Women's Property Rights and Marital Welfare: Evidence from a Unique Marriage Payment Tradition

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Abstract

This paper investigates how enhancing women's property rights can improve the welfare of both spouses. It examines the effects of a change in marriage law that protects wives' property rights in the event of a divorce. The study focuses on a unique marriage institution prevalent in China where the bride's family sets a bride price and provides a dowry to the new couple. The model takes into account patrilocal residence and parental altruism towards their children. The couple divides their income and the dowry, with the dowry playing a crucial role in determining the allocation of resources. The study derives equilibrium prices for marriage payments. It shows that increasing the wife's property rights leads to a Pareto improvement if the bride price increases. Using a regression discontinuity design, I show that the law encourages larger dowries and bride prices and thus financially benefits both the husband and wife.

Key words

Gender Inequality, Marriage Payments, Divorce, Property Rights

JEL Classification codes

J12, D13, J16, D15

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1. Introduction

This paper investigates how enhancing women's property rights can improve the welfare of both spouses and families on both sides. This question is answered in the context of a unique marriage institution prevalent in China that involves payments of both a bride price—a payment from the groom's family to the bride's family—and a dowry—a wealth transfer from the bride's family to the bride. I begin by modeling the traditional practice in which the bride's family sets the bride price and transfers the dowry to the newly married couple, who then divide their resources. I then explore the implications of a marriage law amendment that allows a wife to secure her property after a divorce. I prove, both theoretically and empirically, that this law encourages larger dowries and financially benefits both the husband and wife, as demonstrated by the positive effect on the bride price and the dowry.

The marriage payment custom is as follows: After the betrothal and before the wedding, the bride's family signals to the groom's family the bride price they want. A bride price is traditionally regarded as compensation for the bride's family, owing to the common patrilocal tradition. This is typically a take-it-or-leave-it offer, and the groom's family usually does not negotiate the price. If the groom's family chooses to pay the bride price, the bride's parents will transfer part of their wealth to their daughter and let her bring it to the new family as her dowry. The role of dowries is usually interpreted as reflecting parents' altruism toward their daughter; higher dowries signify a wish for a better post-wedding life for the daughter. The flowchart below shows the process:

[Insert Figure 1 here]

In 2001, a marriage law amendment was introduced in response to the changing societal landscape and increasing divorce rates. This amendment, widely viewed as pro-woman, clarifies ownership rights of pre-marital property and provides spouses with greater flexibility in claiming post-wedding property. Under the new law, in case of a divorce, each spouse can retain their individual property. Section 2.2 provides additional details regarding the amendment. Given that dowries typically comprise physical assets and become part of the couple's budget, this amendment grants wives an advantage in the event of divorce.

I explore how the increased value of dowries impacts the equilibrium prices for the two marriage payments and the resulting impact on the welfare of both spouses and their families. A survey conducted in rural China in 2010 indicates that, on average, it costs a family's 10-year savings to marry

in a bride (Jiang et al., 2015). Given the substantial wealth transferred, any changes in marriage payments can have significant effects on the budget and welfare of the parties involved. The marriage law amendment directly addresses uncertainty in property ownership for the bride's family, which, in turn, raises the value of dowries. As a result, opposing "income" and "substitution" effects influence the willingness to pay for a dowry, subsequently affecting the bride price sought by the bride's family. I discuss various scenarios where these prices may change and demonstrate that when both prices increase, it demonstrates that there was a Pareto improvement.

The first distinctive feature of this paper is the modeling of the unique institution. The coexistence of the two prices leads to the question of optimal transfers and the effect on the welfare of the spouses. Bride prices and dowries have been prevalent in many societies throughout history, especially where the social status of women is lower (Anderson, 2003). Currently, these traditions remain popular in many developing countries, notably those in East and South Asia and Sub-Saharan Africa (Anderson, 2007). Typically, society sees a direction of payment (i.e., either a bride price (from the groom's side to the bride's side) or a dowry (from the bride's side to the groom's side); the direction heavily depends on the historical female role in agricultural activity (Botticini & Siow, 2003; Corno et al., 2020). Greater China appears to be the only large society that sees a bride price and a dowry simultaneously in marriages (Anderson, 2007; Brown, 2009).[1] Preexisting literature explains the occurrence and roles of marriage payments from different perspectives. Becker (1991) attributes them to the inflexibility in the division of joint products within a marriage. An upfront payment would arise to compensate for the loss of efficiency in the production of one side due to marriage. Anthropological explanations claim that these payments function as a kind of property relation within a society (e.g., Goody (1973) and Schlegel & Eloul (1988)), where bride prices develop in societies with a lack of social stratification, and dowries are connected with social stratification.[2] However, the assumptions underlying both theories constrain wealth transfers to be unidirectional. Thus, there have been limitations in discussing bidirectional transfers.

In order to understand the coexistence of the two payments and the effect of the marriage law amendment, I propose a novel three-agent marriage market model. Like Botticini & Siow (2003),

[1]Muslim communities in the Indian Subcontinent traditionally require a payment from the groom to the bride called a *mahr*. However, under the rule of the British Raj, dowries also became very popular. Nevertheless, a *mahr* serves a different religious purpose and should not be treated as equivalent to a bride price.

[2]The social stratification defined in their work is mainly associated with the economic status of women, where strong social stratification restricts women from economic activities outside of domestic work.

who refer to dowries as "pre-mortem inheritance", I attribute the occurrence of dowries to patrilocality ad parental altruism. I complement their theory by allowing for bride prices to coexist with dowries. Unlike the cases discussed in Botticini & Siow (2003), China has high female labor force participation.[3] Therefore, the bride's family must be compensated for the transfer of her services from the bride's family to the groom's family.

I model parents' utility as consisting of: the utility from their own consumption, the weighted utility of their children's consumption, and the loss or gain of value due to their children's marriage. Considering the common practice of patrilocality in Chinese marriages, where the newlyweds usually move near the groom's family, the departure of the daughter causes a reduction in the bride's family's utility, while the groom's family benefits. The bride's family sets the bride price and dowry to maximize its utility, subject to the groom's family and the couple's participation constraint.

For the new conjugal household, the utility is in a collective form and comprises the weighted utilities of the husband and the wife, with the sum of the weights (bargaining power) being one. Heterogeneous bargaining power is introduced by incorporating the dowry payment into the Pareto weights on individuals. The dowry not only becomes a part of the couple's budget but also influences the bargaining power between the spouses. Existing literature documents that the wife's bargaining power is always lower than 0.5 (e.g., Del Boca & Flinn (2012) and Lise & Yamada (2019)). Thus, a higher dowry payment can potentially increase the wife's bargaining power, bringing it closer to an even point.

I assess the policy implication of a pro-woman marriage law amendment that grant wives greater rights to their dowry. The new legal change increases the value of the dowry, which reduces the dowry needed to achieve a given level of bargaining power for the bride. On the other hand, it increases the dowry's marginal benefit, thereby providing the bride's family with a strong incentive to transfer wealth. When the second effect significantly dominates, both the bride price and dowry increase, which demonstrates that both bride and groom are better off.

This paper serves as another example of the practical application of a Paretian framework, as originally discussed in early welfare economics literature such as Hicks (1939). In this context, the paper also explores how policies designed to benefit the disadvantaged can lead to welfare improvements

[3]This was also true in ancient China due to women having advantages over men in some main agricultural activities such as tea picking, silk farming, and textile production.

without adversely affecting the well-being of other parties. However, to the best of my knowledge, this paper is the first to examine this implication at the household level. The closest case is bargaining between landlords and tenants in sharecropping. Numerous studies suggest that improving tenants' property rights or increasing their share of the output raise productivity (e.g., Johnson (1950); Shetty (1988); Laffont & Matoussi (1995); Banerjee et al. (2002)). The increased production could improve both the landlord's and the tenant's welfare. Banerjee et al. (2002) provides insight into two possible mechanisms that also apply in the household example. The first is the bargaining power effect. In this paper, it is reflected in the increased value of dowry after the amendment, which could potentially result in more bargaining power for the wife. The second is the security of tenure. Similar to a tenant's confidence in retaining the rights of using the land, the marriage law amendment provides the bride confidence in retaining her pre-marital property.

To empirically assess the impacts of a marriage law amendment and the role of dowries in households, I employ data from the 2018 China Labor-force Dynamics Surveys (CLDS). This dataset stands out as the sole available source that encompasses information regarding marriage payments, in addition to offering comprehensive demographic, employment, and consumption data.

I first employ a collective model to estimate the extent of inequality within Chinese households. This analysis aims to determine the congruence between theoretical predictions regarding marriage payment trends and empirical data. The estimation results reveal Pareto weights of 0.73 for husbands and 0.27 for wives for the sample average, representing a notably high level of inequality. Accordingly, if the theoretical framework holds, we can anticipate a positive change in both bride prices and dowries, benefiting both parties as a consequence of the marriage law amendment

I employ a regression discontinuity design (RDD), utilizing the marriage law amendment as a cutoff point, to investigate potential discontinuities and shifts in the prices of marriage payments. In the analysis of the marriage payment tradition, I examine both bride prices and dowries, along with two essential ratios: dowries relative to household income and bride prices relative to dowries. The findings indicate that the amendment leads to substantial increases of 24.1% and 24.9% in bride prices and dowries, respectively, thereby benefiting both the bride's family and the couple involved. Furthermore, significant positive discontinuities are observed in the ratios of dowries to the bride's income and to the bride price. Importantly, the robustness of these results is confirmed through various event tests, including adjustments to the timing threshold, examination of unrelated economic

factors, and consideration of degrees of patrilocality. These findings highlight the potential for policies aimed at empowering women to yield Pareto improvements in societies characterized by high levels of gender inequality.

2. Institutional Background

2.1. Marital Transactions in Chinese Society

The marriage payment tradition has long existed in China.[4] In a Chinese marriage, the pre-wedding rituals include the multiple transfers between the two families. The bride price (*Caili* or *Pinli*) is a wealth transfer from the groom's family to the bride's family (either as a single payment or multiple payments). A dowry (*Jiazhuang*) is the subsequent transfer from the bride's family to the new couple. The original idea of the bride price was to compensate the bride's family for their daughter's leave (Zang & Zhao, 2017). Ancient society was predominantly patrilocal, and the brides had few chances to visit their parents after the wedding (McCreery, 1976). Hence, a high bride price was regarded as necessary to compensate for the loss of productivity suffered by the bride's family. Dowries originated from the wish of the bride's parents for better treatment of their daughter in the new family (Parish & Whyte, 1980; Zang & Zhao, 2017). Due to women being at a disadvantage in agricultural production, a wife tended to have a lower economic status (Wolf & Huang, 1980). A higher dowry could help to improve this situation and balance the bargaining power within a marriage.

The amount of the bride price is usually signaled by the bride's family after the betrothal and before the wedding. During ancient times, arranged marriages were common and matchmakers worked as intermediaries who also helped negotiate bride prices (Ebrey, 1991). However, with the increasing pervasiveness of love marriages and the forbiddance of marriage arrangement as well as more information exchange between the two families before the wedding, it has become easier for the bride's family to know more about the groom's family and make a rational and reasonable offer regarding the bride price.[5] Even though "marriage by purchase" has been strongly and consistently discouraged

[4] Thatcher (1991) finds that the tradition can be dated back to the periods of the Spring and Autumn and the Warring States (770–256 BC). The *Classic of Poetry* (also *Shijing*, 11th to 7th centuries BC), which is the oldest existing collection of Chinese poetry, already documented the prevalence of the tradition.

[5] For information on self-arrangement of marriages, see Zang & Zhao (2017). For information on bans on arranged marriages, see Article 1042 of the Civil Law of the People's Republic of China which states arrangement, selling, and

by the government of the People's Republic of China, there are no laws prohibiting all betrothal exchange, only laws forbidding "the exaction of money in connection with marriage" (Ocko, 1991). The groom's side usually does not haggle over the bride price to avoid leaving a bad impression (Zang & Zhao, 2017). Thus, the groom's family would either accept the offer or give up on the marriage. The bride price is usually paid in the form of cash; however, the process can go through one or several installments over the course of the engagement (Ocko, 1991; Brown, 2009).

After receiving the bride price, the bride's family has to decide how much they want to retain and how much wealth to give their daughter as the dowry. A dowry does not need to be negotiated with the groom or groom's parents and is fully treated as an internal decision of the bride's family (Ocko, 1991; Brown, 2009; Zang & Zhao, 2017). Different from bride prices, dowries are usually in the form of physical assets such as furniture, electronics, bedding, vehicles, and clothing.[6] A bride is expected to have authority over the property she brings into the new conjugal household. However, in reality, the dowry could become a part of the common property in the marriage. In addition, before 2001, the law in China did not protect the wife's right to the dowry that she brought into the household because the marriage payments are regarded as a tradition of feudalism (*Fenjian*) (Ocko, 1991; Brown, 2009).[7] Due to the nature of the forms of dowries, several categories of premarital assets lack formal ownership certifications. Prior to the amendment, a substantial dowry might have conferred greater influence upon the bride, yet the impact of this advantage would have been mitigated by her absence of a distinct property claim to her dowry.

2.2. The 2001 Marriage Law Amendment

One of the main revisions reflected in the 2001 amendment to the 1980 PRC marriage law was the clarification of the property rights of individuals.[8] The amendment has critical implications regarding the division of property in divorces. The 1980 version of the marriage law did not specify the division rules primarily due to the extremely low divorce rate and relatively less wealth that people owned(Honig & Hershatter, 1988; Yi & Deqing, 2000). The rising divorce rate in the 1980s and 1990s

intervention of marriages are illegal in China.

[6] Ocko (1991) documents the change in the forms of dowry during the People's Republic of China era.

[7] Ocko (1991) documents numerous disputes regarding the division of property owned before marriage prior to the amendment.

