Dowry in Rural Bangladesh: Participation as Insurance Against Divorce

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Abstract

The dowry custom is often seen as a form of gender discrimination against females, particularly in South Asia. This paper analyses dowry payments in a rural area in Bangladesh using household survey data containing retrospective marriage information for marriages spanning 1931-1996. While the average amount of dowry in real terms has not recently increased, the participation in the dowry system has dramatically increased since the 1970s, especially for Muslims. Two main results are found. First we find that dowry functions as an insurance against divorce for Muslim couples: this is supported by the fact that the probability of remaining married is significantly higher for couples who were given higher dowries. This holds for Muslims only (as opposed to Hindus), suggesting that the rising incidence of dowry is related to Muslim personal law, which allows husbands the right to unilateral divorce. The estimation of dowry payments confirms the insurance interpretation of dowry. Secondly, we find some evidence that is consistent with the female pre-mortem inheritance interpretation of dowry (as opposed to the popular groomprice, marriage squeeze interpretation). We conclude that dowry for Muslims in rural Bangladesh is not a form of discrimination but a form of parental protection that has arisen as a consequence of unequal gender relations.

1

1 Introduction

While they have disappeared in Europe, dowry payments, whereby a transfer is made from the bride's to the groom's family, still exist in South Asia.[1] Not only do they still exist but also it has been reported that these payments have been increasing since the 1950s.[2]

In this paper, we examine dowries being paid in marriages held during 1931-1996 in the Matlab region, a rural sub district in Bangladesh, using household survey data gathered in 1996. We find that the incidence of dowry has substantially increased, especially since the 1970s. Nonetheless, we fail to find increasing dowry payments: in particular, the average dowry in real terms has been decreasing since the 1950s.

We present evidence that the so-called rise in dowries is only an incidence rise, that this is mainly a Muslim phenomenon. The hypothesis in this paper is, to our knowledge, new in the literature, and it is that dowry (in particular for Muslims in rural Bangladesh) functions as an insurance against divorce. We argue that the dramatic increase in dowry participation in the Matlab region is due to the fact that, by giving the groom a dowry, the bride's parents insure themselves and their daughter against their daughter's divorce, as the husband, who is nevertheless the dowry's recipient, would have to refund the dowry in order to exercise unilateral divorce.

In this context, we argue that parents are increasingly providing their daughters' marriage with a dowry, in order to minimise the probability of their daughters' divorce and subsequent abandonment, whose return to the parental home would not only raise their living costs but also jeopardise their position in the community. The higher the dowry they give, the more difficult it would be for the husband to divorce, as a bigger amount has to be returned.[3]

We find support for the latter from regressions revealing that *ceteris paribus* the probability of remaining married (for both men and women) is higher, the higher the dowry that was paid by the bride's parents. This is statistically significant for Muslims, but it is not significant for Hindus. We find additional support for the insurance hypothesis from the fact that the amount that a couple received as dowry

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[1]Despite being forbidden or limited by law: Dowry Prohibition Acts were passed in 1961 in India and 1980 in Bangladesh. In Pakistan the Dowry and Bridal Gifts Act of 1976 limits dowry payments.

[2]See e.g. Caldwell et al. (1983), Rao (1993a, 1993b), and Billig (1992) for India. Lindenbaum (1981) analyses the evolution of marriage transactions over time in the Comilla district in Bangladesh from an anthropological point of view.

[3]Dowry should not be confused with dower, which is a sum that under Islamic law a Bangladeshi woman can claim, to be given to her when she marries or in case of divorce (although usually not requested), see Kamal and Ahmer and Naher (1987).

was lower for couples where the spouse came from the same extended family.

The timing of the start in the dramatic increase in dowry participation by Muslims coincides with the enactment of the Muslim Marriage (Registration) Act in 1974 (which made registration of marriages compulsory), as in being a proof of marriage, it allows the dowry refund.

Additionally, we find some support for the pre-mortem inheritance motive of dowry: from 1980 onwards, the incidence of dowry in the sub sample of women who inherited assets is significantly smaller than in the sample of all females. That is, parents are substituting inheritance by dowry to daughters. Moreover, examination of the dowry amount in real terms provides some evidence that wealthier parents, either Muslims or Hindus, provide their daughters with higher dowries, which provides support for an inheritance motive, regardless of the religious affiliation. Finally, we suggest that the observed average decrease in dowry in real terms may be related to the fact that poorer households are gradually joining the dowry system since the 1970s. We do not find support for the *marriage squeeze* interpretation of dowry: we find that the eligible sex ratio is not related to dowry.

The organisation of the paper is as follows. Section two describes some related literature. In section three we provide background information about marriage, divorce, and marital transfers in rural Bangladesh. In section four we turn to the household data and the region where these were gathered. Section five presents the empirical evidence. Finally, section six concludes and discusses some policy implications regarding dowry payments in rural Bangladesh.

2   Related literature

Even though the economic literature on dowry is not nearly as extensive as the sociological and anthropological literature, economists have previously tried and assessed 1) why dowries have arisen, 2) why dowries have increased in South Asia, and 3) what the relationship between dowry and the wife's welfare is. Thus we can distinguish three types of literature: the *existence*, the *increase*, and the *welfare* approaches.

