorce before consumption" by the Jordanian Shariah Court, implying the partial reimbursement of the bride price if the man divorces before consuming the marriage (Hughes (2015)). In Arab culture, the bride receives the payment and not her parents. It remains her entire property (neither her parents nor her husband has rights over it). Since written in the marriage contract, this right is insured by the law and suppose to allow brides to enjoy a greater financial autonomy inside the union Anderson et al. (2017). It is also a form of commitment for the spouses since the bride keeps it in the case where the husband pronounces the divorce, (talaq) but must reimburse it if she is at the initiative of the divorce (khul) . Hence, a higher bride price combine with this reimbursement requirement, can participate to trap women in union ( Lowes, Nunn (2017);Gaspart, Platteau (2010)) .

**B. Bride contribution to marriage costs.** Inter generational transfers to the bride from her parent during marriage is subject to a dual role (Anderson (2007)). Fafchamps, Quisumbing (2005) consider a framework were parents tries to maximise each child endowment during marriage. They provide evidences that, in rural Ethiopia, parents act strategically by increasing pre-marital asset brought to attract better groom. While, Botticini, Siow (2003) and Zhang, Chan (1999) shows that parents transfers to the bride are a leg-premortem to compensate for unequal inheritance rights for daughters. Then, by insuring a form of inheritance rights, parent transfers to daughter has positive outcome on the bride (Makino (2017)). The predominance of a role over another is essentially based on the analysis of property rights (Anderson, Bidner (2015)). Thus, when this transfer is destined to the groom, as its the case for dowry, it may result of a strategic matching behaviour from bride parents. While, when the transfers is suppose to be destined only to the bride, the leg premortem strategy is more relevant. Evidence in Egypt suggest that bride contribution to marriage costs is not a way to attract better match and do not substitute for education investment (Elbadawy, Assaad (2007)). The role of leg-premortem is primary important in our context Arab daughters are disadvantaged compared to sons in terms of family heritage and do not access to family patrimony (in Arab culture, it is common for son to move in with his bride in his family house while the daughter move into her husband family house (Assaad, Krafft (2015) ; Clark et al.

(2010) ; Tur-Prats (2015)). Recent evidences support that pre-marital assets brought by spouses are not pooled (rejecting the unitary model) but act as distribution factor and participate to determine each spouse bargaining power within the marriage. (Quisumbing, Maluccio (2003) Anderson, Eswaran (2009)). Then previous finding show that premarital assets effect positively woman empowerment in Bangladesh by increasing her autonomy and decision power on household expenditure) ( Anderson, Eswaran (2009) , ?. However, the cultural context has shown to be determinant and different results have been found in Ethiopia (Quisumbing, Maluccio (2003)). moreover, the positive relationship between these assets and women’s bargaining power is essentially based on the assumption that they retain control over them within and outside the union and that this positively affects their threat point (Fafchamps, Quisumbing (2002)). Marriage in Middle east are characterized by two essential distinction. First, parent endowment for the bride do not results (only) from an altruistic behaviour to compensate for daughters’ rights. Since marriage of a daughter being an essential part of a family’s reputation, the assets brought are: (i) a way for parents to increase their social status (ii) a way to ensure the reproductive functions of the daughter (Amin, Al-Bassusi (2004)). Thus, the assets brought by the bride are made public (in some areas, assets are put in a car and driven around the village to be publicly exhibited) and are intended to send a signal. Moreover, by participating in the costs of the new home, these transfers are supposed to allow the bride to access the parenthood more easily and thus to accelerate the woman’s production<sup>10</sup>. Second, in the case where the women is asking for divorce without her husband consent (khul), since she is consider as responsible for the union failure, she has leaves furnitures and assets brought whith her (Fortier (2012) ). Then, assets brought by the bride do not necessarily impact her threat point and can contribute to increasing parental pressure for the bride

## 4.2 Econometric specification

### 4.2.1 Baseline model

I first estimate correlations between woman attitude toward IPV and marital transfers using a probit model.

I estimate by maximum likelihood the following baseline model :

$$\begin{cases} IPV_{igt}^* = \beta_1 MT_{igt} + \beta_2 C_{igt} + \beta_3 Year_t + \beta_4 Gov_g + \beta_5 Reg_{ig} + \epsilon_{igt} \\ \text{with } IPV_{igt} = 1 \text{ if } IPV_{igt}^* > 0 \text{ and } = 0 \text{ otherwise} \end{cases} \quad (1)$$

$i$  indicates the individual under study, living in the  $g$  governorate and married the  $t$  year ,  $MT$  is either the amount of *brideprice* received by the Bride, or the *bride and/or her family to the marriage costs* (furnitures, marriage celebration, housing costs).  $HH$  is a vector of covariates that include : Woman and man age at first marriage, number of alive daughters and sons, number of dead children, the education level of the

<sup>10</sup>Anderson, Eswaran (2009) shows that, unlike earned income, unearned income do not diverts woman time away from public good production and then they affect differently spouses utilities.

woman and the husband's highest educated parent and the household quintile of wealth.

In addition, I control for unobservable time-invariant area level characteristics and national trends in social norms through the inclusion of governorates<sup>11</sup> fixed effects (**Gov**) ; Region<sup>12</sup> fixed effects (**Reg**) and Years of marriage fixed effects (**Year**). Standard error are clustered at the governorate level.

Table 3: Probit estimation of woman attitude toward IPV on marriage transfers (Selected covariates).

<b>Estimation of the association between the <i>Bride-price</i> and woman attitude toward IPV</b>					
	(1)	(2)	(3)	(4)	(5)
Brideprice	0.00352** (0.00162)	0.00369** (0.00169)	0.00371** (0.00169)	0.00421** (0.00179)	0.00462*** (0.00179)
Observations	2,931	2,931	2,931	2,611	2,611
Baseline covariates	✓	✓	✓	✓	✓
Edu/Work covariates		✓	✓	✓	✓
Union covariates			✓	✓	✓
Past-local Sex-ratio				✓	✓
Past-local Hotel construction					✓

  

<b>Estimation of the association between the <i>Bride participation to marriage costs</i> and woman attitude toward IPV</b>					
	(1)	(2)	(3)	(4)	(5)
Bride Part to MC	0.0264*** (0.00713)	0.0264*** (0.00724)	0.0263*** (0.00723)	0.0273*** (0.00752)	0.0273*** (0.00751)
Observations	2,856	2,856	2,856	2,536	2,536
Baseline covariates	✓	✓	✓	✓	✓
Edu/Work covariates		✓	✓	✓	✓
Union covariates			✓	✓	✓
Past-local Sex-ratio				✓	✓
Past-local Hotel construction					✓

Note : Coefficient are marginal effects. *Baseline covariates* include woman and man age at first marriage, number of alive daughters and sons, number of dead children, the education level of the woman and the husband's highest educated parent and the household quintile of wealth. All regressions control for governorates, year of marriage and region fixed effects. Standard error are clustered at the year of marriage level.