[8] The amendment was officially passed in the Standing Committee of the National People's Congress of the People's Republic of China in April 2001.

saw the urgency of clarification. [9]

There were two major revisions with respect to the property division in divorces. First, an individual would retain the ownership of the property that belonged to them prior to marriage (Chapter 3, Article 18). Second, the amended law gave spouses more flexibility to declare ownership of certain property obtained either before the marriage or during the marriage (Chapter 3, Article 19). In addition to property rights, the amendment clarified the process of dividing property in a divorce. If a divorce happens and an agreement cannot be reached in the negotiations for the division of property, a court has the ultimate power to decide the division based on the rule that children and the wife should be the priority of concern (Chapter 4, Article 39). This amendment provided further protection of a wife in a marriage since the relaxation of the legal restrictions on granting divorce in the 1980 marriage law.

3. Theoretical Model and Predictions

3.1. A Three-Agent Marriage Market Model

In this part, I propose a three-agent marriage market model involving the bride's family, the groom's family, and the new conjugal household if the couple gets married. The model follows the same procedure as the institutional background and is set as a single-period problem. Both the bride's and groom's families face two choices: whether to marry off their children or not. The order starts with a non-negotiable offer from the bride's side. Only if both families find that getting married is more beneficial than the outside options (e.g., rejecting the marriage and continuing to search) can the marriage happen. Otherwise, both children's consumptions equal their outside options. If the couple gets married, a new household is formed, and the whole household's utility consists of both the husband's and the wife's utility.

3.1.1. Setup

This part focuses on payments after a matching or mating decision being made. Consequently, the marriage market can simply be treated as the bargaining between families with a daughter and a

[9] The demographic data analysis provided by Yi & Deqing (2000) shows that the divorce rate increased by 42% from 2.01% to 2.86% between 1982 and 1990.

families with a son.

For the bride's and groom's families, their utilities both consist of three parts: the utility from their own consumption, weighted utility from their children, and a constant gain or loss due to their children's marriage. The bride's and groom's parents' consumption comes entirely from their wealth. The initial wealth for the bride's family is W^F. If the daughter gets married, their wealth increases by the retained portion of the bride price; otherwise, their wealth stays the same. The daughter's utility derives from her consumption as well. Following Corno et al. (2020), Corno & Voena (2021), L. Han et al. (2015), and considering the dominance of patrilocality in marriage in China, I assume if their children get married, the groom's family experiences a constant utility gain, while the bride's family has to bear a constant loss.

Specifically, if their daughter gets married, the bride's family's utility U_m^F is:[10]

$$\begin{aligned} U_m^F &= \xi^F \cdot [u_1^F(c_m^{F,P})]^{\delta_1} \cdot [u_2^F(c_m^F)]^{1-\delta_1} \\ &= \xi^F \cdot [u_1^F(W^F + B - D)]^{\delta_1} \cdot [u_2^F(c_m^F)]^{1-\delta_1} \end{aligned} \tag{1}$$

where B and D are the notation for the bride price and dowry. $0 < \delta_1 < 1$ is the weight on the utility from their own consumption, and $0 < 1 - \delta_1 < 1$ is the weight on the utility from their daughter's consumption. ξ^F represents the loss of utility because of the daughter's leave. $0 < \xi^F < 1$ is a multiplier of a constant value. This is compared to an exogenous outside option, including rejecting the marriage and continuing to search. The idea is similar to the reservation utilities in Anderson (2003). The outside option utility for the bride's family is a constant value $\bar{U}_s^F$.

$$\bar{U}_s^F = [\bar{u}_1^F]^{\delta_1} \cdot [\bar{u}_2^F]^{1-\delta_1} \tag{2}$$

$\bar{u}_1^F$ and $\bar{u}_2^F$ are the reservation utilities for the parents' consumption and the bride's, respectively, and there is no marriage-induced utility gain or loss. A similar problem faces the groom's family. If their son gets married, his family's utility U_m^M is:

[10] In this article, a capital letter U defines a compound utility function. A lowercase u stands for an explicit form of the utility function. The subscript and superscript are used only to distinguish which individual the utility function reflects.

$$
\begin{aligned}
U_m^M &= \xi^M \cdot [u_1^M(c_m^{M,P})]^{\delta_2} \cdot [u_2^M(c_m^M)]^{1-\delta_2} \\
&= \xi^M \cdot [u_1^M(W^M - B)]^{\delta_2} \cdot [u_2^M(c_m^M)]^{1-\delta_2}
\end{aligned} \tag{3}
$$

where $0 < \delta_2 < 1$ is the weight on the utility from their own consumption and $0 < 1 - \delta_2 < 1$ is the weight on the utility of their son. ξ^M reflects the gain of utility due to the addition of the daughter-in-law to their family. ξ^M is also a constant-value multiplier but larger than one. The groom's family's utility with regard to the outside option is $\bar{U}_s^M$:

$$
\bar{U}_s^M = [\bar{u}_1^M]^{\delta_2} \cdot [\bar{u}_2^M]^{1-\delta_2} \tag{4}
$$

$\bar{u}_1^M$ and $\bar{u}_2^M$ are the reservation utilities for the parents' consumption and the groom's, respectively. The new conjugal household's part exists if the first part of the marriage payments (bride price) occurs, which requires the condition that getting married is the better option for both sides:

$$
U_m^M \geq \bar{U}_s^M, \qquad U_m^F \geq \bar{U}_s^F \tag{5}
$$

When the two conditions are satisfied, the second payment (dowry) enters into the new conjugal household's budget constraint. The household utility of the married couple is the combination of the weighted utility of the husband and wife:

$$
U^H = \max_{c_m^M, c_m^F} [u_2^M(c_m^M)]^{\delta_3(D)} \cdot [u_2^F(c_m^F)]^{1-\delta_3(D)} \tag{6}
$$

s.t.

$$
c_m^M + c_m^F = w^M + w^F + D \tag{7}
$$

where w^M and w^F are the respective incomes of the husband and wife. The incomes are set to be exogenous. Thus, individual income is not affected by the decision to get married.

The Pareto weight of the husband as a function of the dowry D satisfies the conditions that $\delta_3'(D) < 0$ and $\delta_3''(D) > 0$. This follows Chiappori & Mazzocco (2017), Lise & Seitz (2011), and Lise & Yamada (2019); additionally, I further incorporate the diminishing marginal returns of

dowries.

3.1.2. Equilibrium under a basic utility function

To search for the equilibrium prices of the bride price and the dowry, I adopt a basic risk-averse utility function:

$$u = c^{\gamma} \tag{8}$$

where the degree of relative risk aversion is set as $0 < \gamma < 1$.[11]

The actual marriage rituals follow the order of the bride's family's decision, the groom's family's decision, and the consequent effects on the new conjugal household if an agreement on marriage payments is reached. However, to solve the equilibrium, we need to look at the problem backwards.

3.1.2.1. Intrahousehold Allocations within the New Conjugal Household

In the first step, the new conjugal household maximizes the utility based on the dowry given:

$$log(U^H) = \max_{c_m^F, c_m^M} \gamma\{\delta_3(D) log(c_m^M) + [1 - \delta_3(D)] log(c_m^F)\} \tag{9}$$

s.t.

$$c_m^F + c_m^M = w^M + w^F + D \tag{10}$$

There is also an underlying constraint from the both the bride's and groom's sides that getting married is better for both of them, and the decision of resource allocations is reached ahead of the marriage. Different from constraints for the parents' side, this assumption is logically easier to meet. First, the spouses will share the endowed dowry. Second, the analysis is based on the fact that the match has happened, which means the couple has found that the marriage benefits them. As a result, the first-order conditions lead to the solutions for both c_m^M and c_m^F:

[11] This assumption implies moderate risk aversion of individuals. Previous literature suggests an elasticity in a range of $[1, 2]$ is reasonable for CRRA utility function (e.g., Chetty (2006), Morten (2019), and Corno et al. (2020)) The solution of the subsequent model will not largely depend on this assumption.

$$c_m^M = \delta_3(D) \cdot (w^M + w^F + D) \tag{11}$$

$$c_m^F = [1 - \delta_3(D)] \cdot (w^M + w^F + D) \tag{12}$$

3.1.2.2. Maximization Problem of the Bride's Family

The consumption of a spouse is the household budget discounted by their Pareto weight. Considering the wages of the wife and husband are exogenous in the model, once the dowry is decided, the consumptions of both the wife and husband are decided. Thus, we can take the solutions back to the utility maximization problem of the bride's family. The problem for the bride's family transforms into the maximization of utility with regard to the dowry given any bride price.

Theoretically, the value of dowry D is not bounded by any restriction in this tradition since borrowing is also allowed. However, it is straightforward to conclude that the optimum is strictly less than the bride's family's wealth plus the bride price.

After knowing dowry D is a function of bride price B, the control variable in the bride's family's maximization problem becomes B:

$$log(U_m^F) = \max_B log(\xi^F) + \gamma\{\delta_1 \cdot log(W^F + B - D(B)) + (1 - \delta_1) \cdot log(c_m^F)\} \tag{13}$$

Hence, the bride's family wants to set the bride price as high as possible.[12] The derivative of the utility function of the bride's family with respect to the bride price is always a positive value (see the proof in Appendix A.1). This means the bride's family will want the bride price to be as high as possible as long as the groom's family accepts.

[12]The maximization problem presupposes the underlying constraint of the bride's family's reservation bride price. Before the couple proceeds with a dowry that maximizes the welfare of the bride's parents, they must first weigh their utility in the absence of marriage against the utility they would attain by offering the minimum bride price required for a valid marriage.

$$\xi^F \cdot [u_1^F(W^F + B - D)]^{\delta_1} \cdot [u_2^F(c_m^F)]^{1-\delta_1} \geq \bar{U}_s^F \tag{14}$$

When the equality is achieved, the bride price is the minimum value for the bride's family to agree on the marriage. Meanwhile, if the inequality holds, the difference between the LHS and RHS ($U_m^F - \bar{U}_s^F$) is the surplus the bride's family will gain from their daughter's marriage.

In other words, we can treat the rule deciding the bride price as a bargaining process where the weight on the groom's side is zero. This leaves no surplus for the groom's family, and the upper limit underpins the exact bride price the bride's family will ask for if the reservation price condition is met.

3.1.2.3. Marriage Payments under Equilibrium

The Upper Limit of the Bride Price for the Groom's Family: The result of maximization problem shows that the bride's family's utility is monotonically positively related to the bride price received. However, they cannot ask for an unlimited bride price due to the constraint that the groom's family would not find the marriage attractive if the bride price required is too high. Thus, the utility of getting married for the groom's family must satisfy being no smaller than the outside option (e.g., rejecting the marriage and continuing to search):

$$\xi^M \cdot [u_1^M(W^M - B)]^{\delta_2} \cdot [u_2^M(c_m^M)]^{1-\delta_2} \geq \bar{U}_s^M \tag{15}$$

The upper limit of the bride price is achieved when the left-hand side (LHS) equals the right-hand side (RHS). Due to the fact that the bride price offered is non-negotiable, equality should be achieved.

Implications of the Model under Equilibrium: In addition to examining equilibrium prices, this section also presents evidence regarding their specific directions and magnitudes. Operating under the model's assumptions of patrilocality and altruism, this segment furnishes compelling rationale: generally, marital transfers transpire from the groom's family to the bride's family, followed by a subsequent transfer from the bride's family to the couple. Stated differently, instances in which the bride's family pays the groom's family or refrains from transferring wealth to the couple are infrequent. The corresponding proof is showcased in Appendix A.2.

3.2. Increase in the Value of Dowries

With the 2001 marriage law amendment, dowries become more valuable in shifting power to the wife's side. This can be achieved by a constant gain in the Pareto weight (because the bride's family now has the belief that their property will be better protected by law after getting into the marriage) or a higher marginal benefit from dowries (the impact of every single *yuan* becomes larger). These two channels result in similar results in terms of the changing direction of the marriage payments.

The impacts of the amendment on dowries are in two different directions since dowries factor into both the consumption and the bargaining power of the spouses. First, regarding the dowry rule, given the same amount of the bride price, the bride's family can now transfer less wealth to maintain the same level of bargaining power for their daughter. This is directly reflected as the income effect. With

the new dowry rule, the bride price will also be adjusted. However, because a dowry has become more valuable (higher marginal benefits), the bride's family will find it more attractive to transfer a little more to their daughter. This is reflected as the substitution effect. Hence, with the positive shock on dowry, theoretically, the change of the amounts of the two wealth transfers is uncertain.

Depending on the parameters, the change of the two marriage payment prices could only occur in the two main directions presented below:[13]

		Bride price	
		Increase	Decrease
Dowry	Increase	✓	✗†
	Decrease	✗	✓

†May be true under a less common condition.

Suppose the income effect leads to the dowry dropping from D^* to D, and the shift due to the substitution effect is $D^{**} - D^*$. Both marriage payments will increase when $D^{**} - D^*$ is larger than $D - D^*$, and vice versa. Hence, $D^{**} = D$ presents the turning point for the change of direction, measured in terms of the spouses' bargaining power. When the inequality within the household is high, the income effect tends to be small, and the substitution effect will dominate, and vice versa.

Proof: *see Appendix A.3*

When both marriage payment prices increase (when inequality is high and the substitution effect dominates), it results in a more interesting case since it will be a Pareto improvement. Both families are more willing to transfer more wealth to their children since they both can get more utility from the altruistic part; thus, both spouses' consumption will increase. For the bride's family, not only will they enjoy higher utility from their altruism, but they also gain it through higher consumption. Since the groom's family always gets the utility the same as the outside option, they are not hurt by the amendment. However, when both of the marriage payment prices decrease after the amendment, it shows the increased marginal benefits from the altruism of the bride's family are comparatively small. In the case of both prices decreasing, even though the groom will have less consumption, the change for the bride is uncertain.

[13]The less common condition is based on a zero payment of dowry before the amendment, the amendment incentivizing the bride's family to transfer a small amount of wealth, and the effect being led by increasing marginal value of dowries. See Appendix A. for the proof.

A possible concern is if the marriage law amendment changes the optimal matching between individuals. The previous marriage payment equilibrium analysis is based on the post-matching results. This means the matching of spouses is already the optimal solution. To test the matching issue, I follow the thread of the positive assortive mating approach by Becker (1973). The study's result indicates that if one or more traits—not affected by exogenous factors—are involved in the matching process, the matching results are fixed. The case is similar to the setup of my model since only wealth and income are present. Thus, unless there are other spouses' traits that will be directly affected by the amendment, the ranking of candidates for an individual will not change; the optimal matching results will also not change.