In the *existence* approach there are two main motives for dowries, the groom-price and the inheritance motives. According to Becker (1991), in the presence of indivisibilities dowry would be the difference between the joint value of the marriage and the utility of the husband. In this context we would expect that the higher the dowry, the lower the optimal investment in the daughters' human capital. The former motive is as well implicit in Rao (1993a), who models dowry (using Rosen's (1974) implicit market model) as the price resulting from a nonlinear hedonic dowry function that maps differences in the traits of potential brides and grooms, and in

Rajaraman (1983), who describes dowry as a compensatory payment for the groom's side. According to the latter motive, dowry serves as a pre-mortem bequest. On the one hand, Botticini and Siow (2003) argue that in virilocal residential settings, where brides typically go to live with the husband's household of origin, dowries are given to daughters at the time of marriage to discourage them from claiming a property share at the time of the father's death, a possibility that would lead the son to exert too low an effort in the household property. Hence dowries would avoid free-riding among siblings by making the son the residual claimant of the property. Edlund (2001) in contrast argues that the need for a dowry arises due to sex asymmetries in fecundity: parents would like to bequeath on children at their offspring, but at that point daughters may no longer be fecund. Finally, and related to the *welfare* approach, Zhang and Chan (1999) treat dowry as a pre-mortem bequest arguing that dowry would remain under the wife's property and given back to the wife in case of divorce.[4] Using data from Taiwan, they find that a higher dowry would tend to increase the wife's welfare.[5] Brown (2002) also finds a positive relationship between dowry and several indicators of the wife's welfare in rural China.

In the increase approach we distinguish two main studies. First, there is the marriage squeeze argument, which was first suggested by anthropologists.[6] Using ICRISAT data from six villages in South-Central India, Rao (1993a) argues that dowries have risen due to an increase in the ratio of the number of females of marriageable age to the number of males of marriageable age: in the context of population growth, the age gap at marriage implies younger brides, that is, *higher quality* brides, so that increased competition would shift the price function upwards. According to this interpretation, families of the older brides woud be willing to outbid the younger,[7] hence implying a reduction in the marriage age gap.[8] Second, Anderson (2003) argues that the reported increase in dowries in India would be given by modernisation

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[4]There is evidence that this is the case for Nepal (Ekvall (1968)). While the fact that dowry must be refunded in case of divorce is also true for rural Bangladesh, the evidence seems to be that dowry does not remain under the wife's property.

[5]The idea of dowry as female inheritance was first introduced by Goody (1973) in the context of Eurasia, and Tambiah (1973) for South Asia; it is also mentioned by Chen (1985) for China. Freedman (1970) and Chen (1985) argue that dowry in contemporary China remains under the control of the bride. However East Asia and South Asia would be different in that brideprice and dowry can be observed at the same time in the former, while in the latter, at least for India and Bangladesh, a reversal from brideprice to dowry has been observed in the twentieth century (Caldwell et al. 1983, Amin and Cain 1995, Zhang and Chan 1999). Also, there is no evidence of brideprice in Bangladesh since the 1940s (Amin and Cain 1995). Therefore the study of Zhang and Chan (1999), while sensible for East Asia would not seem to be applicable to South Asia.

[6]See Caldwell et al. (1983).

[7]For more information on the topic of marriage squeeze in India, see Bhat and Halli (1999).

[8]Using the same data set, Edlund (2000) is unable to replicate Rao's findings; this disparity seems to be due to differences in the definitions of state boundaries (Rao 2000). In summary, the empirical evidence on the marriage squeeze for India is sensitive to the econometric specification.

(understood as an increase in wealth and an increase in the dispersion of wealth) in the context of a rigid caste-based system with hypergamy.[9]

Regarding rural Bangladesh, according to Amin and Cain (1995), "local usage in our villages and elsewhere in Bangladesh does make a clear distinction: (...) [traditionally] *joutuk* (dowry) refers to gifts given to the groom or his family by the bride's family. (...) the new groom payments are referred to as *demand*", so that dowry goes to the groom's side rather than to the bride's. Ahmer and Naher (1987) explain how in the case where the marriage breaks, "if she is still young and attractive, a second marriage may be arranged and a higher demand will have to be met". In Indian, authors usually distinguish between *strīdhana*, representing women's inherited property,[10] and dowry, since the transferral of gift was from the bride's father or guardian to the groom or his guardian and not the daughter alone (Sheel 1999).

Lindenbaum (1981) analyses the evolution of marriage transactions over time in an area in the Comilla district in Bangladesh. She describes the reversal from brideprice (whereby the transfer is from the groom's to the bride's side, also called bridewealth[11]) to dowry, which has occurred since the 1950s, as the consequence of social and economic changes. She claims that this reversal cannot be attributed to a particular religious group, as dowry has recently been practiced both by Muslims (who constitute a majority in Bangladesh), and Hindus. Regarding the amount of dowry that has been given, the author reports increasing nominal dowries, but unfortunately does not explain the evolution of dowry in real terms. To our knowledge the only quantitative study of dowry in Bangladesh, Amin and Cain (1995), examines payments in two villages in northern rural Bangladesh, and report an increasing incidence of dowry and a rise in the real amount of the dowry being paid. They mention that while the practice of dowry among Muslims in Bangladesh is recent, it was common among certain high-caste Hindus. While they do not run any econometric test, they claim that the increase is due to a rise in the eligible sex ratio (the number of eligible females to the number of eligible males)[12], that is, the so-called marriage squeeze.[13]

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[9]In a hypergamous marriage, the woman can marry up in status/caste but not down.

[10]Women's rights to property are mentioned in ancient texts in the context of their rights to the *strīdhana*, i.e. wealth given to them at marriage that, at least normatively, was inviolable to a large extent (Sheel 1999).

[11]Goody (1973).

[12]While the convention for the sex ratio is to divide the number of males by the number of females, in this paper we follow Rao (1993a) and related literature in using females to males for the sake of comparison.

[13]Anderson (2000b) analyses current dowry payments in Pakistan, a country with a majority of Muslim population, and finds evidence for the pre-mortem inheritance motive in rural areas.