Edu/work covariates : the woman and husband level of education, if the woman was working before marriage, if the spouses are blood relatives, if they are living in a nuclear arrangement. Sex ratio : Number of female over number of male, by cohort of 5 years, at the governorate level, before the marriage. Source : JDOS, Population census 1994, 2004, 2015. Percentage of hotels : Number of hotels over housing unit by year of laying fundamentals and governorates. JDOS, Population and housing census 2015 at the governorate level.

Table [table 3](#) provide the results of this model estimation. Two main results are that a (i) higher bride price affect positively the probability of women acceptance of domestic violence (i) A higher bride participation to marriage costs is positively associated to women acceptance of domestic violence.

<sup>11</sup>Governorates are : Amman, Balqa, Zarqa, Madaba, Irbid, Mafraq, Jarash, Ajloun, Karak, Tafleeh, Ma'an, Aqaba

<sup>12</sup>Urban or rural

### 4.2.2 Threat of endogeneity

As I mention it previously, the identification of the baseline model is threaten by statistical endogeneity that does not allow me to affirm a causal relationship. I therefore discuss the exposition of my model to three main source of bias in empirical application : measurement errors, simultaneity bias, and omitted variables. I therefore consider two different strategy to contain this threat. A first strategy will consist in implementing different specification aiming to reduce the potential threat. The second one consist in estimate an instrumental variable model.

Due to the retrospective nature of the survey, a first concern can arise concerning a potential measurement bias. However, in that study, given the symbolic and economic importance of those payments, the risk of recalling bias is likely to be contained by the fact that the respondents will remember it precisely. Bloch, Rao (2002).

I nevertheless test the sensitivity of my results on measurement error by implementing alternative specifications with different sample restrictions on women ages and nationality. Table 13 shows results of the estimation of the baseline model on women who were 15 years old between : 1970 - 2016 ; 1975 - 2016 ; 1980- 2016; 1985- 2016; 1990- 2016; 1995- 2016; 2000 - 2016. The subsequently restriction on older marriage do not changes results and indicate that overall, the results are not driven by measurement errors.

In this particular context, we questioned woman's preferences after they having been married for several years. Hence, the amount of marital transfers is already observable when they reveal their preferences for domestic violence. Since marriage occur only after the payment, individual preference for domestic violence is unknown at the moment of marriage negotiation. Furthermore, in Jordanian culture, decisions related to marriage are mainly made by parents, specifically regarding girls. Hence, brides have little say in the amount of marital transfers negotiates by the parents which contain the threat of reverse causality is unlikely.

However, parent's negotiation is based on their respective child's socioeconomic characteristics before the marriage. Since this later one can affect woman's preferences after the union, not controlling for it can lead to a bias. They consist in all characteristics that define the bride and the groom social status. I include available informations in the database at the individual level to proxy for them. I also include indicators at the governorate level since the amount of marital transfers might be correlated with local characteristics that have long term impact on the perpetuation and diffusion of patriarchal ideology.

I address this threat by including a set of variable that proxy for the bargaining power of the spouses at the moment of the marriage. I regroup those variable into three different set :

**Individuals characteristics:** the woman's and husband's level of education, an indicator if the woman was

working before the marriage ;

**Marriage characteristics:** an indicator for whether it is a kin marriage, and an indicator for whether the couple lived apart from parents when rst married ;

**Past local characteristics:** the sex ratio<sup>13</sup>, and as proxy of economic development, the percentage of hotels<sup>14</sup> at the governorate level.

Results of the subsequential inclusion of those set of additional covariates are provided [table 3](#) . Albeit marginal values become more positive, confirming suspicion of downward bias, results validate the consistency of the association between the marital transfers and woman’s attitude about IPV.

### 4.3 Instrumentation

Despite this additional control , it is still likely that unobservable heterogeneity contain in the error term of the equation 1 is correlated with right hand variables. I therefore turn to an instrumental variable strategy as final robustness. I decide to rely on short term variation of the de-trended GDP per capita<sup>15</sup>, a year before the marriage as exogenous source of marriage payment variation.

#### 4.3.1 Selection of the instrument

This requires an instrument that will capture variation on marriage payments at the time of the marriage but not correlated with women’s opinion on domestic violence at the time of the survey or any other aspects of the marriage market that can effect it. I follow the recent economic literature showing that marriage payments are mainly driven by incomes shocks ([Bhalotra et al. \(2018\)](#) [Corno et al. \(2017\)](#) ). Jordanian economy is among the smallest in Middle East and does not possess many natural resources such as agriculture or oil, which implies that a natural resource shock is not a relevant instrument in this study.

I therefore decide to use the stochastic cyclical component of the GDP per capita, lagged by a year, to capture income shocks that affects the amount of payments at the marriage moment.

My instrument is define as following :  $SC_t = GDP_t - DT_t$  where  $GDP_t$  is the constant GDP per capita the year of marriage  $DT_t$  is a deterministic trend and  $SC_t$  is the stochastic cyclical component. This decomposition is obtain by a trend-cycle decomposition using the Hodrick lter Prescott lter with as smoothing parameter of 100<sup>16</sup>.

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<sup>13</sup>Sex ratio : Number of female over number of male, by cohort of 5 years, at the governorate level, before the marriage. Source : JDOS, Population census 1994, 2004, 2015

<sup>14</sup>Percentage of hotels : Number of hotels over housing unit by year of laying fundamentals and governorates. JDOS, Population and housing census 2015

<sup>15</sup>(GDP per capita (constant LCU). Source : World development indicator)

<sup>16</sup>Results are robust to a change of the smoothing parameter value

### 4.3.2 Exclusion restriction

The validity of the instrument is asset by two properties of the instrument. First, by using national level indicator I prevent risks of correlation with individual preferences for domestic violence. For that reason, a recent literature on domestic violence have been using national level indicator as instrument for individual incomes variation. (Anderberg et al. (2015) Aizer (2010)).