4. Empirical Analysis

This part presents empirical evidence to test the models presented in the previous section with survey data. I first present summary statistics for the data. Following this, I investigate the effects of the marriage law amendment.

4.1. Data and Summary Statistics

Estimation requires information on marriage payments from both sides, characteristics of both families, and the allocation of resources and time for the married couple. A unique dataset that meets these requirements is the 2018 China Labor-force Dynamics Surveys (CLDS).

4.1.1. Description of CLDS data

CLDS data are panel datasets that were conducted in 2011, 2012, 2014, 2016, and 2018. However, only the 2018 dataset provides complete information on marriage payments. Previous surveys asked only about the total expenditures from the groom's parents (bride prices). The 2018 survey asked not only both the groom and bride about their betrothal payments from their parents (bride price and dowry, respectively) but also their spouse's parents' marriage payments (dowry and bride price, respectively), which helps to verify whether the reported payments are consistent between the spouses. The surveys cover 29 provinces (or equivalents) in total, and the data include three parts: community,

household, and individual surveys.[14] As the name suggests, the surveys involve only the eligible labor force aged between 15 and 64 (regardless of whether they actually work). The household and individual datasets can be linked by the household ID. Due to the purpose of my research, I select only the households of married (or engaged) couples in which one of the spouses is regarded as the household head.

For the individual-level data, the surveys ask for the individuals' information as well as their parents'. For the main variables of interest, the marriage payment questions are as follows:

- Marriage Payments
  - How much did your family spend for your first marriage (such as betrothal gifts and bride price or dowry) _____$yuan$?
  - How much did your spouse's family spend _____$yuan$?

I access the answers from both sides and drop the observations with inconsistent payment amounts.[15] Other information at the individual level includes demographic information, wedding years, education levels, occupations, incomes, allocations of time on working and chores, and migration history. For parental information, individuals are asked about their demographic information, education levels, and occupations if they are still in the labor force. The household part mainly surveys the household member structures, living conditions, income, and expenditures. This helps to select the sample for the analysis.

4.1.2. Summary Statistics

After dropping single-member families, there are $1,196$ observations of two-spouse households with complete individual-level data, among which 651 have complete household-level information. Table 1 presents the summary statistics of the main variables at the individual level (Panel A) and household level (Panel B).

[Insert Table 1 here]

[14] The community part mainly surveys the development of the villages or neighborhoods, so I will not focus on this part.

[15] I allow a tolerance of a 10% difference.

The average ages for female and male samples are 46.16 and 47.77 years old, respectively. Among these married couples, the percentages of couples married in the 1980s, 1990s and after 2000s are 31.4%, 37.6% and 31.0%, respectively. Both men and women in the sample see high labor force participation rates, consistent with the continuing trend of comparatively high labor force participation rates among Chinese women (Maurer-Fazio et al., 2011). At the same time, only 3.5% of men are out of the labor force, while the rate is approximately 18% for women. On average, a man works twice as long as a woman in the labor market. However, for chore participation, a much lower rate can be observed among husbands. Only 2.2% women do not do any chores, but the rate reaches 32% among men. In addition, a woman spends 15 hours weekly on chores on average, while the number of hours totals just 4 among husbands.

For the household level, the average bride price and dowry for the sample are $9,867$ and $5,234$ *yuan*, respectively.[16] It should be noted that the majority of the sample got married 30 or 40 years before the surveys when China was in the beginning of its economic reform and transitioning from a planned economy to a market economy. These two values should be treated as considerable at that time.

This extensive dataset enables me to explore the intricate connection between patrilocality levels and the bride price phenomenon, which forms the foundational premise of the theoretical framework explaining the occurrence of bride prices. Patrilocality significantly contributes to the practice of bride price payment, and an elevated degree of patrilocality (measured by the advantages gained by the groom's family) exhibits a positive correlation with the bride price demanded by the bride's family. I employ multiple proxies to gauge patrilocality. The detailed outcomes of these tests are provided in Appendix B.1.

This dataset also enables the examination of an assumption posited in the theoretical framework: the impact of an elevated dowry on the bride's negotiating leverage. This becomes evident upon observing the substantial disparity in chore participation and time allocation between the spouses, as indicated by the summary statistics. Notably, the data reveals that nearly all women in the sample partake in household chores, regardless of their income or educational attainment, while one-third of men abstain from any housework. Consequently, a test is conducted to ascertain whether a positive correlation exists between the dowry's value and an individual's engagement in chores. The findings

[16] All prices involved in this paper are CPI adjusted to the 2000 values in each province.

suggest that women spend less time on household chores, and husbands tend to be more actively involved when a higher dowry is paid. Detailed outcomes of this test are outlined in Appendix B.2.

4.2. Structural Estimation on Pareto Weights and Inequality

This section adheres to the theoretical model, aiming to empirically assess intrahousehold bargaining power and the impacts of dowries. This step examine the applicability of the low and high inequality cases presented in Section 3.2. After determining the spouses' bargaining power (the level of inequality), I can proceed to assess whether the marriage payments align with the patterns anticipated in the theoretical framework. The heterogeneity in Pareto weights is attributed to dowry amounts, potentially strengthening the wife's role within the household. Furthermore, I revisit the utility function's structure by integrating aspects of home production and leisure time. This adjustment serves the purpose of scrutinizing the allocation of various resources between spouses, which mirrors each individual's significance within the household.

The framework underlying this model is founded on collective models derived from established literature on intrahousehold allocation, such as Chiappori et al. (2002), Chiappori & Mazzocco (2017) and Lise & Yamada (2019). The collective bargaining process operates on the premise that household consumption patterns and time allocation favor the member with higher bargaining power. Notably, husbands and wives possess distinct preferences concerning consumption types and time allocation. Therefore, by examining actual consumption patterns within a household and the distribution of spouses' time, we can estimate the Pareto weights of both partners.

In reality, the division of consumption among household members is challenging to observe directly. The surveys employed in this analysis offer information only on total consumption expenditures and their subcategories. However, obtaining individuals' data on their time spent on work, home production, and leisure is more feasible and accessible through surveys. However, the coefficients associated with consumption and leisure are not central to the analysis. This approach offers a reliable proxy for evaluating spousal bargaining power, which aligns with my primary objective of unveiling household inequality.

Within the newly formed household, an individual's utility consists of their consumption of final goods c^G and home production q^G, and leisure ℓ^G ($G = M$ or F). Both the wife's and husband's time are divided into three parts: work, home production, and leisure. The final goods do not require

a home production process. However, to consume home-produced goods, an individual has to spend time on home production. Home production involves individuals' time spent on home production h^G and an input of the intermediate goods g:

$$q = q(g, h^M, h^F) \tag{16}$$

Thus, in order to tackle this issue, I revisit the original household utility maximization problem in the form below:

$$V^H = \max_{c^H, q^H, \ell^M, \ell^F} [u_2^M(c^H, q^H, \ell^M)]^{\sigma(D)} [u_2^F(c^H, q^H, \ell^F)]^{1-\sigma(D)} \tag{17}$$

where V^H is the revised household utility. The individual utility is expressed as follows:

$$u^G = (c^H)^{\tau_1^G} (q^H)^{\tau_2^G} (\ell^G)^{\tau_3^G}, \qquad \tau_1^G + \tau_2^G + \tau_3^G = 1, G = M \; or \; F \tag{18}$$

I replace the consumption of final goods and home production of individuals with the total consumptions: c^H and q^H. Home production involves the input of both the husband's and wife's time on chores and intermediate goods. The production function is as follows:

$$q^H = (h^M)^{\rho_1} \cdot (h^F)^{\rho_2} \cdot (g)^{(1-\rho_1-\rho_2)} \tag{19}$$

The budget constraint becomes

$$c^H + g = \omega^M \cdot t^M + \omega^F \cdot t^F + D \tag{20}$$

To reflect the role of dowries in influencing a wife's bargaining power, I parametrize the heterogeneity in Pareto weights σ and $1-\sigma$ in terms of the dowry value D. For the convenience of structural estimation, I adopt the exponential form of the Pareto weights, considering the nature of the data. The weight on the husband's utility is expressed as follows:

$$\sigma(D) = \frac{exp(\nu_0 + \nu_1 D)}{1 + exp(\nu_0 + \nu_1 D)} \tag{21}$$

The specification normalizes the sum of the weights of the husband and wife to 1. I adopt two

indicators for the dowry payment variable: the actual value of the dowry and the dowry-to-bride price ratio. In addition to its role as an endowment in the couple's budget constraint, the dowry amount also shows the bride's parents' support for her bargaining power in the new conjugal household. Table 2 below presents the estimation results.

[Insert Table 2 here]

The estimation of Pareto weight is based on the sample average. Overall, the husbands see much higher bargaining power than the wives, with a weight of 0.73. In addition, for a woman who brings the mean value of dowry, a $1,000$ *yuan* increase in a dowry results in a 0.37 percentage point increase in her bargaining power. When measured with the dowry-to-bride price ratio, a woman whose family retains the mean value of the ratio sees a 0.4 percentage point higher bargaining power if the ratio increases by 1 percentage point. Therefore, it is evident that the level of inequality in Chinese households is notably high. Consequently, with the marriage law amendment, one can expect that both prices will rise.

4.3. The Impacts of the Marriage Law Amendment on Marriage Payments

4.3.1. RDD estimation

In this part, I test whether the marriage law amendment leads to a discontinuity of the marriage payment. The theoretical part suggests two directions of change may occur under different situations. Hence, if the theory is valid, and there exists a high level of inequality within the family, the proposed law amendment could foster increased incentives for the bride's family to transfer wealth to the couple and for the groom's family to offer a more substantial bride price. Hence, positive discontinuities of the two marriage payments should be observed in the 2001, the year the marriage law amendment was introduced. First, I examine the graphic evidence of discontinuity by looking into the time trends of the two marriage payment prices. I also calculate the ratios of the dowry to the bride's income and to the bride price to reflect the marginal value of dowries. The two scatterplots in Figure 2 and Figure 3 present the average bride price and dowry, respectively, through the sample years.

[Insert Figure 2 here]

[Insert Figure 3 here]

There is an upward trend for both marriage payments because society is becoming wealthier. However, there is a clear discontinuity in 2001, where an upsurge can be observed in both prices.

In addition, to reflect the increased marginal value of dowries, I further calculate two ratios: the dowry to the bride's income and to the bride price. The two scatterplots in Figure 4 and Figure 5 present the average dowry-to-bride income and dowry-to-bride price ratios, respectively, through the sample years.

[Insert Figure 4 here]

[Insert Figure 5 here]

The interesting phenomenon about the dowry-to-bride income ratios is that before the introduction of the amendment, the flat regression line is consistent with the dowry being relative to the income per capita. However, after 2001, not only is there a jump in the ratio but also a continuously increasing trend afterward. For the dowry-to-bride price ratios, there is a downward trend. If the gender equality issue has been improving over time, the marginal benefit of dowries in improving wives' bargaining power would diminish. However, the sudden jump in the ratio in 2001 may indicate an abrupt increase in the value of dowries. In addition, evidence of the direct impacts of the amendment on property values is provided in Appendix B.3.

In order to test the magnitude of the discontinuity due to the law amendment, I adopt a regression discontinuity design (RDD) strategy to analyze the scale of the effect. The basic specification is below:

$$Price_{i,t} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 D_i + \boldsymbol{\beta}_2 T_{i,t} + \boldsymbol{\beta}_3 D_i \cdot T_{i,t} + \varepsilon_{i,t} \tag{22}$$

$Price_{i,t}$ is either the bride price, dowry, or ratio indicators. D_i is a dummy variable that indicates if the year when the couple got married was after the amendment (1 if after 2001 and 0 if before 2001). $T_{i,t}$ stands for the wedding year measured relative to 2001, which captures the time trend. The specification also includes the interaction term of the dummy variable, the time trend term, and the error term. Hence, the estimand $\boldsymbol{\beta}_3$ reflects the discontinuity: $\boldsymbol{\beta}_3 = \lim_{T \uparrow A^*} E[Price_{i,t}|T_{i,t} = Amendment] - \lim_{T \downarrow A^*} E[Price_{i,t}|T_{i,t} = Amendment]$. In addition, considering that the bride's income used in calculating the dowry-to-bride income ratios is her current income, I further include the control variable of the bride's age at which she got married. Table 3 presents the estimation results:

[Insert Table 3 here]

The first four columns test the effect on the bride price and dowry, where both the actual currency values and values after IHS conversion are presented. The last two columns present the dowry-to-income and dowry-to-bride price ratios results. The estimation shows that the increase of dowries and the dowry-to-income ratio at the timing cutoff is consistently significant at the 10% level or higher. The increase of the exact bride price and dowry values amount to $2,243$ and $1,214$ *yuan*, respectively. The average bride price and dowry before the law amendment were $9,299.72$ and $5,277.67$ *yuan*, respectively; thus, this amendment amounts to 24.12% and 22.94% increases for the two marriage payment prices. The average dowry-to-income ratio prior to the amendment was 0.93; thus, the amendment helped to raise the ratio considerably to 2.0. The amendment raised the average dowry-to-bride price ratio by 7.5 percentage points from 0.61.

The following part proves that 2001 was a clear timing threshold when the two marriage payments started to be affected simultaneously. The correlation between the two marriage payments and the running variable should be the strongest in the year 2001. This should be reflected as the R-squared values peaking at the year 2001 in the regressions. Hence, if we set different cutoff points around the year 2001, the distributions of the R-squared values of the two prices and their weighted sum should display similar concave shapes. I graph the R-squared values in a sequence of cutoff points (-5 to 5 relative to the year 2001) in Figure 6.