3 Background: marriage, divorce and marital transfers in rural Bangladesh

In rural Bangladesh, marriage is the only true vocation for women. Women get married at an early age. The Child Marriage Restraint Act 1929 has been amended by Ordinance in 1984 so that the minimum ages are 21 for men and 18 for women, but even recently it is not rare for women to get married being younger than ten years old. In Bangladesh, parents ordinarily select spouses for their children, although men frequently exercise some influence over the choice of their spouses. After marriage, brides usually leave their parents' house for the groom's house, where they are under the authority of the husband and in-laws. Once they are married, the possibility of divorce is different for Muslims and Hindus,[14] as the concept of marriage itself is different. Marriage among Muslims is civil and contractual, whereas it is sacramental and eternal for Hindus.

The law on marriage in Bangladesh is governed by the personal laws applicable to each community – Buddhist, Christian, Hindu, Muslim, Parsi or Sikh – and relevant statutory modifications.[15]

Marriage registration is compulsory for Muslims under the Muslim Marriages and Divorces (Registration) Act, enacted in 1974 in order to strengthen the inducements for civil registration. This act states that "every marriage solemnised under the Muslim law shall be registered in accordance with the provisions of this Act" and establishes the licensing of Nikah Registrars. The punishment for not registering a marriage is a prison sentence (three months in jail) and/or a fine (500 Taka). Failure to register does not invalidate a marriage, but it fails to provide the bride with a proof of marriage. It should also be noted that, although there is no legislation to this effect, there is a customary trend in Bangladesh towards encouraging the insertion of stipulations relating to delegated divorce in the marriage contract.[16] Registration of marriages was rare before this law was passed, but a majority of families is currently believed to register their daughters' marriages.[17] No similar registration law exists for Hindus in Bangladesh.

Consequently with the respective concepts of marriage, divorce for Hindus is extremely rare,[18] while it is more feasible for Muslims. Islamic personal law establishes

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[14] In Bangladesh there are also smaller Christian and Buddhists communities. Since in our sample there are only Muslims (90%) and Hindus (10%), henceforth we only refer to these two religious groups.

[15] Shaikh (1998).

[16] Emory Law School.

[17] MHSS questionnaire (Rahman et al 1999b).

[18] The Hindu community finds provision for divorce under the Hindu Married Women's Right to

three types of divorce. The first of them, and by far the most common in rural areas, is unilateral. It is known as *Bedai Talak* (irrevocable divorce) and consists of the husband verbally stating three times that he divorces his wife, and the *Talak* becomes irrevocable. Unilateral divorce is reserved to men only. In the second type of divorce, called *Khula*, it is the wife who has the desire to separate; the divorce consists of an agreement between the husband and the wife upon the sum that the wife has to pay the husband for that effect. In the third type of divorce, *Mubarat*, the desire for separation is mutual.[19]

Even though Muslim marriage is not sacramental, divorced Bangladeshi women are usually stigmatised: after marital disruption, return to the parental home is not respectable by the community, and may be especially difficult if parents are deceased or in poverty. As a result, divorced women are socially disgraced and hence all brides are expected to try their best to make their marriage a success (Bhuiya and Chowdhury 1997). Furthermore, as mentioned by Ahmed and Naher (1987), since marriage in Bangladesh is regarded as being the only true vocation for women in society, a single, working woman is not accorded equal status to that given to a married woman.[20]

There are two traditional marital transfers in rural Bangladesh. The first of them, dower (*mehr*), is Islamic in nature (and it is accordingly regulated by Islamic personal law) and constitutes a protection against utter destitution should she lose her husband through separation or death. The sum can be claimed by her either when she marries or in case of divorce. However, this payment is not usually given, and many women are unaware of this right.[21] In sum, dower is, as Amin and Cain (1995) point out, seldom of any real significance.

Dowry (*joutuk* or the English word *demand*), is a (customary) transfer from the bride's family to the groom and his family, and is not directly related to Islamic personal law. Even though brideprice (*pawn*) existed in Bangladesh during the first decades of the twentieth century, whereby the transfer was made from the groom's to the bride's side,[22] dowry payments have been reported since at least the 1940s.[23] In this paper we do not focus on the change from brideprice to dowry, which involved

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Separate Residence and Maintenance Act of 1946.

[19] Kamal.

[20] This is the case in other South Asian countries as well, e.g. India (especially Northwestern India, see Drèze and Sen 1995) and Pakistan.

[21] The women who are aware of this right in our region of study also call dower *legal dowry*.

[22] The change from brideprice to dowry has been extensively studied for India (Caldwell et al. 1993).

[23] Actually the first observation in our sample of study in Matlab corresponds to a marriage that took place in 1931. It is not until the 1940s that we find more observations though. An interesting explanation may lie in Anderson's (2003) study about India.

only the Hindu minority,[24] but on the evolution of dowry from approximately the 1940s on, especially focusing on payments done by the Muslim community, who constitute roughly 90% of the Bangladeshi population. The Dowry Prohibition Act of 1980 prohibits dowry payments in Bangladesh. Not only is this law often unknown and very frequently not observed, especially in rural areas, but also its usefulness is questionable, as the time it stipulates for dowry cases is only one year.[25]

According to Yalman (1967), dowry is "the result of a bargain and has a specific intention: that of linking the daughter – hence her family – with a particularly desirable son-in-law" (Goody 1973). The bargaining attribute is already mentioned in 1916 Indian magazines such as the Griha Lakshmi (Sheel 1999). Dowry can be all paid at the time of the marriage or can be paid in instalments during and after the wedding. In recent times, incidents have become well known whereby a husband keeps extracting resources from the wife's family and eventually hurts or kills her in case her family fails to comply with his demands.[26] This story is modelled by Bloch and Rao (2003), who use data from rural India and find empirical support for the hypothesis that violence against wives is negatively related to dowry payments.