Second, to avoid indirect effect through other aspect of marriage, I rely on the stochastic nature of the instrument as an unpredictable shock and I lagged it to reduce concerns about simultaneity. From a perspective where parents act strategically and smooth their consumption over time, an income shock could influence the timing of the marriage or the quality of the match. Due to its stochastic nature, the value of the instrument cannot be predicted by the parents at the moment of the marriage arrangement. Therefore it is unlikely that it has impacted the conditions of marriage market.

I empirically test the properties of my instrument via two approaches. First, I perform an Augmented Dickey Fuller and an DF-GLS test for unit root and confirm that the instrument follows a random walk with drift. (Table 17). In simple words, at each point in time,  $SC_t$  takes a random step away from its last recorded position. This implies that the future value cannot be forecast and that parents decision regarding future are based only on the current value.

Second, I test and found no significant correlation between the instrument and different indicators of marriage timing and marriage matching patterns. The different indicator of marriage timing are woman and her husband age at marriage, age at marriage squared, the duration between the between the formal engagement and the legal marriage (month) and the duration between the legal marriage and the actual marriage (month). (Table 15). Different indicator of matching patterns are the educational difference between spouse (in years of schooling), the age difference between them, the squared age difference and squared educational difference. (Table 16).

### 4.3.3 Instrumental estimation

I estimate simultaneously the following structural model by maximum likelihood

$$\left\{ \begin{array}{l} IPV_{igt}^* = \phi_1 MT_{igt} + \phi_2 C_{igt} + \phi_3 Years_{igt} + \phi_4 Gov_g + \phi_5 Reg_{ig} + v_{igt} \\ \text{with } IPV_{igt} = 1 \text{ if } IPV_{igt}^* > 0 \text{ and } = 0 \text{ otherwise} \\ MT_{igt} = \gamma_1 SC_{t_1} + \gamma_2 C_{igt} + \gamma_3 Years_{igt} + \gamma_4 Gov_g + \gamma_5 Reg_{ig} + \mu_{igt} \end{array} \right. \quad (2)$$

where the structural equation characterize the same relation that the baseline model. The reduce form equation explains the variation of the marital transfer (Bride price or Bride participation to marriage costs) by the instrument  $SC_t$  and the same set of covariates that the outcome equation.<sup>17</sup> I finally perform a Wald test of

<sup>17</sup>The right hand equation include : (i) the marriage transfer (bride price or bride participation to marriage costs) (ii) Woman and man age at first marriage, number of alive daughters and sons, number of dead children, the education level of the woman and the

exogeneity, obtain by testing the independence between the two equation  $COV(v_{igt}, \mu_{igt}) = \rho$  with the null hypothesis  $H_0 : \rho = 0$ .

Table 4 present the results of first and second stage of the IV-Probit estimation of woman attitude toward IPV on marriage transfers. Additional specifications are presented and include the same set of additional covariates defined for the baseline model. The selected covariates controls for spouses relative bargaining power and norms prevailing at the moment of marriage at the individual, governorate and national level. The national level covariates are the net migration, the level of male unemployment and the remittance (Source : World development indicator).

Table 4: IV-Probit estimation of woman attitude toward IPV on marriage transfers (coefficients)

	Independent variable = Attitude toward IPV					
	(1)	(2)	(3)	(4)	(5)	(6)
Bride price	0.116** (0.0496)	0.124** (0.0535)	0.138** (0.0586)			
Bride Part to MC				0.996*** (0.137)	1.009*** (0.135)	0.782*** (0.257)
Observations	2,842	2,842	2,589	2,767	2,767	2,514
Baseline covariates	✓	✓	✓	✓	✓	✓
Edu/work and union covariates		✓	✓		✓	✓
Past local and national conditions			✓			✓
<i>First stage</i>						
Stochastic cyclical GDP	0.00571*** (0.00143)	0.00545*** (0.00144)	0.00551*** (0.00179)	0.000311** (0.000147)	0.000298* (0.000155)	0.000787*** (0.000265)
Wald test of exogeneity ( $\rho = 0$ )( $\chi^2$ )	3.47*	3.38*	2.81*	6.56**	6.14**	2.70
$\rho$	-0.359	-0.383	-0.413	-0.906	-0.919	-0.684
F-stat	121.63***	2966.98***	429.50***	69.55***	2634.83***	226.42***

Note :  $\rho$  indicate the correlation between the unobserved characteristics of the two equations. A significant Wald test determines the choice of the IV-probit over the simple probit model. Otherwise, a regular probit might be more appropriate. Li (2002)

Baseline covariates referred to the [baseline model](#) . All regressions control for governorates, number of years of marriage and region fixed effects. Standard error are clustered at the year of marriage level. Instrument is lagged a year before the marriage.

The results of the second stage confirm the results of the probit estimation. Both payment have positive effect on women attitude toward IPV. Wald test of exogeneity confirm the independence between the two structural equations. The results of the first stage suggest that the short term variation of the GDP around his trend has a positive and significant impact in marriage transfers. All the F-stat are obtained from a linear approximation by 2LSL and passed Stock-Yogo critical values 2 confirming the relevance of the instrument as not a weak instrument.

husband's highest educated parent and the household quintile of wealth (iii) governorate and region fixed effect. I substitute years of marriage fixed effect by the number of marriage years  $Years_{igt}$  to reduce concern about multicollinearity with the instrument.



#### 4.4 Additional robustness

I finally test the robustness of the baseline and instrumental model on different estimations changes.

I first test the robustness of my baseline results after controlling for past local condition prevailing at time of marriage in (1) and (2) by re-estimate them with different estimations methods [Table 13](#). I first use a Tobit model who allow me to take into account the percentage of zero of my marriage payments in (3) and (4). I then construct a counting variables recording the number of situation the women justified the IPV and use a Poisson model in (5) and (6) and OLS model in (7) and (8) . I report the marginal effects for the Tobit and Poisson regression. Coefficient of the OLS can be interpreted as marginal effects. Result's in confirm the Probit one's a show's a positive and significant correlation between marriage payments and women's attitude.

In order to improve accounting for within-group dependence in estimating standard errors, I clustered the standard error by year of marriage and since the number of cluster is enough large, this approach provide heteroskedastic standard error. As robustness I first, cluster also by governorate the standard error of specification (1) et (2) [Table 14](#). Regarding the few number of governorate, I follow [Cameron et al. \(2008\)](#) and use cluster bootstrap standard error at the years of marriage and governorate in specification (3) and (4). I add the quintile of level as supplementary level of clustering and bootstrap in specification (5) and (6). Bootstrap are based on 800 replications. Unsurprisingly changes in standard errors are minimal.