[Insert Figure 6 here]

The R-squared distributions for bride prices and dowries both show a similar concave pattern along the sequence. We can clearly observe that the two distributions jointly peak at the zero cutoff point, where both the bride price and dowry reach R-squared values that are close to the highest. In addition, the weighted sum distribution also peaks at the cutoff point of 0. There are inconsistencies between the distributions of the two prices at some points. These may be due to some factors affecting only one of them. However, since the test is about if the year 2001 best explains simultaneous positive discontinuities, it is reasonable to conclude that 2001 is the best cutoff point based on the joint peak.

4.3.2. Robustness Tests on the Impacts of the Marriage Law Amendment

This section focuses on two crucial concerns pertaining to RDD estimation. Firstly, I examine the presence of potential manipulations undertaken in response to the policy's introduction. Secondly, I explore the influence of other contemporaneous events on marriage payments, aiming to disentangle their effects from the policy change. Addressing these concerns strengthens the validity of the RDD-based study.

4.3.2.1. Manipulation of the Wedding Years around the Year of Implementation

This part examines the general concern of testing the implementation of any policies that a manipulation may occur around the year when a policy is introduced. The concern regarding this specific amendment is reflected in two parts both before and after the year of implementation. Since the hearing of the amendment was held one year ahead of the implementation in October 2000 and the release of the information could have been even earlier, some people would have expected the future implementation of the amendment. Thus, if these people got married one or two years ahead of the amendment, they may have chosen to set the bride price and dowry according the new information. In contrast, for those who are less sensitive to political news, it might take some time for them to adjust to the new law. Thus, they may still set the marriage payment prices according to the old law. In addition to the marriage price aspect, the timing in which couples got married may have been affected. Because this amendment is pro-woman, a couple, especially the bride's side, would want to wait to see how the policy would be implemented if they were initially planning to register around those years. Though I cannot directly test the first case, it is possible to conduct a McCrary density test to examine whether there was an abnormality around the year of implementation. Following Cattaneo et al. (2020, 2021), I conduct a hypothesis test about whether the density near the cutoff point to is discontinuous. Table 4 below presents the result.

[Insert Table 4 here]

The test clearly indicates there is a manipulation around the year of the implementation of the amendment. It indicates some couples adopted a "wait to see" strategy. Thus, in order to avoid the interference of the lag and lead effects, I employ the donut RDD method. Table 5 below shows the results with one (top) and two (bottom) years excluded on each side.

[Insert Table 5 here]

Table 5 shows that the magnitudes of all six indicators of both new samples are larger than the original test. In addition, higher significant levels can also be observed in the new estimation. The difference is especially noticeable in the sample with two years on each side excluded where the discontinuity of the bride price is almost doubled and the dowry estimation sees a nearly 50% increase. The donut RDD regression results further strengthen our findings in respect to the impacts of external shocks on the marriage payments.

4.3.2.2. Robustness Tests on the Impacts of China's Entry to the WTO

This section specifically addresses concerns about the potential influence of other events in 2001. If an event occurred that increased the bargaining power of wives, we might observe similar patterns of discontinuity. To test the robustness of our findings, I examine China's entry into the World Trade Organization on December 11, 2001. This event created many job opportunities in the manufacturing industry, which may have benefited women with disadvantaged economic status. If so, the increased bargaining power could lead to a higher incentive for families to transfer more wealth to their daughters upon marriage. Two possible channels for this are increased labor force participation among married women (Dai et al., 2021) and the textile and clothing industries benefiting most from the WTO accession (Yeung & Mok, 2004). However, the impact of the WTO entry varied across regions due to different degrees of exposure to trade (J. Han et al., 2012). Therefore, if our theory holds true, we should expect a more significant increase in marriage payments in the regions more exposed to the WTO entry. I classify these regions into two groups—more exposed and less exposed—based on the same measurement used in J. Han et al. (2012). Table 6 presents the RDD estimation for both groups.

[Insert Table 6 here]

Contrary to the hypothesis, the estimation shows the opposite direction. The less exposed areas experience significant increases in both bride price and dowry, and on a much larger scale. However, none of the four differences between the coefficients from the two groups are significant at the 5% level (note that the bride price test is in the opposite direction). Therefore, we can reject the hypothesis that entry to the WTO explains the discontinuities. There are two main reasons for this. Firstly, the entry into the WTO mainly increases individual consumption by increasing the budget, whereas the

marriage law amendment increases the value of dowries and indirectly increases bargaining power and budget. As a result, the entry would not create a higher incentive for parents to transfer more wealth. Secondly, the more exposed areas are also the more developed regions, so the difference in the scales of the discontinuities is not from the exposure to entry, but the level of equality within a household. Before 2001, the average bride price and dowry in the more exposed areas were 10183.23 and 6301.68 *yuan*, respectively, compared to 8491.66 and 4396.50 *yuan* in the less exposed areas. Thus, the results are consistent with our previous theoretical implication that families with high inequality would expect a larger increase in both prices.

4.3.2.3. Robustness Tests on the Degree of Patrilocality

The robustness test in this part is built upon the previously discussed notion that patrilocality serves as one of the primary mechanisms for the occurrence of marriage payments. In addition to the examination in Appendix B.1 regarding the intricate relationship between the degree of patrilocality and the practice of marriage payments, this section furnishes compelling evidence illustrating how the marriage law amendment impacts marriage payments differently in regions characterized by varying levels of patrilocality.

Consistent with the definition outlined in Appendix B.1, I employ the distance between the place of birth and the current city of residence as a proxy for measuring the extent of patrilocality. Consequently, we partition our sample into two distinct groups, employing the median as the demarcation point. Table 7 shows the outcomes pertaining to the two marriage payments.

[Insert Table 7 here]

The four columns on the left pertain to the regions marked by a high degree of patrilocality, while the four columns on the right correspond to regions falling below the median value. It is evident that only the regions characterized by a high degree of patrilocality yield robust results. The RDD estimations for discontinuities not only exhibit a higher level of statistical significance but also signify more substantial increments in the two pricing factors. In contrast, the regions with a low degree of patrilocality fail to produce estimations that reach a significant level. Furthermore, the magnitudes in the rightmost four columns are notably smaller than those observed in regions marked by high patrilocality, with some columns even displaying opposing signs. It is worth noting, as discussed in

Appendix B.1, that a substantial portion of the sample did not relocate their place of residence following their weddings. This factor may exert an influence on the estimations for regions characterized by low patrilocality. Nevertheless, the stark contrast between the outcomes in these two categories of regions strengthens the assertion that patrilocality operates as the underlying mechanism driving the occurrence of marital transfers.

4.3.2.4. Robustness Tests on the Trends of Other Indicators

This section conducts robustness checks on the trends observed in other indicators. In the previous tests, I proved the existence of discontinuities, with the year 2001 serving as the optimal cutoff point. While significant events like WTO accession may not directly impact marriage payment values, the argument gains strength if other economic indicators do not follow a similar trajectory. In simpler terms, the discontinuities in marriage payments cannot be attributed to broader economic trends or endogenous factors. Consequently, I perform an assessment of various economic factors at both individual and macro levels. This individual-level analysis encompasses spouses' incomes, utilizing the same sample as the prior tests. Additionally, I employ macroeconomic indicators, including GDP, GDP per capita, and provincial-level residential consumption. These three indicators are sourced from the China Statistical Yearbook and are widely employed by the government to gauge economic performance.

The specifications for individual indicators remain consistent with the primary test. As for provincial indicators, RDD regressions exclude other covariates. Table 8 presents the RDD estimates for both of these groups.

[Insert Table 8 here]

In contrast to the positive discontinuities observed in marriage payment trends, both individual and provincial economic indicators display negative discontinuities in the year 2001. Notably, no results except for the bride's income exhibit statistical significance. This implies that despite the potential growth of macroeconomic factors during this period, no significant discontinuities occur in this particular year. Examining the income data, we can also notice no substantial positive discontinuities and even detect a negative discontinuity for the bride at the individual level. By combining these outcomes, we can infer that the positive discontinuities in marriage payments do not stem from a broader

overarching trend.

4.3.2.5. Robustness Tests on the Degree of the Polynomial and Bandwidth

This section performs robustness assessments related to common concerns associated with the RDD method, specifically focusing on the selection of polynomial degrees and bandwidth. Given the unique nature of the variable employed in our study, these two aspects carry less significance.

Regarding the choice of polynomial degree, as can be observed from Figure 2, 3, 4, and 5, the distribution does not exhibit a clear polynomial pattern. Therefore, using polynomial terms in an RDD regression would not be accurate, especially when the specification shows that higher-order terms generally do not exhibit statistical significance.

When it comes to selecting the optimal bandwidth, the recommended approach suggests a relatively wide range, following the selection rule proposed by Calonico et al. (2019). This choice aligns with the substantial sample size encompassing a significant portion of the data across all specifications. Consequently, adjusting the bandwidth is unlikely to significantly affect the included sample size.

In Appendix B.4, I provide supporting evidence related to the two concerns raised and demonstrate that the results are not statistically significant within this specific context.

5. Conclusions

I constructed a simple model of the marriage market to investigate how an amendment to the marriage law that enhances women's property rights can result in a Pareto improvement for both spouses and their respective families in the context of a bidirectional marriage payment tradition prevalent in Chinese society—the bride price and the dowry. The findings of this research contribute to a better understanding of the significance of gender roles in a traditionally conservative society with high levels of gender inequality, with reference to one of the most important events in a person's life: marriage.

I augment the existing literature on the marriage market by introducing bidirectional and non-zero-sum wealth transfers between the families involved in order to explore how equilibria of marriage payments are determined and how they are affected by external shocks. In the model, the bride's

family sets a non-negotiable bride price offer for the groom's family, as well as the subsequent dowry that will be transferred to their daughter. The parents' utility comprises both their own and their daughter's consumption as well as the utility loss from the daughter's marriage due to the patrilocal tradition. The couple shares the dowry's use and decides its allocation. I introduce the heterogeneity into the Pareto weights of the spouses by incorporating the dowry payment, where a higher dowry provides the wife more bargaining power.

I derive the equilibrium of the two marriage payments in the model. This forms the basis for the subsequent welfare analysis. I then examine how an increases the value of dowries thanks to the marriage law amendment affects the equilibrium of the marriage payments in different scenarios and demonstrate that when gender inequality is high, it can lead to a Pareto improvement for all parties involved by increasing both payments.

This article provides empirical evidence to test the predictions of the theoretical models. It accomplishes this through a structural estimation of inequality within Chinese households and the utilization of a regression discontinuity design (RDD) to analyze changes in marriage payments when the marriage law amendment was introduced. A unique dataset that includes marriage payment information and family characteristics is adopted. The structural collective model reveals an average bargaining power of 0.73 for husbands and 0.27 for wives. These findings indicate a high level of inequality within households and suggest a potential improvement in the event of enhanced property rights for wives.

The RDD estimation regarding the impacts of the marriage law amendment indicates positive increments in both marriage payments. The marriage law amendment resulted in positive changes in both bride prices and dowries, where a 24.12% increase in the bride price, a 22.94% increase in the dowry, and a 7.5 percentage points jump in the dowry-to-bride price ratio is observed. The regression results obtained through RDD analysis remain robust even after conducting various tests, including an examination of the optimal timing threshold, the impacts of China's accession to the WTO, donut-hole RDD regressions that address concerns about potential manipulations of wedding timing, the degrees of patrilocality in different regions, and comparison to the trends of other economic indicators.

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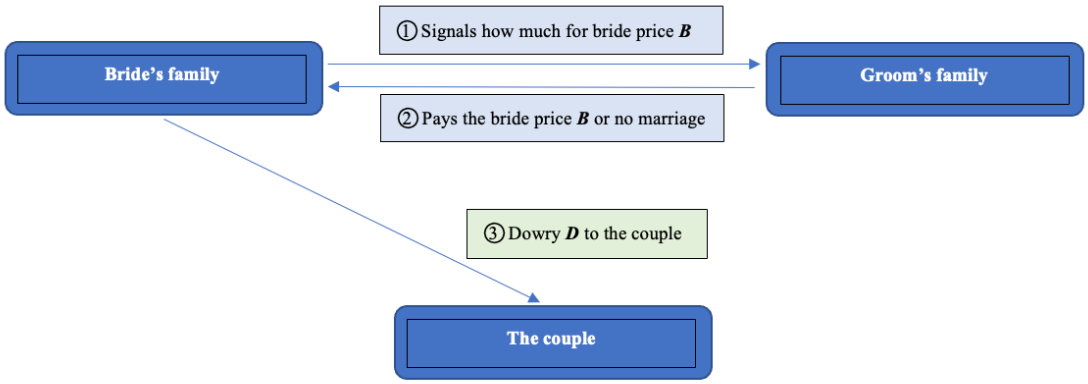
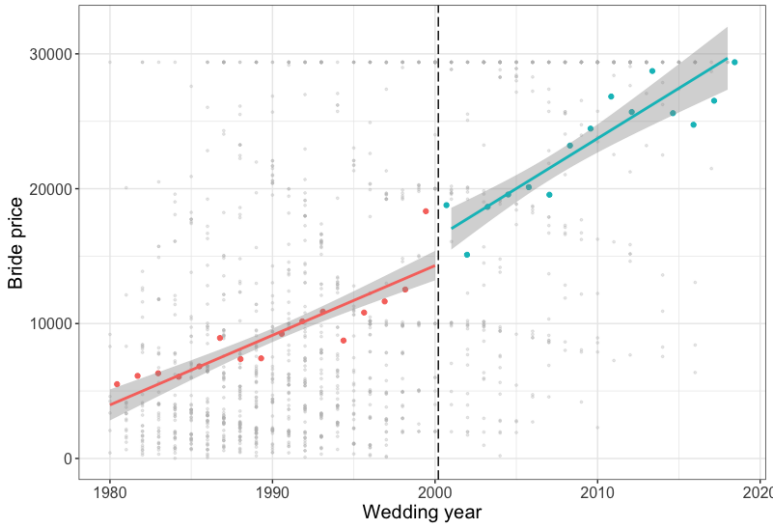
Figures

Figure 1: The Process of Payments in A Marriage



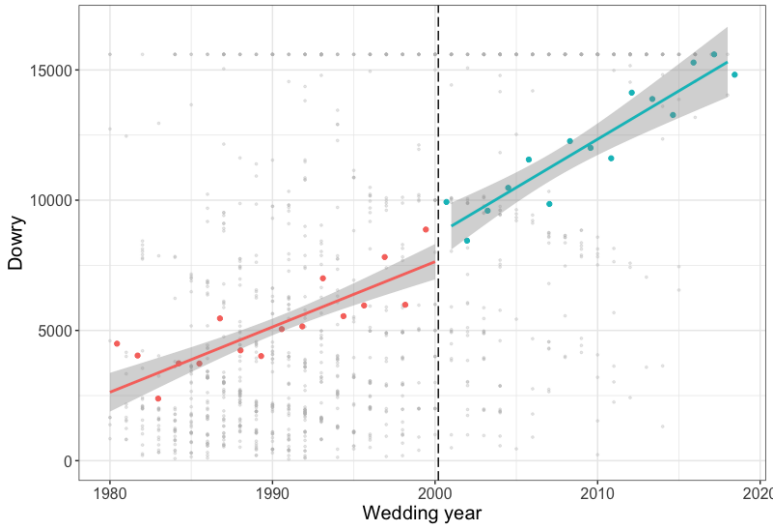
Note: This flowchart demonstrates the process of the two marriage payments: bride prices and dowries; the numbers indicate the order. Bride prices (**B**) are usually in the form of cash, and dowries (**D**) are in the form of physical assets. The bride price is signaled by the bride's family to the groom's family and is usually non-negotiable. There is no restriction on the relationship between the values of a bride price and a dowry.