Even though the argument just stated above points towards a *negative* interpretation of dowry, the complete picture must include the current nature of dowry. If dowry constitutes a mere groomprice, so that increased female competition for males due to either a marriage squeeze (Rao 1993a) or higher male heterogeneity in the context of stratification (Anderson 2003, Gaulin and Boster 1990), which result in dowry inflation, then this inflation represents a welfare loss to the bride. However, if dowry is nevertheless a pre-mortem bequest, then dowry inflation could be due to wealth accumulation and hence, it reflects an underlying welfare increase. There is almost no economic study of dowry in Bangladesh, and female pre-mortem inheritance has not been mentioned as a motive in any case, perhaps because of the incidence of dowry-related violence.

Interestingly, Simmons (1996) undertook interviews with women from rural Bangladesh who reported that a dowry makes it more difficult for husbands to make use of unilateral divorce: "once the dowry has been paid, a woman's position may be strengthened because *the husband cannot drive her out of the house so easily. To do that he would*

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[24]Jahan (1988).

[25]There is some confusion between dowry and dower in some sources. Dower is provided for under Muslim law (Muslim Family Laws Ordinance), and is supposed to protect the wife. Disputes over dower are brough to family courts. However especially in rural areas dower is reported not to be given. Dowry, as it is beyond the Islamic marriage contract, is mainly demand through oral agreement.

[26]So-called dowry deaths have been reported by the media, first for India and also for Bangladesh. Dowry-related violence in Bangladesh constituted in 1997, though, only 11% of total violent incidents against females, as reported by the police (Yasmin 2000).

have to pay back that money first", an argument that gives support to the inheritance hypothesis in this paper.[27]

4   Data and area of study

The data used in this paper comes mainly from the Matlab Health and Socio Economic Survey (MHSS). The MHSS is a collaborative effort of RAND, the Harvard School of Public Health, the University of Pennsylvania, the University of Colorado at Boulder, Brown University, Mitra and Associates and the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B).[28] The Main sample in this household survey, which is the sample that we use for our analysis, gathers information from interviews performed in 1996 to 27,009 individuals in about 4,364 households in 2,687 baris or residential compounds in Matlab, a rural subdistrict (*Thana*) in the nowadays Chandpur Zila (Chittagong division) of Bangladesh (see Figure A1). For a visual description of a bari, where an extended family usually lives, see Figure A2. As Phillips et al. (1988) point out, Matlab has remained predominantly traditional and religiously conservative even though some modernising influences have reached the area since the 1980s—through widespread access to radios, growing emphasis on education, and increasing contact with urban areas. Like much of Bengal since the 1970s, economic deterioration, famine, and political upheaval have profoundly affected the area, preventing the development of towns, and slowing the introduction of modern amenities and social services, which has perpetuated poverty. Subsistence agriculture and fishing dominate the economy, with trade and commerce hampered by the absence of roads, electrification, communication, or ready access to markets.

Information about the (nominal) amount of dowry is reported by more than 2,000 households, however some of these do not report the year of marriage and hence these nominal observations cannot be deflated.[29] Dowry typically consisted of one or more of the following items: cash, jewellery, furniture or household items, land, bicycle, boat, rickshaw or van, TV, radio, cassette player, clock or watch, cow or goat. The usable sample consists of 855 observations of female-reported dowry and 340 of male-reported dowry, which gives us information on the amount of dowry for 1,015 couples. Different parts of the questionnaire were given to different family members; in particular in the sample there are 171 cases of couples where the two spouses report the dowry amount.

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[27]Under customary law, dowry/brideprice is refundable upon divorce for Muslim communities in other countries too (e.g. Sierra Leone).

[28]For more details see Rahman et al (1999a).

[29]We use the price of rice as a deflator (Khan and Hossain 1989, Amin and Cain 1995). See the Data Appendix for details about the construction of the deflator.

The average dowry paid for marriages held in 1996 was 12,700 Taka, which corresponds to approximately 62% of the average annual gross income earned by a couple.[30] Figure 1 depicts the evolution of dowry in nominal terms over time, while Figure 2 depicts the evolution of dowry in real terms: although there is a clear increasing pattern in nominal dowry, there is no clear pattern for dowry when increases in the price level are considered.

There is as well information on whether a dowry was given or not in the marriage: 13,547 observations reported by women and 13,462 reported by men, making this information available for 20,203 couples. Again, when we take into account the availability of the year of marriage the usable sample drops further, this time to 2,178 for women and 1,892 for men. When considering other variables in the picture, we are left we fewer observations.[31]

That is, while many individuals report whether they were given a dowry or not at the time of their marriage, most of them do not report its value. There are four hypothetical reasons for this. One hypothesis is that individuals do not report dowries because these are prohibited by law. This is very unlikely, as the gift of dowry in rural Bangladesh is not punished. The second one is that individuals do not report the value of the (assets given as) dowry for fear of robbery. This is also very unlikely, as it makes sense that dowry is fairly publicly known at the village level. The third hypothesis is simply lack of memory. A fourth hypothesis is embarrassment: couples who got a low dowry, or did not get dowry at all, may be embarrassed to report its amount to interviewers. We discuss this issue further in the estimation analysis.

Bangladeshi demographic and macroeconomic variables of interest such as the number of males and females by age are available from various Census issues: census of British India for 1931-48, Census of Pakistan for 1949-67, and Census of Bangladesh for 1968-96 (see the Data Appendix for details).