In the same way, I re-estimate the structural IV model by different estimator [Table 18](#). (1) and (2) are the model estimated by 2SLS ; (3) and (4) are estimateed by IV-Tobit ; (5) and (6) are estimated by IV-Poisson. I also change the value of HP filter smoothing parameter using to remove the deterministic trend from the GDP per capita. Specification (7) to (10) are IV-Probit estimation with an instrument obtain by a smoothing value of 25 or 500.

Finally, I estimate the IV - Probit on different sub-sample including different time period before and after the Gulf War that cause a drop of the GDP . The results of the IV-Probit on the selected period : 1975 - 2016 ; 1980 - 2016 ; 1985 - 2016 ; 1990 - 2016 ; 1995 - 2016 are presented [Table 19](#) and that conflicts in the region have not impacted the relationship between short-term variations in GDP and marriage payment.

## 5 Heterogeneous effects and discussion

### 5.1 Heterogenous effects

This section is dedicated to the analysis of heterogeneous effect among women. I therefore interacted my marital transfer with the characteristic I want to explore. This allow me to analyse the effects of marriage payment on different sub-groups. I estimate the following model :

$$\left\{ \begin{array}{l} IPV_{igt}^* = \beta_1 MT_{igt} X \Pi_{igt} + \beta_2 MT_{igt} X (1 - \Pi_{igt}) + \beta_3 C_{igt} + \beta_4 Year_t + \beta_5 Gov_g + \beta_6 Reg_{ig} + \epsilon_{igt} \\ \text{with } IPV_{igt} = 1 \text{ if } IPV_{igt}^* > 0 \text{ and } = 0 \text{ otherwise} \end{array} \right. \quad (3)$$

where  $\Pi$  is the characteristics that divides different sub-groups of women. I distinguish three different set of characteristics allowing me to proxy for ; woman pre-marital investment ; woman pre-marriage bargaining and woman post-marriage bargaining.

*Woman pre-marital investment* is proxy by her level of education and a set of categorical variables indicate if : she declare being in a good health, she has been married later than the women local mean, she is the first daughter among her siblings, she is the eldest among her siblings, if the marriage payment received at the time of marriage is higher than the local mean (Table 5) . *Pre-marriage bargaining* is proxy by her mother level of education, a set of categorical variables indicate if : she is married to a blood relative, she leaves in a nuclear arrangement, she was working before marriage. Age difference between spouses and years of schooling difference between spouse are indicate as continuous variables (Table 6). *Post-marriage bargaining* is proxy by an indicator of decision making taking the value one if she declare not needing permission to go outside home in one of the following situation : Local market; Going to the doctor for treatment; Bringing children to the doctor; Visiting home of relatives, friends, or neighbors. Other categorical variables takes the value one if she declare yes to the following questions : Are you afraid of disagreeing with husband/father/brother ; Do you have ready access to HH money to use ; Do you have savings or personal property ; Any family close enough to visit and return in same day? (Table 7) .

**Education, health and marriage timing.** Results (Table 5 ) suggests that correlation between the bride price and woman attitude toward IPV hold only for more educated women. Considering that more educated woman receive a significant higher bride price (Table 11) confirm that a higher bride price participate to trap women in the union Platteau, Gaspard (2007). Health condition and marriage timing condition the relationship of the bride price on woman attitude, affecting only more vulnerable women. While the effect of bride pre-marital assets is overall not distinct among different subgroup of women.

**Woman birth order.** Woman birth order condition significantly the relationship between the bride pre-marital

assets and woman attitude([Table 5](#)). The relationship became not significant and negative among the eldest or first daughter while being significant and positive if not. One explanation could be that parent investment represents a higher burden when they already had to invest in an older child marriage. In the same way, the bride price only has an effect on the first daughters. They might feel greater pressure to divorce knowing that their parents had to support the marriage of younger siblings.

**Comparison with the local standard.** The relation ship between the premarital asset hold only for woman receiving a higher value than the local mean([Table 5](#)). Here, comparing the marriage transfers to the local mean highlight the importance of social signaling and suggest that this relationship is based on family pressure around reputation.

**Woman mother’s level of education.** By conditioning woman outsidess options, woman mother’s level of education determine the effect of the bride price on woman attitude toward IPV([Table 6](#)). Hence, bride price is negatively correlated to woman attitude among woman with high educated mother. By the same way, the effect of both type of marriage transfers concern women who didn’t had access to labor market before the union and then have less outsidess options.

**Type of marriage arrangement.** Living in a non-nuclear arrangement offsets the effect of marriage payment([Table 6](#)). this can be explained in part by the fact that, by living with her in-laws, the bride participates in the domestic production, which increases her value ([Tur-Prats \(2015\)](#) [Clark et al. \(2010\)](#)). With regard to the nature of the spouses relationship before the marriage, marrying a relative does not change the relationship concerning premarital investment but cancels the relationship with the bride price. Consanguinity (being married to a relative) is common in MENA countries and is mainly explained as a way to decrease uncertainty around the characteristics of the spouse ( [Casterline, El-Zeini \(2003\)](#)) and participate to reduce women’s exposure to domestic violence ([Hoodfar \(1997\)](#)) Thus, by choosing a husband from within the same family, the risks associated with the failure of the union are contained as the effect of the bride price.

**Woman empowerment inside the union.** Here, we can clearly see that woman empowerment inside the union impact directly the relation between the bride price and woman attitude([Table 7](#)). When women enjoy a freedom of decision, are not afraid of male and have access to the household money, the coefficient appear not significant, or even negative and significant. Effect of pre-marital investment hold only among woman (i) not having savings or personal property suggesting the value of this parental investment as possible leg premortem (ii) having family close suggesting that the bride can’t act without it affecting her family’s reputation in the surrounding neighbourhoods.

## 5.2 Concluding remarks

[Temporary]

This paper aimed to test the effects of marital transfers on women attitudes toward IPV. By using the JLPMS 2016 survey, I measure woman attitude as she tolerates a man beating his wife in 6 different contexts. I focused on the bride-price she receives at the moment of the marriage and her (and her parents) contribution to the marriage's costs. I found a positive association between both kind of payments and women attitude toward IPV. Not considering the threat of endogeneity may lead to a bias in results estimate. I therefore discuss how the three main source of bias in the literature may affects my results : (i) I test the sensitivity of my results on a possible measurement errors ; (ii) I discuss how this specific setup is unlikely to suffer from reverse causality ; (iii) I accounted for omitted variable concern by controlling for household, union and local characteristic that can affect bargaining power of spouses. I finally turn to an instrumental variable strategy where I use the short-term deviation of the GDP per capital, from his long-term trend, a year before the marriage, as exogenous source of variation. I show that my instrument is unlikely to affect other patterns on the Jordanian marriage market and I control for potential omitted trend and variables. Results are consistent after several robustness test.