Figure 2: Relationship between Wedding Years and Bride Prices



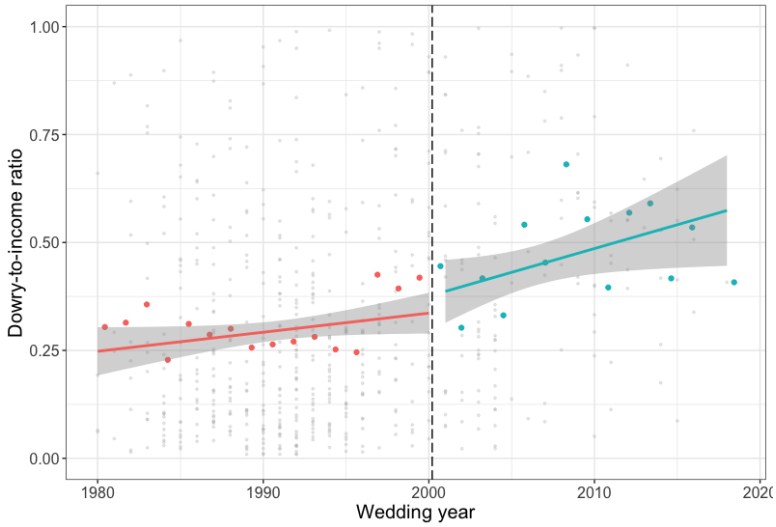
Note: This figure demonstrates the time trend of bride prices from 1980 to 2018. The sample is from the 2018 China Labor force Dynamics Surveys (CLDS). The sample size is $1,461$. The vertical axis is the bride price (*yuan*). Each dot stands for the yearly average bride price. The horizontal axis stands for the years when the couples got married. The cutoff line is the year 2001, when the marriage law amendment was implemented. The data is winsorized at the 0.5% level at both the top and bottom.

Figure 3: Relationship between Wedding years and Dowries



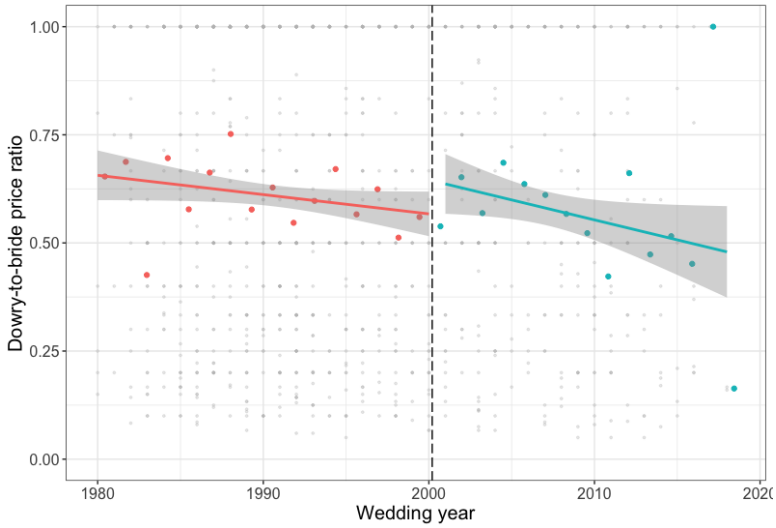
Note: This figure demonstrates the time trend of dowries from 1980 to 2018. The sample is from the 2018 China Labor force Dynamics Surveys (CLDS). The sample size is $1,207$. The vertical axe is the dowry(*yuan*). Each dot stands for the yearly average. The horizontal axe stands for the years when the couples got married. The cutoff line is the year 2001, when the marriage law amendment was implemented. The data of dowries is winsorized at the 0.5% level at both the top and bottom.

Figure 4: Relationship between Wedding Years and Dowry-to-bride income Ratios



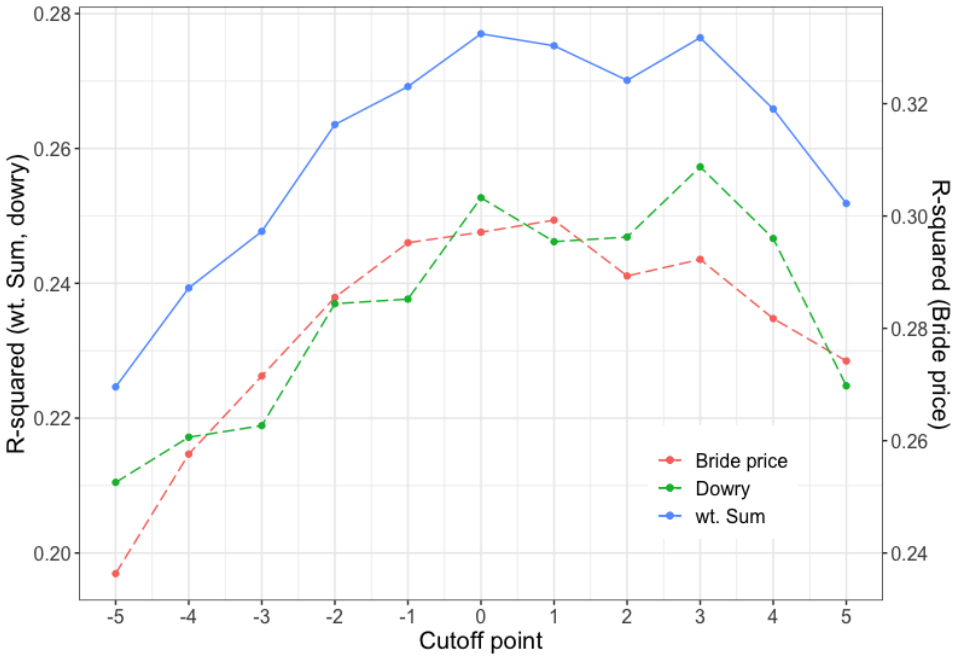
Note: This figure demonstrates the time trend of dowry-to-income ratios from 1980 to 2018. The sample is from the 2018 China Labor force Dynamics Surveys (CLDS). The sample size is 804. The vertical axe is dowry-to-income ratios. Each dot stands for the yearly average. The horizontal axe stands for the years when the couples got married. The cutoff line is the year 2001, when the marriage law amendment was implemented.

Figure 5: Relationship between Wedding Year and Dowry-to-bride price Ratios



Note: This figure demonstrates the time trend of dowry-to-bride price ratios from 1980 to 2018. The sample is from the 2018 China Labor force Dynamics Surveys (CLDS). The sample size is $1,032$. The vertical axe is dowry-to-bride price ratios. Each dot stands for the yearly average. The horizontal axe stands for the years when the couples got married. The cutoff line is the year 2001, when the marriage law amendment was implemented.

Figure 6: R-Squared from RDD Regressions for the Sequence of Thresholds



Note: This figure illustrates the R-squared values obtained from different threshold assumptions regarding the onset of the marriage law amendment's impact on the two marriage payments, using data from the 2018 China Labor force Dynamics Surveys (CLDS). The left vertical axis represents the weighted sum of the two R-squared values, with the weight of each marriage payment corresponding to its sample size and the R-squared values of the dowry RDD estimation. The right vertical axis shows the R-squared values for the bride price RDD estimation. The cutoff point values are relative to the year 2001 when the marriage law amendment was implemented. The Bandwidth type is chosen based on the method proposed by Calonico et al. (2014). The kernels are set as normal to ensure the bandwidths are within the range of data with the change of the cutoff points.

Tables

Table 1: Summary Statistics

Panel A: Individual Data		
	Bride	Groom
Current Age (years)	46.16	47.77
Age at Marriage (years)	22.36	24.04
Income (*yuan*)	19,445	34,416
Labor Force Participation Rate	82.14%	96.46%
High School Education Percentage	22.00%	30.60%
Average Working Hours (weekly)	18.08	32.01
Chore Participation Rate	97.80%	68.00%
Average Hours on Chores (weekly)	15.10	4.14
Panel B: Household Data		
	Household	
Bride Price	9,867	
Dowry	5,234	
Dowry-to-bride price Ratio	80%	
Number of Observations	1,196	

Notes: The results use the sample from the 2018 China Labor force Dynamics Surveys (CLDS). All prices are in 2000 value in each province (or equivalents). The variables of age, age at marriage, income, working hours, and hours on chores at the individual level and variables of bride prices, dowries, total consumption, and food consumption at the household level are the sample averages.

Table 2: Structural Estimation on the Bargaining Power

	(1)		(2)	
Pareto Weight Parameters				
σ (husband, sample average)	0.764***		0.820**	
	(0.269)		(0.405)	
Dowry	-1.249***			
	(0.320)			
Dowry Ratio			-1.151**	
			(0.484)	
Individual Preference Parameters				
	Groom	Bride	Groom	Bride
Final Goods	0.254***	0.301***	0.296***	0.338***
	(0.061)	(0.052)	(0.051)	(0.045)
Home Production	0.397***	0.417***	0.452***	0.443***
	(0.085)	(0.065)	(0.050)	(0.043)
Home Production Parameters				
ρ_1 (husband)	0.164***		0.174***	
	(0.002)		(0.002)	
ρ_2 (wife)	0.204***		0.204***	
	(0.002)		(0.002)	
Observations	471		471	

Note: * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. Dowry, and final and intermediate goods values are transformed with the Inverse Hyperbolic Sine (IHS) function. The estimation is based on the Generalized Method of Moments. The Pareto weight parameter estimation is based on the sample average values of the dowry values and the dowry-to-bride price ratio.

Table 3: Reduced-form Evidence: Effect of The Marriage Law Amendment on Marriage Payments

	Dependent variable:					
	Bride price (log)	Bride price	Dowry (log)	Dowry	Dowry-to-income	Dowry-to-bride price
	(1)	(2)	(3)	(4)	(5)	(6)
RDD estimand	0.203*	2,242.983**	0.232*	1,213.899**	1.074***	0.075*
	(0.122)	(971.448)	(0.138)	(583.456)	(0.393)	(0.045)
Observations	1,461	1,461	1,207	1,207	804	1,032
R^2	0.335	0.343	0.292	0.299	0.031	0.009

Note: Standard errors in brackets. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. The dependent variables in columns 1 and 3 are the bride price and dowry transformed with the Inverse Hyperbolic Sine (IHS) function. The dependent variables in columns 2 and 4 are the actual amounts of the bride price and dowry. The dependent variable in column 5 is the ratio of the dowry to the income of the bride (CPI adjusted). The dependent variable in column 6 is the ratio of the dowry to the bride price. The cutoff point is the year 2001 when the marriage law amendment was implemented. All six columns utilize local linear regression and triangular kernel. The Bandwidth type is chosen based on the method proposed by Calonico et al. (2014).

Table 4: Policy Manipulation Test

***Variables*:**	Year of the wedding	
Number of observations	1,461	
Cutoff = 0	Left of Cutoff	Right of Cutoff
Number of observations	1,076	385
Order est. (p)	2	2
Order bias (q)	3	3
Method: robust	T	$P > \|T\|$
	3.8378	1e-04

Note: The cutoff point is the year 2001 when the marriage law amendment was implemented. The test is based on the local polynomial density estimator proposed in Cattaneo et al. (2020, 2021). The kernel used in the test is triangular. The VCE method is jackknife.

Table 5: Robustness Test on the Effect of the Marriage Law Amendment on Marriage Payments: Donut RDD

	Dependent variable:					
	Bride price (log)	Bride price	Dowry (log)	Dowry	Dowry-to-income	Dowry-to-bride price
	(1)	(2)	(3)	(4)	(5)	(6)
	Sample: One year on each side excludeded					
RDD estimand	0.251*	3,048.888***	0.273*	1,291.790**	1.153***	0.098*
	(0.137)	(1,070.960)	(0.156)	(653.684)	(0.447)	(0.051)
Observations	1,395	1,395	1,148	1,148	759	980
R^2	0.339	0.353	0.296	0.305	0.033	0.011
	Sample: Two years on each side excludeded					
RDD estimand	0.365**	4,237.120***	0.323*	1,760.606**	1.226**	0.099*
	(0.153)	(1,182.938)	(0.175)	(728.923)	(0.512)	(0.057)
Observations	1,339	1,339	1,097	1,097	722	938
R^2	0.346	0.367	0.302	0.315	0.033	0.010

Note: Standard errors in brackets. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. The dependent variables in columns 1 and 3 are the bride price and dowry transformed with the Inverse Hyperbolic Sine (IHS) function. The dependent variables in columns 2 and 4 are the actual amounts of the bride price and dowry. The dependent variable in column 5 is the ratio of the dowry to the income of the bride (CPI adjusted). The dependent variable in column 6 is the ratio of the dowry to the bride price. All six columns utilize local linear regression and triangular kernel. The Bandwidth type is chosen based on the method proposed by Calonico et al. (2014).