Table 1 provides decade averages for some variables of interest. Every observation corresponds to a couple. The first interesting aspect is that, as opposed to the Indian case, dowry has not been steadily increasing; rather it has been recently decreasing. The dramatic increase in the incidence of dowry from the 1970s can be explained as a Muslim phenomenon as can be seen from examining incidence split by religious group: over 60% of Hindu marriages in the 1950s were given a dowry, compared to approximately 7% of Muslim marriages (Table 1).

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[30]The average annual gross income earned by females (males) in 1995 is 960 (19,700) Taka.

[31]McCarthy et al. (1978) explains how individuals and especially women in rural Bangladesh only have a rough idea of their actual year of birth—explaining the fact that the year of marriage is missing for many individuals.

Figures 3 and 4 show the kernel density estimate of dowry payments. Figure 3 uses the real amount for the whole sample (but from a few observations where dowry is larger than 20,000 rice kg), while Figure 4 shows the nominal amount for the last five years in the sample, which is roughly comparable. It can be seen that most dowries are of relatively low value, in particular the average real dowry over the period is 1,392 rice kg.

5 Empirical evidence

The empirical analysis consists of four parts. In the first section, we directly test our main hypothesis: that dowry is an insurance against divorce for Muslims in rural Bangladesh. For this, we explore the probability of remaining married of men and women. We relate this to the geographical origin of the spouse. In the second part, we estimate the probability that a couple participates in the dowry system, that is the probability that they got a dowry. We indirectly test the insurance motive by analysing the origin of the spouse (whether it is the same bari, village, or another village). For this we look jointly at the decision of participating and that of reporting a dowry. In the third part, we use the inverse Mills' ratios from the dowry participation and the dowry report selection equations and estimate the dowry amount. Again, we indirectly test the insurance motive by analysing the relationship between the dowry received and the origin of the spouse (whether it is the same bari, village, or another village). Finally, in the fourth part we look at the substitutability between dowry and inheritance to daughters.

Throughout the entire section, standard errors are estimated with the robust option and are clustered at the extended household level.[32] This relaxes the independence assumption of the estimator to being just independent between clusters.

5.1 Probability of remaining married

5.1.1 Identification and estimation

The main hypothesis in this paper is that dowry functions as an insurance against divorce for Muslims. The intuition is that a husband who has been given a dowry does not find it as easy to unilaterally divorce his wife because in that case he would have to refund the dowry he was given.[33] If this is true, then the larger the amount of the dowry payment the husband has received, the larger the probability that he remains married (that is, the more binding it is the refund constraint). The same should be true for wives, as their probability of being divorced/abandoned should be lower the larger the dowry their marriage was provided with. The identification

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[32]For a few extended households we have more than one couple in the sample.

[33]One of the reasons is probably the existence of imperfect credit markets in rural Bangladesh.

strategy is based on two characteristics: religious affiliation and geographical origin of the spouse.

On the one hand, and as explained in section three, marriage is sacramental for Hindus—unilateral divorce is not specified under Hindu law as it is for Muslims, and henceforth the dowry refund argument would not apply for this group. Therefore the first strategy lies in comparing both religious groups. On the other hand, if dowry is an insurance against wife abandonment, it makes sense that such an insurance is more needed when the spouse comes from further away. For instance, if the daughter is marrying someone belonging to the same extended household,[34] or if the groom is from the same village, a dowry may be less necessary than if the daughter is marrying a groom from outside the bride's village, because the husband's social cost of abandoning a wife is greater if her family resides in the same village.

Hence we estimate:

$$M_i = \beta D_i + \xi X_{M_I} + \varepsilon_{M_i} \qquad (1)$$

where M is equal to one if the individual is still married and equal to zero if he or she is not, D is the dowry amount in real terms (rice kg, see Data Appendix), the vector X_M contains other determinants, and i denotes couples. We estimate separate equations for males and females and present the results in Tables 2 and 3.

5.1.2   Results

Table 2 presents probit estimations of the probability of remaining married for Muslims and Hindus separately. Controlling for whether the marriage was arranged (we expect arranged marriages to be more successful as these do not encounter ostracism in the community)[35] and a year of marriage trend, we find that the probability of remaining married is statistically larger the larger the dowry, for both Muslim men and women, while it is not significant for neither Hindu men nor women. As argued before, this is consistent with the insurance hypothesis. Regarding the size of the effect, we can interpret the coefficients by looking at the increase in the probability of remaining married as a result of being given the average dowry. The average dowry in real terms is equivalent to 1,392 rice kg. In that case, the probabilty that a husband does not divorce is 10% larger than without any dowry. If the dowry were say 2,500 rice kg, then this probability is increased by 18%. Regarding women, their probability of remaining married is also increased with a larger dowry: the average dowry

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[34]Marriages among individuals belonging to the same extended household are not rare in the sample, e.g. uncle and niece. These individuals were usually residing within the same *bari* (Bangladeshi compound) before the wedding.

[35]15.6% of males report having married someone of their own choice, while the corresponding figure is only 1.4% for females.

increases their chances by 3.2%, while this figure is 6% for a 2,500 dowry. The figure is modest for the average dowry, but it can be impressive for larger values. There are a few observations for which dowry is larger than 20,000 rice kg. For women with these dowries, the probability of being divorced drops by more than 50%. All in all, Muslim men and women are more likely to remain married if they get a dowry, even if this is not large, and the effect can be very big for big dowries.