The heterogeneous analysis highlights two different mechanisms through which women are affected. The effect of bride price on women attitude toward IPV occurs particularly among the most vulnerable ones, having lower outside options. This is explained by the fact that, since the bride price must be return in case of divorce, women other outside options will determine entirely the capability of woman to leave the union in case of mistreatment. While, the bride participation to marriage costs generate higher social and family pressure for the bride since she cannot keep them in case she ask for divorce and will make ineffective the parents investment (in order to encourage her success in the union by increasing her reproduction (children) and publicly increasing the prestige of the family.)

## **6 Tables**

### **6.1 Tables : Heterogeneous effects**

Table 5: Probit estimation of attitude toward IPV on marriage payment interacted with indicator of parental pre-marital investment

VARIABLES	Independent variable = attitude toward IPV. Dependant variable = Marriage transfer interacted with indicator of indicator of parental pre-marital investment												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
	Bride-Price	Bride-Part	Bride-Price	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part
Woman level of education=Illiterate	0.0104 (0.0104)	-0.0241 (0.0661)											
Basic	0.00414 (0.00316)	0.0345** (0.0137)											
Secondary	0.00294 (0.00283)	0.0188 (0.0129)											
Univ	0.00324* (0.00165)	0.0270*** (0.00969)											
Goodhealth = 0			0.00555** (0.00252)	0.0264*** (0.00943)									
Goodhealth = 1			0.00223 (0.00191)	0.0266*** (0.00804)									
Age at marriage < local mean					0.00421** (0.00197)	0.0366*** (0.00877)							
Age at marriage > local mean					0.00300 (0.00187)	0.0203** (0.0102)							
0bn.firstdaughter = 0							0.00248 (0.00224)	0.0295*** (0.00774)					
1.firstdaughter = 1							0.00598** (0.00257)	0.0185 (0.0139)					
0bn.firstsibling = 0									0.00332* (0.00182)	0.0292*** (0.00768)			
1.firstsibling = 1									0.00560 (0.00342)	-0.00217 (0.0178)			
Marriage payment < local mean											-0.00348 (0.00498)	0.0385 (0.0958)	
Marriage payment > local mean											0.00272 (0.00177)	0.0265*** (0.00719)	
Observations	2,931	2,856	2,931	2,856	2,931	2,856	2,931	2,856	2,931	2,856	2,931	2,856	2,856

Note. Coefficient are marginal effects. All specifications control for the [baseline](#) model covariates. Governorate, year of marriage and region fixed effect are include. Standard error are clustered at the year of marriage level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1  
The local mean age at marriage is calculated as the mean age at marriage, for woman the same 5 years cohort age and governorate. The local mean marriage payment is the mean value of marriage payment the year of woman marriage by governorate.

Table 6: Probit estimation of attitude toward IPV on marriage payment interacted with *indicator pre-marital bargaining power*

VARIABLES	Independent variable = attitude toward IPV. Dependent variable = Marriage transfer interacted with indicator of <i>indicator pre-marital bargaining power</i>											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part
edu_mother = edu_mothe	0.00366 (0.00234)	0.0137 (0.0112)										
edu_mother = basic	0.00483** (0.00201)	0.0284*** (0.00788)										
edu_mother = secondary	0.00173 (0.00219)	0.0294* (0.0177)										
edu_mother = univ	-0.0137*** (0.00424)											
nuclear=no			0.00550 (0.00418)	0.0122 (0.0721)								
nuclear=yes			0.00345** (0.00162)	0.0267*** (0.00709)								
consang=no					0.00362** (0.00160)	0.0278*** (0.00816)						
consang=yes					0.00337 (0.00272)	0.0215** (0.00982)						
workbeforemarriage = no							0.00383** (0.00179)	0.0322*** (0.00685)				
workbeforemarriage = yes							0.00172 (0.00268)	0.0110 (0.0138)				
c.marriagetransfers#c.diff_age_spouse									0.000834 (0.000638)	0.0130** (0.00580)		
c.marriagetransfers#c.diffyrschlsponse											-0.000463 (0.00149)	-0.0112 (0.0132)
Observations	2,931	2,855	2,931	2,856	2,931	2,856	2,931	2,856	2,931	2,856	2,931	2,856

Note. Coefficient are marginal effects, except specification (10) to (12). All specifications control for the [baseline](#) model covariates. Governorate, year of marriage and region fixed effect are include. Standard error are clustered at the year of marriage level.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 7: Probit estimation of attitude toward IPV on marriage payment interacted with *indicator post-marital bargaining power*

VARIABLES	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)		
	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	Bride-Price	Bride-Part	
no needperm=no	-0.00639 (0.00904)	0.0385*** (0.0106)																			
no needperm =yes	0.00358** (0.00163)	0.0260*** (0.00699)																			
afraidofmale = yes			0.0178*** (0.00275)	0.0477*** (0.0120)																	
afraidofmale = no			-0.00411** (0.00167)	0.0196** (0.00834)																	
accestoHHmoney = yes					0.00296 (0.00260)	0.0286*** (0.0108)															
accestoHHmoney = no					0.00394** (0.00171)	0.0256*** (0.00959)															
savings = yes									0.00581** (0.00286)	0.0165 (0.0122)											
savings = no									0.00328** (0.00163)	0.0322*** (0.00667)											
notisolate = yes											0.00290* (0.00174)	0.0305*** (0.00822)									
notisolate = no											0.00587** (0.00279)	0.0165 (0.0110)									
Observations	2,931	2,856	2,928	2,853	2,931	2,856	2,931	2,856	2,931	2,856	2,931	2,856	2,931	2,931	2,856	2,931	2,856	2,931	2,856	2,931	2,856

Note. Coefficient are marginal effects. All specifications control for the [baseline](#) model covariates. Governorate, year of marriage and region fixed effect are include.

Standard error are clustered at the year of marriage level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

no needperm = indicator take the value if she declare NOT need permission to go outside home in one of the following situation : Local market; Going to the doctor for treatment; Bringing children to the doctor; Visiting home of relatives, friends, or neighbors. afraidofmale = Are you afraid of disagreeing with husband/father/brother. accestoHHmoney = Do you have ready access to HH money to use? savings= Do you have savings or personal property. Notisolate = Any family close enough to visit and return in same day?