Table 6: Robustness Test on the Effect of Exposure to the WTO

	Dependent variable:			
	Bride price	Dowry	Dowry-to-income	Dowry-to-bride price
	(1)	(2)	(3)	(4)
	Sample: More exposed to the WTO			
RDD estimand	384.924	412.788	0.882*	0.117*
	(1,397.258)	(824.888)	(0.507)	(0.062)
Observations	722	579	370	496
R^2	0.361	0.309	0.035	0.030
	Sample: Less exposed to the WTO			
RDD estimand	3,920.046***	1,836.995**	0.732	0.030
	(1,319.087)	(799.010)	(0.588)	(0.066)
Observations	739	628	434	536
R^2	0.339	0.292	0.028	0.002
p-value (coefficient diff.)	0.066	0.215	0.847	0.334

Note: Standard errors in brackets. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. The top four columns use the sample from provinces that are more exposed to China's entry into the WTO (on December 11th, 2001). The bottom four columns use the sample from provinces that are less exposed to China's entry into the WTO. The classification is according to J. Han et al. (2012), in which they treat coastal provinces with ports as the more exposed group. The dependent variables in column 1 are the actual amounts of the bride price. The dependent variables in column 2 are the actual amounts of the dowry. The dependent variables in column 3 are the ratios of the dowry to the income of the bride (CPI adjusted). The dependent variables in column 4 are the ratios of the dowry to the bide price. The cutoff point is the year 2001, when the marriage law amendment was implemented. All four columns utilize local linear regression and triangular kernel. The Bandwidth type is chosen based on the method proposed by Calonico et al. (2014). The bottom row presents the p-values from the Wald test between the coefficients from the two groups.

Table 7: Robustness Test on the Effect of the Marriage Law Amendment in Regions with Different Degrees of Patrilocality

	Region with a high degree of patrilocality				Region with a low degree of patrilocality			
Dependent variable:	Bride price (log)	Bride price	Dowry (log)	Dowry	Bride price (log)	Bride price	Dowry (log)	Dowry
RDD estimand	0.622***	5,786.620***	0.799***	17,681.110***	-0.016	-429.018	0.083	-3,874.62
	(0.216)	(1,760.480)	(0.256)	(6,649.39)	(0.201)	(1,550.81)	(0.234)	(4,179.620)
Observations	471	471	370	370	545	545	464	464
R^2	0.301	0.315	0.318	0.129	0.341	0.356	0.25	0.175

Note: Standard errors in brackets. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. The dependent variables in odd columns are the bride price and dowry transformed with the Inverse Hyperbolic Sine (IHS) function. The dependent variables in even columns the actual amounts of the bride price and dowry. All eight columns utilize local linear regression and triangular kernel. The Bandwidth type is chosen based on the method proposed by Calonico et al. (2014).

Table 8: Robustness Test on the Trends of Other Indicators

	Dependent variable:				
	Individual level		Provincial level		
	Groom's income	Bride's income	GDP	GDP per capita	Residential consumption
RDD estimand	-0.112	-1.260**	-0.149	-0.074	-0.092
	(0.263)	(0.505)	(0.099)	(0.067)	(0.077)
Observations	1,382	1,179	1,092	1,092	642
R^2	0.039	0.036	0.803	0.887	0.779

Note: Standard errors in brackets. * significant at the 10% level; ** significant at the 5% level. The dependent variables in columns 1 to 3 are the average annual income of the groom and bride transformed with the Inverse Hyperbolic Sine (IHS) function. The dependent variables in columns 3 to 5 are loglinearized economic indicators at the provincial level from the China Statistical Yearbook. The GDP-related variables match the time range of the main regressions. The time range for residential consumption is from 1994 to 2017. The provincial data only covers the same areas as the previous survey data. All five columns utilize local linear regression and triangular kernel. The Bandwidth type is chosen based on the method proposed by Calonico et al. (2014).

Appendix

Appendix A: Theoretical Appendix

A.1. The Relationship between Bride Price and Bride's Family's Utility

$$\frac{\partial log(U_m^F)}{\partial B} = \gamma\Bigg\{\delta_1 \frac{1}{W^F + B - D}\big(1 - \frac{\partial D}{\partial B}\big) + (1-\delta_1)\frac{1}{c_m^F}\big[-\delta_3' \frac{\partial D}{\partial B}(w^M + w^F + D) + (1-\delta_3)\frac{\partial D}{\partial B}\big]\Bigg\} \tag{A1}$$

Since $-\delta_1 \frac{1}{W^F+B-D} + (1-\delta_1)\frac{1}{c_m^F}\big[-\delta_3'(w^M + w^F + D) + (1-\delta_3)\big] = 0$
and $\frac{\partial log(U_m^F)}{\partial B} = \gamma\delta_1 \frac{1}{W^F+B-D} > 0$,
$\frac{\partial log(U_m^F)}{\partial B} > 0$

A.2. Implications of the Model under Equilibrium

LEMMA: For a dowry, any exogenous increase in the bride price increases the dowry: $\partial D/\partial B > 0$.

This part provides detailed solutions to the discussions of the implications of the equilibrium of the three-agent models.

The rule deciding the dowry amount given any bride price can also be written as:

$$-\frac{\delta_1}{W^F + B - D} - \frac{(1-\delta_1)\delta_3'}{1-\delta_3} + \frac{1-\delta_1}{w^M + w^F + D} = 0 \tag{A2}$$

Take partial differential with respect to the bride price (D is a function of B):

$$\frac{\delta_1}{(W^F + B - D)^2} = \Bigg\{\frac{\delta_1}{(W^F + B - D)^2} + (1-\delta_1)\big[\frac{\delta_3''(1-\delta_3) + (\delta_3')^2}{(1-\delta_3)^2}\big] + \frac{1-\delta_1}{(w^M + w^F + D)^2}\Bigg\}\frac{\partial D}{\partial B} \tag{A3}$$

$\frac{\partial D}{\partial B} > 0$. This indicates that given the exogenous variables set, a higher bride price also means a high dowry payment.

I assign a detailed function form to the bargaining weight δ_3. Notice that the specification does not deliver an explicit function form of dowry but helps to simplify the analysis. The function form also meets the first and second-order:

$$\delta_3 = \frac{1}{1+\alpha_0+\alpha_1 D} \qquad \alpha_0, \alpha_1 > 0 \tag{A4}$$

$$\delta_3' = -\frac{\alpha_1}{(1+\alpha_0+\alpha_1 D)^2} < 0 \tag{A5}$$

$$\delta_3'' = \frac{2\alpha_1^2}{(1+\alpha_0+\alpha_1 D)^3} > 0 \tag{A6}$$

This results in a detailed dowry rule as below.

$$-\frac{\delta_1}{W^F + B - D} + \frac{(1-\delta_1)\alpha_1}{(\alpha_0+\alpha_1 D)(1+\alpha_0+\alpha_1 D)} + \frac{1-\delta_1}{w^M + w^F + D} = 0 \tag{A7}$$

We can notice the LHS's value is monotonically increasing with the increase of B. This indicates that given the exogenous variables W^F, w^M, and w^M, a D corresponds to a single B value.

The following subsections correspond to the proofs of the four propositions. In addition, I define the following consumption values as the outside options:

$$u_1^F(\bar{c}_1^F) = \bar{u}_1^F, \quad , u_2^F(\bar{c}_2^F) = \bar{u}_2^F, \quad , u_1^M(\bar{c}_1^M) = \bar{u}_1^M, \quad , u_1^M(\bar{c}_2^M) = \bar{u}_2^M \tag{A8}$$

and $\bar{c}_1^M < W^M$.

Given a fixed set of family characteristics, both the bride price and the dowry will be decided. Additionally, when all other exogenous factors are also decided, every single value of the bride price corresponds to a single value of the dowry. In other words, any exogenous factor (e.g., a change in the parameters) that increases the bride price and does not directly affect the bride price raises the dowry, even though the relationship might not be linear.

PROPOSITION 1: The bride price is always positive (in a direction from the groom's family to the bride's family).

A negative "bride price" is sufficient for $\bar{c}_2^M > c_m^M$ and a large value of w^F. Not only does the first condition contradict the presumption, but the two conditions also contradict each other.

Intuitively, patrilocality means the groom's family gains from getting a daughter-in-law. Thus, a negative value of "bride price" could further make the marriage more attractive to them. However, for the bride's family, a negative value of "bride price" means they will further lose wealth after the leave

of their daughter. This will make the condition difficult to hold.

From the view of the bride's family's utility, transferring wealth (negative "bride price") does not benefit either their own or their daughter's consumption. The spouses' consumption is not influenced by the bride price but only the dowry. Thus we have no change in the bride's consumption regardless of the bride price amount. The inequation below holds when the "bride price" is negative:

$$log(\xi^F) + \gamma[\delta_1 log(W^F - D) + (1-\delta_1) log(c_m^F)] \geq log(\xi^F) + \gamma[\delta_1 log(W^F + B - D) + (1-\delta_1) log(c_m^F)] \quad \text{when } B < 0 \tag{A9}$$

Hence, the only reason why the bride's family could possibly pay the groom's family is that the outside option for the groom's family is larger than marrying off their son.

$$log(\xi^M) + \gamma\{\delta_2 log(W^M - B) + (1-\delta_2) log[\delta_3(w^M + w^F + D)]\} < \gamma[\delta_2 log(\bar{c}_1^M) + (1-\delta_2) log(\bar{c}_2^M)] \tag{A10}$$

In this case, the equation above can be rewritten as:

$$\gamma(1-\delta_2) log\left[\frac{\bar{c}_2^M}{\delta_3(w^M + w^F + D)}\right] > \gamma\delta_2 log\left(\frac{W^M - B}{\bar{c}_1^M}\right) + log(\xi^M) \tag{A11}$$

Since the RHS is positive, the inequation holds only if the groom's consumption is worse off due to the marriage. This already contradicts the presumption that the marriage benefits both spouses. In the case of a negative "bride price", the reservation bride price needs to be larger than the outside option.

$$log(\xi^F) + \gamma[\delta_1 log(W^F + B - D) + (1-\delta_1) log(c_m^F)] \geq \gamma[\delta_1 log(\bar{c}_1^F) + (1-\delta_1) log(\bar{c}_2^F)] \tag{A12}$$

Suppose $B < 0$, $D \geq 0$, and $W^F + B - D > 0$, a negative bride price means that the gain for the bride has to justify both the loss of wealth and the leave of the daughter.

$$log(c_m^F) - log(\bar{c}_2^F) \geq \frac{\delta_1}{1-\delta_1}[log(\bar{c}_1^F) - log(W^F + B - D)] - \frac{1}{\gamma(1-\delta_1)} log(\xi^F) \tag{A13}$$

This can be rewritten as:

$$\frac{\frac{\alpha_0+\alpha_1 D}{1+\alpha_0+\alpha_1 D}\frac{w^M+w^F+D}{\bar{c}_2^F}}{\left[\frac{1-\delta_1}{\delta_1}\bar{c}_1^F\left(\frac{\alpha_1}{(\alpha_0+\alpha_1 D)(1+\alpha_0+\alpha_1 D)}+\frac{1}{w^M+w^F+D}\right)\right]^{\frac{\delta_1}{1-\delta_1}}} \geq exp\Big[-\frac{1}{\gamma(1-\delta_1)}log(\xi^F)\Big] \tag{A14}$$

The RHS is a constant between 0 and 1. Inequality is more easily achieved when the spouses—especially the bride—have high incomes, and the dowry is high. The LHS is monotonically increasing with w^F. When w^F is close to infinite, the LHS is also approaching infinite. Thus, there exists a $\bar{w}^F$ that

$$\frac{\frac{\alpha_0+\alpha_1 D}{1+\alpha_0+\alpha_1 D}\frac{w^M+\bar{w}^F+D}{\bar{c}_2^F}}{\left[\frac{1-\delta_1}{\delta_1}\bar{c}_1^F\left(\frac{\alpha_1}{(\alpha_0+\alpha_1 D)(1+\alpha_0+\alpha_1 D)}+\frac{1}{w^M+\bar{w}^F+D}\right)\right]^{\frac{\delta_1}{1-\delta_1}}} = exp\Big[-\frac{1}{\gamma(1-\delta_1)}log(\xi^F)\Big] \tag{A15}$$

The bride's income needs to be at least as high as $\bar{w}^F$. Considering that these two conditions contradict the condition on the groom's side, achieving the situation of a negative "bride price" is impossible.

A transfer from the groom's family to the bride's family occurs easily because of the positive gain of utility for the groom's family. Since the transfer from the bride's family to the groom's side does not bring direct utility gain to the former, the marriage would not be attractive to the bride's family unless the gain of their daughter's utility is large enough to compensate for the loss of utility from the daughter's leave and the payment of the bride price. Additionally, this means the groom brings much more income to the household than the bride, which makes his consumption less than before the marriage and contradicts the presumption. Thus, intuitively, this combination is impossible to achieve unless the groom's family essentially "sells" their son for their benefit.

In addition, given a non-negative boundary constraint for the bride price ($B \geq 0$), a zero payment of the bride price ($B = 0$) is still unusual if we also impose a non-negative constraint for the dowry amount ($D \geq 0$). Given the presumption $\bar{c}_2^M < c_m^M$ and $\bar{c}_1^M < W^M$, there cannot exist a solution satisfying $B = 0$ and $D \geq 0$ at the same time.

If $B = 0$:

$$log(\xi^M) + \gamma(1-\delta_2)log\big[\frac{\delta_3(w^M+w^F+D)}{\bar{c}_2^M}\big] = \gamma\delta_2 log\big(\frac{\bar{c}_1^M}{W^M}\big) \tag{A16}$$

Since $LHS > 0$ and $RHS < 0$, the equality will not hold.