In Table 3 we are able to use more controls and tackle our second identification strategy: geographical origin of the spouse.[36] In columns (1) and (3) we regress the probability of remaining married on some treats of both wife and husband: literacy, assets, age at marriage, whether the spouse was the parents' choice, the eligible sex ratio (females of marriageable age to males of marriageable age, following Rao 1993a), a year of marriage trend and a dummy for whether the marriage was after 1975. We do not include dowry in these regressions, but we do include a dummy variable for whether the spouse is from the same village (which includes the extended household level, and the village level itself). We find that for both males and females, if the spouse is from the same village, it is significantly more likely that the individual is still married. However, and as shown in columns (2) and (4), once we control for the amount of dowry given, the village dummy is not significant anymore: once you give the husband (or the husband's side) a dowry, it does not matter for her non-abandonment that he is from outside her parents' village. As in Table 2, the larger the dowry, the higher the probability of remaining married for both men and women. Other interesting effects are the fact that her literacy is not significant once we control for dowry, and the fact that brides who were older when they got married are more likely to remain married, while men are more likely to remain married to women who married at a younger age. The eligible sex ratio is negatively related to a wife's probability of remaining married, suggesting that increased competition for males is related to more marriage wives getting divorced. Finally, couples who got married more recently are more likely to remain together.

Incidentally, the evidence that couples that received a dowry are more likely to remain married could also be understood as evidence that dowry is a search device in as much as a dowry helps bringing better matches in a bargaining setting. However, the fact that the probability of remaining married increases with the amount of dowry controlling for arranged marriages, and especially that this relationship is only significant for Muslims, provides support to the insurance hypothesis.

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[36]Data availability for the Hindu minority prevents us from doing the same exercise for Hindus.

5.2 Participation in the dowry system

5.2.1 Identification and estimation

In this part, we test our insurance hypothesis taking advantage again of the geographical origin of the spouse. In particular, if a dowry is given in order to protect a daughter from abandonment by her husband later on, we expect that this insurance is more necessary in the case where the groom is from another village. In rural Bangladesh, where the bride moves to the groom's household at the time of marriage, her parents are less able to encourage any sort of social sanction against the groom if they live in another village. Therefore as previously mentioned it makes sense that the husband's social cost of abandoning a wife is greater if her family resides in the same village.

We only observe the value of dowry in case that a person/household has decided to 1) participate in the dowry system and 2) report the dowry amount to the interviewer. In order to statistically explain dowry payments we then need to address two types of selectivity bias: the participation bias (i.e. the fact that some couples are given a dowry while others are not, where possibly those that give a dowry are a non-random sample) and the report bias (i.e. the fact that some couples among those who had been given a dowry might not report it, this group being again possibly a non-random sample). In this case the framework is Tunali (1986):

$$y_{1i}^* = \beta_1' X_{1i} + u_{1i} \qquad (2)$$
$$y_{2i}^* = \beta_2' X_{2i} + u_{2i} \qquad (3)$$
$$y_{3i}^* = \beta_3' X_{3i} + \sigma_3 u_{3i} \qquad (4)$$

where every expression describes, respectively, the participation inclination, the report inclination, and the dowry function. The econometric model for estimating this is explained in the Econometric Appendix. In practice, the estimation uses information on whether the spouse comes from the same *bari* (extended household), village, or from outside the village. In estimating the participation and the report equations, we are in fact estimating (2) and (3) as:

$$D_{1i} = \beta_{11}Bari_i + \beta_{12}Village_i + \beta_{32}Sexratio_i + \widetilde{\beta}_1\widetilde{X}_{1i} + \epsilon_{1i} \qquad (2')$$
$$D_{2i} = \widetilde{\beta}_2\widetilde{X}_{2i} + \upsilon_{1i} \qquad (3')$$

where, as explained in the Econometric Appendix, D_{1i} is a dummy variable equal to 1 if the couple has participated, i.e. has been given a dowry, and 0 otherwise, and D_{2i} is a dummy variable equal to 1 if the couple has reported the amount of the dowry, and 0 otherwise.

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Regarding (2'), $Bari_i$ equals 1 if the spouse comes from the same *bari* (namely, if belongs to the same extended family), and zero otherwise, while $Village_i$ equals 1 if the spouse comes from the same village (but not from the same *bari*), and zero otherwise. The omitted category is thus observations for which the spouse comes from outside the village. We can test different dowry hypothesis with the estimation of (2').

Groomprice motive: if dowry is a groomprice, that is, if better male attributes increase the dowry and better female attributes decrease the dowry (Rao 1993a), then we expect that $\beta_{11} < 0$. The rationale is that groomprices are less commonly paid when the groom belongs to the same extended family (e.g. Cadwell et al. 1982). Additionally, according to the groomprice motive we expect $\beta_{32} > 0$.

Inheritance motive: if alternatively dowry constitutes a pre-mortem bequest, we expect that $\beta_{11} > 0$.

Insurance motive: if dowry is an insurance against divorce for Muslims, we expect that $\beta_{11}^m < 0, \beta_{12}^m < 0, \beta_{11}^h = 0, \beta_{12}^h = 0$, where m denotes Muslims and h denotes Hindus. That is, an insurance is more necessary when the groom is from outside the village, but this is only true for Muslims.

5.2.2 Results

Estimates of the report and participation decisions (equations 2' and 3') are in Table 4. We present results for all couples, and then we distinguish between Hindu and Muslim couples. We fail to find any significant determinant of the report decision but the time trend and male literacy in the case of Hindus. This suggests that more literate individuals and more recent marriages are more likely to report a dowry, suggesting that whether a Hindu couple reports a dowry is given by the fact that they remember its value.

The estimation provides some support for the insurance hypothesis: we find $\beta_{11}^m < 0$ and $\beta_{11}^h = 0, \beta_{12}^h = 0$. However, we fail to find $\beta_{12}^m < 0$. One possibility is that both the inheritance and the insurance motives are playing a role: in that case, it could be that both effects cancel each other and hence we do not observe β_{12}^m to be different from zero. In fact, these hypotheses do not exclude each other. However, we fail to find more support for the female inheritance motive in the sense that β_{11}^h is not significantly different from zero either. In sum, these estimates lend some support for the insurance motive.