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## 8 Appendix

### 8.1 Descriptive statistics

Table 8: Descriptive statistics from the Arabarometer survey on Islamic law and marriage.

“Which of the following describe your position in regards of our country’s laws regulating marriage and divorce?”				
Country	“Shall be based on an accurate explanation of the Islamic Shari’a”	“Shall confer the current debates on the best understanding of Islamic Shari’a”	Based on civil law without any mention of the Islamic Shari’a”	Total
Egypt	82.83 %	12.83	4.33	100 %
Jordan	79.98	17.53	2.49	100 %
Palestine	77.74	15.38	5.07	100 %
Algeria	77.54	19.34	3.11	100 %
Libya	74.72	17.28	4.32	100 %
Iraq	71.54	24.39	4.07	100 %
Sudan	71.00	26.17	2.67	100 %
morocco	70.13	25.40	4.11	100 %
Total	67.77	22.29	7.39	100 %
Yemen	61.17	32.83	6.00	100 %
Kuwait	60.51	34.77	4.72	100 %
Tunisia	47.91	26.54	25.54	100 %
Lebanon	30.67	19.67	24.33	100 %

Source: Author’s calculations from Arab Barometer III

**8.1.1 Descriptive statistics on the analytic sample. Summary statistics on woman characteristics by response to the independent variable (attitude toward IPV).**

Table 9: Descriptive statistics on woman attitude toward IPV

Violence justified	Never	Once	P-value	Violence justified	Never	Once	P-value
<b>Woman's level of educ</b>				<b>Husband's level of educ</b>			
Illiterate	4.2	6.1	0.105	Illiterate	46	64	0.152
Basic	41.3	43	0.552	Basic	54.5	52.6	0.520
(Post) Secondary	26.6	22.5	0.115	(Post) Secondary	22.6	20.2	0.323
University	28	28.4	0.887	University	18.3	20.8	0.278
<b>Mother's level of educ</b>				<b>Father's level of educ</b>			
Illiterate	40.7	40.4	0.904	Illiterate	25.2	24	0.645
Basic	42.6	45.9	0.256	Basic	52.1	54.1	0.495
(Post) Secondary	15.2	12.6	0.207	(Post) Secondary	16	16.4	0.880
University	1.5	1.2	0.640	University	6.7	5.6	0.425
<b>Woman's characteristics</b>				<b>Spouse's characteristics</b>			
General Health	1.25	1.28	0.374	Woman age at first marriage	21.7	21.7	0.907
Work before marriage	10.8	12.6	0.346	Husband age at first marriage	26.8	26.6	0.463
Ever worked	17.2	16.1	0.610	Age spouses difference	5.54	5.29	0.339
Woman bird order	4.54	4.74	0.285	Spouses are relative (=1)	27.9	26	0.483
Woman bird order among sisters	2.87	2.85	0.872	Nuclear arrangement (=1)	86.8	88.6	0.360
<b>Quintile of household wealth</b>				<b>Household characteristics</b>			
First quintile	12.4	12.3	0.936	Number of alive sons	1.05	.933	0.049
Second quintile	17.8	19.3	0.500	Number of alive daughters	.994	.982	0.852
Third quintile	24.8	26	0.638	Number of dead children	.015	.041	0.003
Fourth quintile	27.6	26.6	0.708	Number of years of marriage	5.77	5.44	0.218
Fifth quintile	17.4	15.8	0.475				

Source: Author's calculations.

T-tests is a simple test on the equality of means between the two respondent groups. General Health is declare as : 1. very good 2. good 3. fair 4. bad 5. very bad. Spouses are relative = 1 if spouses are blood relative.

### 8.1.2 Descriptive statistics on the analytic sample. Summary statistics on marriage transfers

Table 10: Descriptive statistics on the % receiving the marriage payment, by socio-economic characteristics. (Categorical variable)

Characteristic (c)	% receiving a Bride price			% participating to marriage costs		
	% if c=0	% if c=1	T-Test	% if c=0	% if c=1	T-Test
Woman level of education						
Woman level of education = illiterate	93.6	88.1	0.006	8.7	8.7	0.875
= Basic	93.5	93	0.555	9.9	9.9	0.006
= Secondary	93.3	93.1	0.861	8.3	8.3	0.296
= Univ	92.7	95.2	0.018	8	8	0.027
edu_father_dum1	93.3	93.1	0.836	8.9	8.9	0.548
edu_father_dum2	93.7	92.9	0.423	9.4	9.4	0.178
edu_father_dum3	93.1	94.2	0.427	8.4	8.4	0.145
edu_father_dum4	93.2	95.1	0.332	8.4	8.4	0.053
edu_hsb_dum1	93.1	96	0.178	8.8	8.8	0.242
edu_hsb_dum2	93.7	92.9	0.375	9.4	9.4	0.222
edu_hsb_dum3	93.4	92.9	0.683	8.5	8.5	0.551
edu_hsb_dum4	93.1	94.2	0.389	8.3	8.3	0.099
edu_mother_dum1	94.9	91.5	0.000	8.5	8.5	0.799
edu_mother_dum2	92.2	94.9	0.005	9	9	0.491
edu_mother_dum3	92.9	96.1	0.030	8.5	8.5	0.504
edu_mother_dum4	93.4	85.7	0.072	8.7	8.7	0.984
qwealth_dum1	93.2	93.6	0.807	9	9	0.050
qwealth_dum2	92.8	95.7	0.018	8.6	8.6	0.854
qwealth_dum3	93	94	0.376	8.8	8.8	0.603
qwealth_dum4	93	94	0.316	8.9	8.9	0.517
qwealth_dum5	94.3	89	0.000	8	8	0.007
Woman first one among same sex siblings	93	94.2	0.242	8.2	8.2	0.154
Woman first one amongt siblings	93.3	92.9	0.747	8.5	8.5	0.353
Spouses are blood relatives	94	91.5	0.013	8.9	8.9	0.433
Spouses living arrangement is nuclear	90	93.8	0.003	5.8	5.8	0.023

Note : T-tests is a simple test on the equality of means between the two respondent groups.