Let $g(D) = -\frac{\delta_1}{W^F+B-D} + \frac{(1-\delta_1)\alpha_1}{(\alpha_0+\alpha_1 D)(1+\alpha_0+\alpha_1 D)} + \frac{1-\delta_1}{w^M+w^F+D}$. $g'(D) < 0$. Thus, when B is zero, there exists a positive value of dowry only if $-\frac{\delta_1}{W^F} + \frac{(1-\delta_1)\alpha_1}{\alpha_0(1+\alpha_0)} + \frac{1-\delta_1}{w^M+w^F} > 0$. In other words, we will see a positive value of dowry given a zero bride price only if the bride's family is relatively wealthy and both spouses have

low incomes. With the two conditions above, it is impossible to achieve them simultaneously.

In this case, the groom's family does not pay the bride price because their son is much wealthier than the bride, so the bride benefits much more from the marriage. The same situation applies for a negative "bride price." Meanwhile, after receiving no bride price, the only reason the bride's family would want to transfer wealth to the couple is that the spouses are relatively poor and the bride's family is wealthy enough. Thus, the two conditions contradict each other.

In conclusion, since the situation leads to a worse-off situation for the groom because of the marriage, intuitively, the matching of the two spouses would rarely occur in the first place.

PROPOSITION 2: A zero transfer of dowry ($D = 0$ and $B > 0$) may occur when W^F is small and w^M and w^F are large.

When $D = 0$, B is not correlated with W^F. When W^F is smaller than $\frac{\delta_1}{\frac{1-\delta_1}{w^M+w^F}+\frac{(1-\delta_1)\alpha_1}{\alpha_0(1+\alpha_0)}} - B$, the bride's family will choose not to transfer any wealth to their daughter. Meanwhile, when w^M and w^F are large, the condition is easier to be met.

If $D = 0$:

Similar to the analysis above, the function of the dowry rule A7 will satisfy:

$$-\frac{\delta_1}{W^F + B} + \frac{(1-\delta_1)\alpha_1}{\alpha_0(1+\alpha_0)} + \frac{1-\delta_1}{w^M + w^F} \leq 0 \tag{A17}$$

The inequality is more easily achieved when $W^F + B$ is small and $w^M + w^F$ is large. This means a relatively poor bride's family—even after the reception of a bride price—but a high-income couple. This can be rewritten as:

$$W^F \leq \frac{\delta_1}{\frac{1-\delta_1}{w^M+w^F} + \frac{(1-\delta_1)\alpha_1}{\alpha_0(1+\alpha_0)}} - B \tag{A18}$$

Since when $D = 0$, the bride price B is not correlated with the wealth of the bride's family anymore, the RHS is a constant given a set of w^M, w^F, and W^M. Thus, if the bride's family's wealth is below the RHS value, they will not transfer any to their daughter. In addition, to ensure a positive bride price, the following condition has to be met:

$$log(\xi^M) + \gamma(1-\delta_2)log(\frac{\delta_3(w^M + w^F)}{\bar{c}_2^M}) > 0 \tag{A19}$$

Since $log(\xi^M) > 0$, the condition is not impossible to achieve even if the bride's income is low.

Being compensated with a bride price and having no need to transfer wealth makes a marriage attractive

to the bride's family. The only reason the bride's family will not want to transfer wealth to the couple is that the bride's family is relatively poor, so they cannot afford to give away any money to their daughter (high marginal cost); meanwhile, their daughter earns enough. This situation appears to be less common considering the combination.

PROPOSITION 3: Dowry exceeds the bride price ($D > B$) when W^F is large and w^M and w^F are small.

When the bride's family's wealth satisfies $W^F > \frac{\delta_1}{\frac{(1-\delta_1)\alpha_1}{(\alpha_0+\alpha_1 B)(1+\alpha_0+\alpha_1 B)}+\frac{1-\delta_1}{w^M+w^F+B}}$, they will transfer more wealth to their daughter than the bride price they receive. Meanwhile, when w^M and w^F are small, the condition is easier to be met.

When $D > B$, we can easily get the inequation below from the dowry rule A7:

$$\frac{(1-\delta_1)\alpha_1}{(\alpha_0+\alpha_1 D)(1+\alpha_0+\alpha_1 D)} + \frac{1-\delta_1}{w^M+w^F+D} = \frac{\delta_1}{W^F+B-D} > \frac{\delta_1}{W^F} \tag{A20}$$

The inequation holds when the bride's family is wealthy and the couple's income is comparatively low. This leads to the condition:

$$W^F > \frac{\delta_1}{\frac{(1-\delta_1)\alpha_1}{(\alpha_0+\alpha_1 B)(1+\alpha_0+\alpha_1 B)} + \frac{1-\delta_1}{w^M+w^F+B}} \tag{A21}$$

In addition, the groom's family's side derives the inequation as below:

$$log(\xi^M)+\gamma\{\delta_2 log(W^M-B)+(1-\delta_2)log[\delta_3(w^M+w^F+B)]\} < \gamma[\delta_2 log(\bar{c}_1^M)+(1-\delta_2)log(\bar{c}_2^M)] \tag{A22}$$

When the LHS equals RHS, the value of B is the solutin to the RHS of A21. The inequation can also be rewritten as:

$$log(\xi^M)+\gamma\delta_2 log\left(\frac{W^M-B}{\bar{c}_1^M}\right) < \gamma(1-\delta_2)log\left[\frac{\bar{c}_2^M}{\delta_3(w^M+w^F+B)}\right] \tag{A23}$$

Combined with the previous results, we know that $D > B$ also happens because of a less wealthy groom's family and a low bride price.

When the groom's family is not as wealthy as the bride's family, a lower bride price will be paid. This leads to relatively higher payment of dowry from the bride's family. Intuitively, the bride's family can take advantage of this situation to harvest more bargaining power for their daughter. It should be noted that Proposition 3 and Lemma 1 reflect two different aspects and do not contradict each other. Given any family characteristics, a

higher bride price is always linked to a higher dowry. However, when the bride price is low, it is possible that the dowry can exceed the bride price.

PROPOSITION 4: A higher patrilocal gain for the groom's family increases their willingness to pay.

In addition to family characteristics, patrilocality is an exogenous factor in shifting the bride price. The higher the patrilocality gain (ξ^M) for the groom's family, the more they will pay for the bride price given the fixed family and individual wealth.

$$log(\xi^M)+\gamma\{\delta_2 log(W^M-B)+(1-\delta_2)log[\delta_3(w^M+w^F+D)]\}=\gamma[\delta_2 log(\bar{c}_1^M)+(1-\delta_2)log(\bar{c}_2^M)] \quad \text{(A24)}$$

or:

$$log(\xi^M)+\gamma\delta_2 log\left(\frac{W^M-B}{\bar{c}_1^M}\right)=\gamma(1-\delta_2)log\left[\frac{\bar{c}_2^M}{\delta_3(w^M+w^F+D(B))}\right] \quad \text{(A25)}$$

The LHS is a function monotonically decreasing with the increase in bride price. Under the assumption, the RHS normally decreases with the amount of dowry. When either side is wealthy enough, the RHS starts to increase after reaching the turning point. However, regardless of the shape of the RHS, higher patrilocality (a larger value of the constant $log(\xi^M)$) would always result in a higher value of bride price.

This is a general rule that applies to all cases regardless of family characteristics. At the same time, even though the patrilocality gain means a loss to the bride's family, the loss does not directly affect the dowry rule. However, the increase in the bride price would naturally increase the dowry amount. On the other hand, the intuitive explanation for the increase in dowry attributes to the fact that the more the bride contributes to the groom's family, the less connection she may keep with her natal family. In this case, her parents would want to give her more protection by transferring more wealth to her.

A.3. Increase in the value of dowries

This part presents theoretical evidence of how the bride price and dowry change with an exogenous shock that brings extra value to the dowry. Considering the form of the Pareto weight, we can interpret the exogenous shock at a constant gain (higher α_0) or a higher marginal gain from the dowry (higher α_1). However, either of the changes would lead to the same result on the dowry rule: for a fixed amount of bride price, the dowry will decrease. This is because the bride's family only needs a smaller amount of wealth transfer to maintain the same level of bargaining power for their daughter.

Next, we can again look at the bride price rule under the updated dowry rule. For the groom's side, the final

rule for the groom's family is that they always get the utility the same as the outside option ($\bar{U}_s^M$). However, we can not directly tell the changing direction of the bride price. Consider the bride price rule:

$$log(\xi^M) + \gamma\{ \underbrace{\delta_2 log(W^M - B)}_{\text{Part A}} + \underbrace{(1-\delta_2) log[\delta_3(w^M + w^F + D)]}_{\text{Part B}} \} = \underbrace{log(\bar{U}_s^M)}_{\text{Outside option (constant)}} \tag{A26}$$

When the bride price increases, Part A will decrease. However, the amount of dowry and the consequent bargaining power is uncertain, depending on the parameters' values. Hence, Part B may increase. In other words, the consumption of the groom: $[\delta_3(w^M + w^F + D) = \frac{w^M + w^F + D}{1+\alpha_0+\alpha_1 D}$ should increase. In this case, the only outcome would be that the dowry D also increases. If D instead decreases, $1 + \alpha_0 + \alpha_1 D$ should also decrease. However, this would contradict the dowry rule. Thus, the only possible case is that the dowry amount also increases.

If the bride price goes down, Part A will increase. Depending on the effect of the amendment, dowries could change in different directions. When the effect is reflected as a constant gain (an increase in α_0), the only possible direction is a decrease in dowries. However, if the effect increases the marginal value of dowries (higher α_1), there can be two directions. Generally, this would result in a decrease in dowries as well. An increase in dowries can be seen if the original dowry value is very low and the effect on the marginal value of dowries is large. In the actual situation, this can only mean a zero payment of dowry before the amendment and an incentive for the bride's family to transfer a small amount of dowry. Thus, this aligns with the previous discussion about the zero payment of dowry and is not a typical case. Under these two conditions, the bargaining power will also decrease, and Part B will drop. To conclude, only two main conditions can make the equation above hold that the two prices must change in the same direction.

Even theoretically, the two price rules hold in both cases; the parameters decide which direction is more likely to occur in what circumstance. The dowry rule decides that a household with high inequality where a bride has lower bargaining power (compared with other brides) tends to see the dowry goes up and vice versa. To simplify the proof, I assume the positive shock is on α_0. In this case, a higher α_0 reflects higher bargaining power for the bride, and the value further increases after the shock. For the dowry rule, the first term $\frac{(1-\delta_1)\alpha_1}{(\alpha_0+\alpha_1 D)(1+\alpha_0+\alpha_1 D)} + \frac{1-\delta_1}{w^M+w^F+D}$ reflects the marginal benefit of wealth transfer to the bride and the second term $\frac{\delta_1}{W^F+B-D}$ reflects the marginal benefit to the parents of saving wealth for their own consumption. The income effect is reflected in a decrease in D; the decrease is larger when the inequality is high (α_0 is small). The substitution effect is reflected in an increase in D.

Suppose α_0^* is the value after the shock, D^* is the solution for the income effect:

$$\frac{(1-\delta_1)\alpha_1}{(\alpha_0^* + \alpha_1 D^*)(1+\alpha_0^* + \alpha_1 D^*)} + \frac{1-\delta_1}{w^M + w^F + D^*} = \frac{\delta_1}{W^F + B - D^*} \tag{A27}$$

where $D^* < D$, and $D - D^*$ is the reduction resulting from the income effect. The change of D will also lead to a change of B. B^* is the solution to the new indifference condition for the groom's family. $D^{**} = D$ presents the values of α_0^* and α_0 that result in no change of the dowry.

$$log(\xi^M) + \gamma\{\delta_2 log(W^M - B^*) + (1-\delta_2) log[\delta_3^*(w^M + w^F + D^*)]\} = \gamma[\delta_2 log(\bar{c}_1^M) + (1-\delta_2) log(\bar{c}_2^M)] \tag{A28}$$

Since the change of the value of δ_3^* is uncertain, B^* can be either larger or smaller than B. When the household is unequal, α_0 is small and $D - D^*$ will be large resulting from the increased α_0^*. This leads to a large increase in δ_3, which results in a higher $\delta_3^*(w^M + w^F + D^*)$. Thus, B^* is larger than B. When the bride's bargaining power is high, $\delta_3^*(w^M + w^F + D^*)$ will decrease and B^* is smaller than B.

D^{**} is an increase from D^* due to the substition effect. Suppose B^{**} is the solution for the substitution effect:

$$\frac{(1-\delta_1)\alpha_1}{(\alpha_0^* + \alpha_1 D^{**})(1+\alpha_0^* + \alpha_1 D^{**})} + \frac{1-\delta_1}{w^M + w^F + D^{**}} = \frac{\delta_1}{W^F + B^{**} - D^{**}} \tag{A29}$$

Because of the consistency of changes of directions between B and D, B^{**} is large than B if $D^{**} - D^*$ is larger than $D - D^*$, and smaller than B if $D^{**} - D^*$ is smaller than $D - D^*$. When

To conclude, when the household is unequal, the inequation $\delta_3^*(\alpha_0^*) \cdot (w^M + w^F + D^*) > \delta_3(\alpha_0) \cdot (w^M + w^F + D)$ will hold true (D^* is the solution from A27), and both the bride price and dowry will increase, and vice versa.

Appendix B: Empirical Appendix

B.1. Patrilocality and Bride Price

To proxy the levels of patrilocality, I use the distance between the wife's original and current places and the frequency of the wife's visits to her maiden family each year. A longer physical distance between the wife's natal and current families reflects the patrilocality on both families' sides. If a wife lives far from her natal family, her family will experience a larger loss as it is hard for her to contribute to the production. Meanwhile, this forces her to integrate into her husband's family and the local society, which results in a higher chance that she could contribute more to the production. Similar to the distance but more straightforward, the frequency of visiting her natal family indicates whether she contributes more to her natal or her husband's family.