Other interesting results are as follows. Female literacy for Hindu women increases the probability of being given a dowry (this is consistent with the inheritance hypothesis, as a proxy for assets of the bride's family),[37] while the groom's literacy

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[37]Under a female inheritance hypothesis, we would expect wealthier brides to be given larger

reduced the probability of being given a dowry, which again, is at odds with the groomprice motive. The fact that more brothers increases the bride's probability of getting a dowry for Hindus may be an indicator of the same. Younger brides are more likely to get a dowry. Finally, the pooled sample suggests that participation in the system has increased for Muslims only after 1975, which is consistent with the timing of the enactment of the Muslim Marriages and Divorces (Registration) Act.[38] This is suggestive of the idea that parents of brides would provide a dowry in the context of increased registration, which would have been made more aware thanks to the act. We do know from the interviewed responses in the data set that interviewees are aware that registration makes it possible to have a proof of marriage, that registration ensures the refund of dowry by the husband in case or abandonment (i.e. unilateral divorce), and that registration makes it possible to recover dowry.[39] We fail to find $\beta_{32} > 0$: the eligible sex ratio shows no effect on the likelihood of getting a dowry. Finally, the null hypothesis that the report and the participation decisions are independent cannot be rejected for any of the two religious groups.

In much of the literature about dowry, increasing participation has been understood as *sanskritisation*, that is, lower classes or castes imitating the upper ones.[40] Interestingly, in the case of Muslims of Bangladesh, it is more likely that compulsory marriage registration law made the community more aware of the benefits of registration in case a dowry was given, providing incentives for both marriage registration and dowry participation to minimise the probability of divorce and provide the bride's family with funds in the event of divorce.

Finally, if the insurance hypothesis is true, and if participation in the dowry system is indeed deterring divorces, we expect divorce rates to have been substantially lower from the late 1970s on, when dowry participation across Muslims escalated (and coinciding with the Muslim Marriage and Divorce (Registration) Act, introduced in 1975). Figure 5 shows male and female divorce rates over 1951-1991 in the Comilla

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dowries, and possibly to be more likely to be given a dowry. Unfortunately our data set does not contain information about assets of the bride's family. Bride's wealth being omitted, we would expect, as Edlund (2000, 2001) notes, that bride literacy proxies for her family's wealth, and hence we should find a positive relationship between the bride's literacy and participation. We however admit that the nature of the relationship between female education and dowry is quite complex: as Mabud (1985) explains, Bangladeshi parents may take girls out of the school on the ground that "too much schooling makes a girl unmarriageable".

[38]Ideally, we would use information about the registration status of the marriages in the sample. Unfortunately, marriage registration was not enquired into in the survey.

[39]The particular question in the MHSS questionnaire is: *In the past, most marriages were not registered. These days a majority of the people register their daughters' marriages. What is the benefit of registering a marriage?* (Rahman et al. 1999b).

[40]Srinivas (1957) created the concept of *sanskritization* to denote the process by which patriarchal norms and lifestyle of higher castes in India have been gradually spreading to other castes, patriarchal norms including wives not participating in the labour market.

district, where the Matlab Thana is. Male divorce rates have decreased since 1951, when rates were similar to those of women, but female divorce rates increased in the 1950s and remained high until 1981, and have impressively declined over the 1980s. This is consistent with higher participation in dowry rates since the late 1970s, with an effect lagging a few years.[41]

5.3   Dowry payment amount

5.3.1   Identification and estimation

In this part of the empirical section we estimate dowry amount payments as follows:

$$y_{3i} = \beta_{31} Bari_i + \beta_{32} Village_i + \beta_{33} Sexratio_i + \widetilde{\beta}_3 \widetilde{X}_{3i} + \sigma_3 \sigma_{13} \lambda_P + \sigma_3 \sigma_{13} \lambda_R + W_{3i}$$
(4′)

where λ_P and λ_R are inverse Mills' ratios for the participation and report decision respectively, computed from the estimated parameters in the first stage in part 5.2, which rid estimates of β_3 of selectivity bias (see details in the Econometric Appendix). As with (2'), (4') provides us with a test of the hypothetical motives for dowry. The effects that we expect are similar:

Groomprice motive: if dowry is a groomprice, then we expect that $\beta_{31} < 0$. The rationale is that groomprices are lower when the groom belongs to the same extended family (e.g. Cadwell et al. 1982). Additionally, according to the groomprice motive we expect $\beta_{33} > 0$.

Inheritance motive: if dowry constitutes a female pre-mortem bequest, we expect that $\beta_{31} > 0$. The rationale is that if dowry is inheritance and the partner is chosen to be from the extended family, there is a stronger incentive to give a larger inheritance (as this remains within the family).

Insurance motive: if dowry is an insurance against divorce for Muslims, we expect that $\beta_{31}^m < 0, \beta_{32}^m < 0, \beta_{31}^h = 0, \beta_{32}^h = 0$, where m denotes Muslims and h denotes Hindus. That is, an insurance needs to pay more when the groom is from outside the village, but this is only true for Muslims.

5.3.2   Results

The results of estimating the dowry amount in real terms (using the price of rice as deflator, see the Data Appendix for details) are in Table 5. Results regarding the origin of the spouse are consistent with those in part 5.2.2:

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[41]Unfortunately we do not have marital status information by religious group, therefore the graph includes Muslims and Hindus. However, since Hindus represent just 10% of the population, this can be assumed to be a largely Muslim phenomenon.