Table 11: Descriptive statistics on the value of the marriage payment, by socio-economic characteristics. (Constant Jordanian Dinar)

Characteristic (c)	Bride price			Bride participation to marriage costs		
	Mean if c=0	Mean if c=1	T-Test	Mean if c=0	Mean if c=1	T-Test
edu_dum1	2611.3	1143.7	0.130	4503.6	2898.1	0.000
edu_dum2	2695.2	2183	0.303	5024.6	3628	0.000
edu_dum3	2693.3	2108.6	0.257	4463.5	4285.9	0.328
edu_dum4	2058.6	3627.9	0.002	3805.7	6277	0.000
edu_father_dum1	2798.6	1665.3	0.038	4778.3	3520.6	0.000
edu_father_dum2	1868.9	3111.1	0.008	4250	4571.5	0.044
edu_father_dum3	2558.3	2292.5	0.689	4278.6	5287.9	0.000
edu_father_dum4	2589.5	1707.5	0.310	4355	5436.4	0.002
edu_hsb_dum1	2584.5	288.92	0.104	4482	3233.8	0.000
edu_hsb_dum2	2867	2153.7	0.130	4688.8	4190.6	0.002
edu_hsb_dum3	2597	2300.1	0.580	4478.6	4216.2	0.163
edu_hsb_dum4	2134.7	3892.4	0.002	4137.8	5821	0.000
edu_mother_dum1	3544.4	1444.5	0.000	5059.3	3684.6	0.000
edu_mother_dum2	1743.2	3756.8	0.000	4190	4750	0.001
edu_mother_dum3	2450.7	3012.7	0.439	4203.7	6029.2	0.000
edu_mother_dum4	2530.4	474.41	.	4397.4	6161.5	0.021
qwealth_dum1	2527.5	2386.6	0.885	4524.9	3561.3	0.000
qwealth_dum2	2637.5	1870.8	0.240	4586.3	3630.3	0.000
qwealth_dum3	2323.5	3151.3	0.136	4402.9	4457.9	0.765
qwealth_dum4	2441.5	2739.4	0.581	4270.7	4808.6	0.003
qwealth_dum5	2655.2	2179.8	0.362	4270.5	5051.3	0.000
consang	2707.8	2062.1	0.213	4688.8	3742.3	0.000
nuclear	872.87	2696.8	0.021	3242.7	4610.3	0.000
firstdaughter	2524	2506.5	0.973	4365.9	4552.8	0.298
firstsibling	2562	2310.2	0.688	4404.7	4485.3	0.720

Note : T-tests is a simple test on the equality of means between the two respondent groups.

Table 12: Probit estimation of women attitude toward IPV on marriage transfers. (Changes in estimation method)

	Independent variable = Attitude toward IPV							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Probit	Probit	Tobit	Tobit	Poisson	Poisson	OLS	OLS
Brideprice_money_df	0.00436** (0.00170)		0.00483** (0.00207)		0.0385*** (0.0100)		0.0249** (0.0108)	
Bridepart_df		0.0271*** (0.00740)		0.0351*** (0.0118)		0.0921*** (0.0253)		0.0787** (0.0364)
Observations	2,611	2,536	2,611	2,536	2,611	2,536	2,611	2,536
Baseline covariates								
Past-local characteristics								

Note. Coefficient are marginal effects. All specifications control for the [baseline](#) model covariates and past local characteristics : sex-ratio and hotel construction. Governorate, year of marriage and region fixed effect are include. Standard error are clustered at the year of marriage level.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 13: Probit estimation of women attitude toward IPV on marriage transfers. (Changes in the analytic sample of estimations)

	Independent variable = Attitude toward IPV									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1970 - 2016	1970 - 2016	1970 - 2016	1980 - 2016	1980 - 2016	1980 - 2016	1990 - 2016	1990 - 2016	2000 - 2016	2000 - 2016
Brideprice_money_df	0.00385** (0.00151)		0.00401** (0.00171)		0.00416** (0.00173)		0.00465*** (0.00176)		0.00642*** (0.00236)	
Bridepart_df		0.0275*** (0.00758)		0.0271*** (0.00739)		0.0272*** (0.00746)		0.0284*** (0.00745)		0.0405*** (0.0110)
Observations	2,936	2,863	2,680	2,605	2,659	2,584	2,419	2,346	1,540	1,474

Note. Coefficient are marginal effects. All specifications control for the [baseline](#) model covariates and past local characteristics : sex-ratio and hotel construction. Governorate, year of marriage and region fixed effect are include. Standard error are clustered at the year of marriage level.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

(1) & (2) include non Jordanian women in the sample, (3) to (10) include only women who were 15years old in the range indicate



Table 14: Probit estimation of women attitude toward IPV on marriage transfers. (Changes in standard error estimates)

	Independent variable : Attitude toward IPV					
	(1)	(2)	(3)	(4)	(5)	(6)
Brideprice_money_df	0.00436** (0.00199)		0.00436** (0.00208)		0.00436** (0.00208)	
Bridepart_df		0.0271*** (0.00744)		0.0271*** (0.00821)		0.0271*** (0.00769)
Observations	2,611	2,536	2,611	2,536	2,611	2,536
Baseline covariates	✓	✓	✓	✓	✓	✓
Past-local characteristics	✓	✓	✓	✓	✓	✓
Cluster	Gov/year	Gov/year	Gov/year	Gov/year	Gov/year/wealth	Gov/year/wealth
Bootstrap	no	no	✓	✓	✓	✓

Note. All specifications control for the baseline covariates and governorate, year of marriage and region fixed effect. Past local characteristics are the sex-ratio and the an indicator of hotel construction at the governorate level prior the marriage.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Cluster and Bootstrap refer to standard error. Different cluster are : governorate, year of marriage and household quintile of wealth. Bootstrap standard error based on 800 replications.

### 8.1.3 Empirical test of the validity of the instrument

Table 15: Correlation between GDP stochastic shock and timing of marriage

VARIABLES	Independent variable = indicator of marriage timing					
	(1)	(2)	(3)	(4)	(5)	(6)
	Woman age marriage	woman age marriage	Husband age marriage	Husband age marriage <sup>2</sup>	Engagement period	Pre-marriage period
Stochastic cyclical GDP	-0.000239 (0.000625)	-0.0147 (0.0264)	0.000429 (0.000715)	0.0258 (0.0382)	0.000521 (0.00137)	-0.000860 (0.000901)
Baseline covariates	✓	✓	✓	✓	✓	✓
Observations	2,931	2,931	2,931	2,931	2,861	2,893
R-squared	0.230	0.207	0.181	0.167	0.033	0.016

: Correlations are obtain by linear regression (OLS). Baseline covariates referred to the [baseline model](#). All regressions control for governorates, number of years of marriage and region fixed effects. Standard error are clustered at the year of marriage level. Instrument is lagged a year before the marriage. Period of engagement is the duration between formal engagement and the legal marriage (month). Pre-marriage period is the duration between the legal marriage and the actual marriage (month).