For the distance measurement, I adopt the direct geographic distance between the city the wife currently lives in and the city where she was born or the city where she was fourteen years old. The survey also selected a portion of the sample for an extended version that asked about their routines. These included the frequency of visiting their parents if the individual lives in a different location than their parents. In the following regressions, I use the number of days the wife usually visits in a year and the times she visited last year. The basic specification is below:

$$Bride\ Price_{i,t} = \boldsymbol{\beta}_{B0} + \boldsymbol{\beta}_{B1} Patri_{i,t} + \boldsymbol{\beta}_{B2} X_{i,t} + \varepsilon_{i,t} \tag{B1}$$

$Patri_{i,t}$ is one of the four proxies for the levels of patrilocality, and $X_{i,t}$ is the control variable that varies for the two proxies where I either control the income levels or the provincial and wedding year fixed effects. Table B1 below presents the results.

[Insert Table B1 here]

The first four columns present the regression results proxied with the geographic distances. The second and fourth columns further control the income of the two spouses. The last two columns show the results where the visiting frequencies are the indicator for patrilocality. The results estimated with the distance proxy at different ages do not display a large difference. Considering the low mobility in the society, especially due to the *hukou* policy, a minor difference is expected. A 10% increase in the physical distance is associated with one percent higher bride price. Additionally, it is more common to have a marriage between two people from the same location (a zero physical distance under the specification). A groom marrying a bride from another town sees 1.5 times higher bride price on average. Consistent conclusions can be found when patrilocality is proxied by the frequency of the wife visiting her natal family. The more she visits her parents, the stronger connection she

maintains with her maiden family, and less contribution to her spouse's. A 10% increase in her frequency of visiting her maiden family is reflected in a 4% less bride price.

B.2. Reduced-Form Evidence on the Impacts of Dowries

In order to find an indicator to reflect the bargaining power of an individual within the family, following the strategy in J. Zhang & Chan (1999), I look into individual participation in chores at home. The specification is below:

$$Chores_{i,k} = \boldsymbol{X}_{i,k}\boldsymbol{\beta}_1 + \kappa_k + \varepsilon_{i,k} \tag{B2}$$

To measure chore participation, I construct three indicators: a wife's time spent on chores, the ratio of time spent on chores and working time for working women, and the time difference between the husband and the wife on chores. The primary explanatory variable is the value of dowries. Different from J. Zhang & Chan (1999), I do not incorporate the bride price because the data from their surveys show that dowries are significantly higher than bride prices in Taiwanese society, which is a different situation from the surveys that I use to some extent.[17] Table B2 presents the estimation results.

[Insert Table B2 here]

The table shows that dowries have significant impacts on all three indicators, and the results indicate less time spent on chores for women and more participation of husbands. First, a 1% increase in a dowry leads to a $9-10\%$ reduction in the wife's time spent on chores. The conclusions still hold when individuals' *hukou* and education levels are taken into account, and provincial fixed effects are controlled. Second, for those working women, dowries also play a significant role in shifting their time scheduling. A 1% increase in a dowry is associated with an $8-10$ percentage points decrease in the weekly chore-to-work ratio for working women when the provincial fixed effects are not controlled. Furthermore, when husbands are taken into account, a higher dowry helps to reduce the deficit of time on chores of husbands and wives, where a nearly 9% decrease is associated with a 1% increase in a dowry. However, the deduction of the deficit is mainly from the power gained by the wives, presumably because of the already low participation rate of the husbands.

[17] In addition, their research finds only dowries have impacts on husbands' participation in chores while bride prices see minor and insignificant coefficients.

B.3. The Direct Effect of the Marriage Law Amendment

The primary test indicates a result of increasing marriage payments. The first concern could come from the baseline assumption if there is an increased value of dowry. Since the value is not possible to measure directly, I adopt the house purchasing behavior of the couple as the proxy to reflect the direct effect of the amendment. Purchasing a house is an essential goal for Chinese people, and ownership of houses has led to many disputes in divorce cases. Thus, if the hypothesis is correct that the amendment helps to clarify the ownership of property, this will ease the concern of the couple in house purchasing. Thus, I look into the waiting time between wedding the house purchasing. With the clarification of the property ownership, we can expect the waiting time shortens after the amendment. Figure B1 below shows the trend of the waiting time between the year of purchasing houses and the wedding year.[18]

[Insert Figure B1 here]

The gradual relaxation of the housing market and the growth of wealth in society result in a downward trend of waiting time. However, Not only can we observe a discontinuity but also an accelerated downward trend. Table 5 below presents the RDD estimation results.

[Insert Table B3 here]

The RDD estimation indicates a significant negative discontinuity in 2001, led by the marriage law amendment. The average waiting time between purchasing a house and wedding was shortened by 3.7 years, which is a 25% reduction.[19] Even though the market has continuously seen the worsening housing affordability(C. Zhang et al., 2016), this reflects a relief of the concern regarding the ownership of houses for people. In comparison, prior to the amendment, couples may need more time to establish trust or find methods to solve disputes regarding ownership should divorces happen.

B.4. Choice of Bandwidth and the Degree of the Polynomial

In the case of the two marriage prices, they exhibit a linear growth trend over time, while the two ratios demonstrate limited fluctuations around the cutoff points. Consequently, my initial investigation focuses on assessing the significance of polynomial terms. Table B4 provides the coefficient estimations for the linear, quadratic, and cubic terms within the revised Equation 22.

[18] I utilize the data since 1982. House ownership was a part of the planned economy before 1980. *Outline of the Report of the National Conference on Capital Construction* in 1980 proposed commercialization of the housing market. Between 1980 and 1982, commercialization was conducted in part of China. The experiment stopped in 1982, and the mortgage loan was formerly introduced in that year as well.

[19] Another around 6% households in the sample purchased their houses before the marriage and are not taken into account in the analysis.

[Insert Table B4 here]

The findings indicate that, on the whole, the polynomial terms lack statistical significance. Specifically, all four measurements related to both bride price and dowry not only fail to exhibit significant levels but also possess coefficients of relatively modest magnitude. Among the two ratios, only the dowry-to-income ratio demonstrates statistically significant yet small coefficients for the polynomial terms. Consequently, in the broader context, it appears unnecessary to incorporate polynomial terms into the specification.

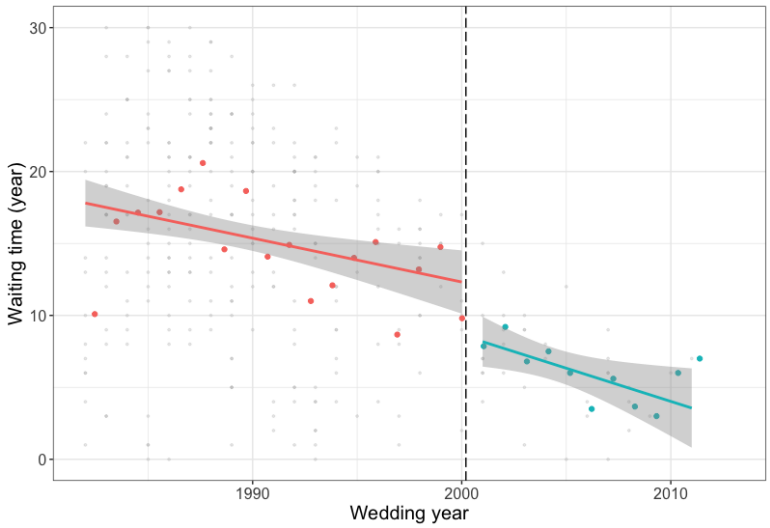
In Table 3, I utilize the Calonico, Cattaneo, and Titiunik (CCT) method, which incorporates bias correction and robust standard errors for result adjustment. Additionally, as part of a robustness test, I also employ IK bandwidth selection based on Imbens and Imbens & Kalyanaraman (2012), with the results presented in Table B5.

Table B5

Both the magnitudes and significance levels exhibit minimal variation compared to the main RDD results. This consistency can largely be attributed to the fact that adjusting the bandwidth does not exert a substantial impact on the composition of the sample used for estimation. Consequently, the conclusions remain robust even when adjusting the bandwidth.

Appendix Figures

Figure B1: Relationship between wedding year and the waiting time of purchaing houses



Note: This figure demonstrates the time trend of the waiting time between purchasing a house and the wedding from 1982 to 2018. The sample is from the 2018 China Labor force Dynamics Surveys (CLDS). The sample size is 301. The vertical axis is the waiting time between purchasing the house and the wedding year (year). The horizontal axis stands for the years when the couples got married. The cutoff line is the year 2001. The data is winsorized at the 0.5% level at both the top and bottom.

Table B1: Reduced-form Evidence I: Relatiobship between Bride Price and Patrilocality

	Dependent variable: Bride price					
	(1)	(2)	(3)	(4)	(5)	(6)
City distance	0.101***	0.078***				
	(0.022)	(0.024)				
City Distance at 14			0.112***	0.090***		
			(0.023)	(0.025)		
Times visit					-0.404**	
					(0.187)	
Times visited last year						-0.423**
						(0.173)
Groom's Income		X		X		
Bride's Income		X		X		
Province Fixed Effects					X	X
Wedding Year Fixed Effects					X	X
Observations	1,390	1,073	1,391	1,075	108	107
R^2	0.015	0.068	0.017	0.070	0.511	0.510

Note: Standard errors in brackets and errors are clustered at the household level. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. The dependent variable bride prices are transformed with the Inverse Hyperbolic Sine (IHS) function. Explanatory variable City distance measures the distance between the wife's current home and her birthplace. Explanatory variable City distance at 14 measures the distance between the wife's living place at 14 years old and her birthplace. The explanatory variable Times visit is the average number of the wife visiting her marital family. Explanatory variable Times visit last year is the number that the wife visited her marital family last year. Wedding year fixed effects indicate the year ranges in which the couple got married. They are the 1970s, 1980s, 1990s, and 2000s.

Table B2: Reduced-form Evidence: Relationship between Dowry and Chore Participation

	Dependent variable:								
	Wife's time on chores			Time on chores / Time on work (Wife)			Husband's - Wife's time on chores		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dowry	-0.096***	-0.101***	-0.095***	-0.082***	-0.082***	-0.046*	0.101***	0.103***	0.091**
	(0.021)	(0.021)	(0.023)	(0.024)	(0.024)	(0.028)	(0.038)	(0.038)	(0.041)
Dependent Variable Mean	4.258	4.286	4.419	1.343	1.339	0.958	-2.545	-2.563	-2.213
Spouses' *Hukou* Statuses		X	X		X	X		X	X
Spouses' Eduaction		X	X		X	X		X	X
Province Fixed Effects			X			X			X
Observations	1,187	1,183	1,183	729	725	725	1,182	1,179	1,179
R^2	0.049	0.051	0.082	0.034	0.036	0.087	0.019	0.022	0.084

Note: Standard errors in brackets and errors are clustered at the household level. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. The dependent variable of time on chores and the explanatory variable of the values of dowry are all transformed with the Inverse Hyperbolic Sine (IHS) function. Both spouses' education and *hukou* variables are dummy variables. For education, the variable is 1 if the individual has finished high school and 0 if they never have. For *hukou*, the variable is 1 if they hold an urban *hukou* and 0 if they do not.

Table B3: Robustness Test on the Efficiency of the Marriage Law Amendment

	Dependent variable: Waiting time (year)	
	(1)	(2)
RDD estimand	-3.842*	-3.734*
	(2.164)	(2.166)
Bride marriage age		X
Observations	301	301
R^2	0.175	0.178

Note: Standard errors in brackets. * significant at the 10% level. The dependent variable is the gap between the year of purchasing the house and the wedding year. Both columns utilize local linear regression and triangular kernel. The Bandwidth type is chosen based on the method proposed by Calonico et al. (2014).

Table B4: Robustness Test on the Degree of the Polynomial

	Bride price (log)	Bride price	Dowry (log)	Dowry	Dowry-to-income	Dowry-to-bride price
Order:						
Linear	0.228***	2857.658	0.107	436.354	-0.467	-0.004
	(0.075)	(5905.887)	(0.084)	(2606.608)	(0.302)	(0.025)
Quadratic	0.015	164.908	0.002	-4.694	-0.069**	0.00088
	(0.008)	(627.105)	(0.009)	(278.457)	(0.033)	(0.003)
Cubic	0.00039	3.545	-0.00002	0.619	-0.003***	0.00005
	(0.00025)	(19.560)	(0.00028)	(8.716)	(0.001)	(0.00009)

Note: Standard errors in brackets. * significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level. The dependent variables in columns 1 and 3 are the bride price and dowry transformed with the Inverse Hyperbolic Sine (IHS) function. The dependent variables in columns 2 and 4 are the actual amounts of the bride price and dowry. The dependent variable in column 5 is the ratio of the dowry to the income of the bride (CPI adjusted). The dependent variable in column 6 is the ratio of the dowry to the bride price. The cutoff point is the year 2001 when the marriage law amendment was implemented. All six columns utilize a triangular kernel. The Bandwidth type is chosen based on the method proposed by Calonico et al. (2014).

Table B5: Robustness Test with Different Bandwidth

	Dependent variable:					
	Bride price (log)	Bride price	Dowry (log)	Dowry	Dowry-to-income	Dowry-to-bride price
	(1)	(2)	(3)	(4)	(5)	(6)
RDD estimand	0.203*	2,142.418**	0.232*	1,068.566*	0.813**	0.079*
	(0.122)	(973.909)	(0.138)	(582.914)	(0.388)	(0.047)
Observations	1,461	1,461	1,207	1,207	804	1,032
R^2	0.335	0.343	0.292	0.305	0.030	0.009

Note: Standard errors in brackets. * significant at the 10% level; ** significant at the 5% level. The dependent variables in columns 1 and 3 are the bride price and dowry transformed with the Inverse Hyperbolic Sine (IHS) function. The dependent variables in columns 2 and 4 are the actual amounts of the bride price and dowry. The dependent variable in column 5 is the ratio of the dowry to the income of the bride (CPI adjusted). The dependent variable in column 6 is the ratio of the dowry to the bride price. The cutoff point is the year 2001 when the marriage law amendment was implemented. All six columns utilize local linear regression and triangular kernel. The Bandwidth type is chosen based on the method proposed by Imbens & Kalyanaraman (2012). The model specification is the same as in Table 3.