Table 16: Correlation between GDP stochastic shock and matching of marriage

VARIABLES	Independent variable = indicator of marriage matching				
	(1)	(2)	(3)	(4)	(5)
	Diff edu spouses	Diff age spouses	Diff wages spouses	Diff age spouses <sup>2</sup>	Diff edu spouses <sup>2</sup>
Stochastic cyclical GDP	-0.000386 (0.000635)	0.000282 (0.000635)	-0.0834 (0.0691)	0.00566 (0.0126)	0.00403 (0.00411)
Observations	2,931	2,931	289	2,931	2,931
Baseline covariates	✓	✓	✓	✓	✓
R-squared	0.060	0.233	0.128	0.176	0.036

Note : Correlations are obtain by linear regression (OLS). Baseline covariates referred to the [baseline model](#). All regressions control for governorates, number of years of marriage and region fixed effects. Standard error are clustered at the year of marriage level. Instrument is lagged a year before the marriage. Diff edu spouses is the years of education difference between spouses. Diff wages is obtain only for women working.

Table 17: Augmented Dickey-Fuller and DF-GLS test for unit root

Lags	ADF Test Statistic	5% Critical value
9	-1.864	-3.564
Lags	DF-GLS Test Statistic	5% Critical value
9	-1.958	-2.712
8	-2.723	-2.768
7	-2.562	-2.836
6	-2.651	-2.836
5	-2.681	-2.993
4	-2.720	-3.074
3	-2.663	-3.152
2	-3.847	-3.222
1	-3.369	-3.283

Note : Maxlag = 9 chosen by Schwert criterion. Data period 1975 - 2018

Table 18: IV-Probit estimation of women attitude toward IPV on marriage transfers. (Changes in estimator and smoothing parameter value)

VARIABLES	Independent variable = Attitude toward IPV									
	(1) 2SLS	(2) 2SLS	(3) IV-Tobit	(4) IV-Tobit	(5) IV-Poisson	(6) IV-Poisson	(7) IV-Probit	(8) IV-Probit	(9) IV-Probit	(10) IV-Probit
	<b>Change in the regressor</b>									
Brideprice_money_df	0.0272** (0.0123)	0.0320** (0.0146)	0.193** (0.0964)	0.629* (0.372)	0.193** (0.0964)	0.445** (0.181)	0.167*** (0.0642)	1.034*** (0.111)	0.0706* (0.0374)	0.893*** (0.211)
Bridepart_df		0.526* (0.314)		0.00311** (0.000147)	0.00571*** (0.00143)	0.000311** (0.000147)				
Stochastic cyclical GDP	0.00571*** (0.00143)	0.000311** (0.000147)	0.00571*** (0.00143)	0.000311** (0.000147)	0.00571*** (0.00143)	0.000311** (0.000147)				
Stochastic cyclical GDP ( $\lambda = 25$ )							0.00623** (0.00246)	0.000365* (0.000214)		
Stochastic cyclical GDP ( $\lambda = 500$ )									0.00456*** (0.000693)	0.000233** (9.52e-05)
Observations	2,842	2,767	2,842	2,767	2,842	2,767	2,842	2,767	2,842	2,767

Note :All regressions included **baseline covariates** and control for governorates, number of years of marriage and region fixed effects. Standard error are clustered at the year of marriage level. Instrument is lagged a year before the marriage.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 19: IV-Probit estimation of women attitude toward IPV on marriage transfers. (Changes in the analytic sample)

VARIABLES	Independent variable = Attitude toward IPV									
	(1) 1975 - 2016	(2) 1975 - 2016	(3) 1980 - 2016	(4) 1980 - 2016	(5) 1985 - 2016	(6) 1985 - 2016	(7) 1990 - 2016	(8) 1990 - 2016	(9) 1995 - 2016	(10) 1995 - 2016
Brideprice_money_df	0.0770* (0.0410)		0.0865* (0.0489)		0.116** (0.0496)		0.0697** (0.0294)		0.0770*** (0.0293)	
Bridepart_df		0.953*** (0.162)		0.981*** (0.170)		0.996*** (0.137)		0.876*** (0.190)		0.931*** (0.147)
Stochastic cyclical GDP	0.00503*** (0.00119)	0.000236** (0.000114)	0.00514*** (0.00138)	0.000245* (0.000129)	0.00571*** (0.00143)	0.000311** (0.000147)	0.00833*** (0.00125)	0.000410** (0.000196)	0.00896*** (0.00129)	0.000366* (0.000203)
Observations	3,388	3,313	3,170	3,095	2,842	2,767	2,462	2,389	2,069	1,997

Note :All regressions included **baseline covariates** and control for governorates, number of years of marriage and region fixed effects. Standard error are clustered at the year of marriage level. Instrument is lagged a year before the marriage.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 20: Probit estimation of attitude toward IPV on marriage transfers : full table

VARIABLES	(1) Bride-Price	(2) Bride-Part to MC
Brideprice_money_df	0.00352** (0.00162)	
Bridepart_df		0.0264*** (0.00713)
inMalive	-0.0108 (0.00708)	-0.00978 (0.00736)
inFalive	-0.00243 (0.00516)	-0.00235 (0.00499)
indeath	0.0418 (0.0344)	0.0333 (0.0347)
2.edu_higher_parent_hsb	0.0506*** (0.0158)	0.0513*** (0.0156)
3.edu_higher_parent_hsb	0.0381* (0.0206)	0.0313 (0.0211)
4.edu_higher_parent_hsb	0.0648* (0.0338)	0.0807** (0.0362)
2.edu_higher_parent	0.0151 (0.0120)	0.0112 (0.0126)
3.edu_higher_parent	0.00220 (0.0188)	0.00528 (0.0201)
4.edu_higher_parent	-0.00840 (0.0183)	-0.0208 (0.0195)
2.qwealth	-0.00614 (0.0268)	-0.00415 (0.0291)
3.qwealth	-0.0177 (0.0306)	-0.0171 (0.0313)
4.qwealth	-0.0497** (0.0226)	-0.0492** (0.0242)
5.qwealth	-0.0479 (0.0307)	-0.0505 (0.0321)
agemarriage1	-0.000993 (0.00180)	-0.00139 (0.00188)
agemarriage1_hsb	0.000473 (0.00110)	0.000417 (0.00114)
2.urban	0.0209 (0.0203)	0.0286 (0.0218)
Observations	2,931	2,856
Baseline covariates	✓	✓

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1