The estimation provides some support for the insurance hypothesis: we find $\beta_{11}^m < 0$ and while β_{11}^h and β_{12}^h are not significantly different from zero. However, we fail to find $\beta_{12}^m < 0$. Again, it could be that both the inheritance and the insurance motives are important and these effects are cancelling each other. Although we still fail to find more support for the female inheritance motive in the sense that β_{11}^h is not significantly different from zero at standard levels of confidence, it has a positive sign. In sum, we find some evidence for the insurance motive: a larger dowry is paid to a groom who is not from the same village as the bride, and this only happens for Muslims. The eligible sex ratio fails to be significant in either case, which rules out for this sample the marriage squeeze hypothesis emphasized by some authors (Amin and Cain 1995).

The participation inverse Mills' ratio is significantly positive for Muslims, which suggests that factors that determine participation in the dowry system are also important determinants of the dowry amount. Additionally, the fact that in cases where the bride's father was richer than the groom's father (a proxy for the bride's wealth), the respective dowry amount received by a Hindu bride is larger, is consistent with the female inheritance hypothesis. In sum, the results for this section are similar to those from the previous section: the evidence is consistent with an insurance motive for Muslims while there is some slight evidence that is consistent with an inheritance motive for Hindus.

5.4   Dowry vs. inheritance

In this last empirical part we try to know a bit more about the relationship between dowry and inheritance. In the last section we have found some slight evidence on the pre-mortem bequest hypothesis. Is it possible that dowry is a pre-mortem bequest to Hindu daughters? And, even though dowry incidence for Muslims seems to have increased due to the fact that it is minimising the probability of divorce, is it possible that this is somewhat connected with inheritance?

We now take advantage of the information in the data set regarding assets received via inheritance. In the context of limited resources, under the bequest motive we would expect the incidence of dowry to be lower in case that inheritance is given to a daughter. However, under the groomprice motive, there could exist a positive relationship: *ceteris paribus* we might expect wealthier parents to give a dowry as well as inheritance to their daughters at the time of their death. That is, substitutability between dowry and inheritance would be suggestive of the inheritance motive.

We cannot undertake a formal regression analysis because although we have information regarding whether an individual has inherited any assets, we do not know when the individual's parents passed away. We can however have a look at the is-

sue by evaluating how different the incidence of dowry is between the general female sample and the sample of women who inherited assets. In particular, if the bequest motive holds, we expect the incidence of dowry to be lower in the latter sample.

Table 6 shows the results of some two-sample tests of dowry incidence. This test uses a normally distributed test statistic. The null hypothesis under this test is related to the groomprice motive and it is that the incidence of dowry in the main female sample and in the sub sample of women who inherited assets is the same. The alternative hypothesis, related to the bequest motive, is that the incidence is larger in the former than in the latter.

In the first column the test is provided for the whole period: the null hypothesis is comfortably rejected at the 1 percent level, for both Muslims and Hindus. If we divide the entire period into two subperiods, one pre-Registration Act (1975), and one post-Registration Act it seems that actually the women who were getting an inheritance were not less likely to get a dowry before 1975. The proportion of Muslim women was small, only 15%, but this was 50% for Hindus. That is: up to 1975, it seems that dowries were not desinheriting daughters. The picture is completely different after 1975, as women who were gettig inheritance have been less likely to get a dowry, either Muslim or Hindu. The recent substitutability between dowry and inheritance suggests an inheritance component, especially for Muslims. Perhaps therefore we should interpret this as before the Act was enacted, a few Muslim families may have been giving both inheritance and dowry to daughters. However, as awareness spread about the benefit of giving a dowry and poorer families joined the dowry system, some parents may have to disinherit daughters in order to provide them with a dowry.

6   Conclusions

This paper examines dowry payments in the Matlab region of rural Bangladesh by using data about couples that married over the 1931-1996 period. We present evidence that the so-called rise in dowries in Bangladesh is only an incidence rise, that this is mainly a Muslim phenomenon, and that this can be explained by understanding dowry as an insurance against divorce. We argue that the dramatic increase in dowry participation in the region is explained by greater awareness about the fact that by giving the groom a dowry, the bride's parents insure themselves and their daughter against her divorce or abandonment (which would imply her return to the parental home, which is considered a social disgrace) as a husband who wants to exercise unilateral divorce has to refund the dowry. This hypothesis for dowry, which constitutes a novelty in the economics literature of dowry, is tested in a variety of ways. The identification strategy makes use of religious affiliation of the couple and geographical origin of the spouse. First, we find that the higher the dowry that a couple gets, the greater the probability that an individual remains married. This is statistically significant for Muslims, but it is not significant for Hindus—this is

related to the Muslim personal law, under which divorce for Muslims is contractual. We argue that the dramatic increase in dowry participation by Muslims coincides with the enactment of the Muslim Marriage (Registration) Act in 1974, which made registration of marriages compulsory, and created awareness of the benefits of giving a dowry in the case of Muslims.

Secondly, we find that, consistent with the insurance hypothesis, couples where the groom is from outside the village 1) are more likely to get a dowry and 2) get a higher dowry. Again, and consistent with the hypothesis in this paper, this is only true for Muslims. In the last piece of evidence for the insurance hypothesis, we do find that female divorce rates have dropped since 1981 (Figure 5).

We also find some evidence for the bequest motive. We find that wealthier Hindu parents provide their daughters with higher dowries. We also find that from 1975 onwards, both Muslim and Hindu parents seem to be substituting between inheritance to daughters and dowries. We do not find evidence consistent with the marriage squeeze hypothesis: the eligible sex ratio is not significantly related to either the probability of getting a dowry or the dowry amount.

All in all we claim that dowry in rural Bangladesh is not a groomprice and that dowry prohibition may not be a useful policy for rural Bangladeshi women. Regarding the Muslim community, dowry does seem to be useful in protecting females against unilateral divorce, which would imply their abandonment and disgrace. The root of the problem is then the social disgrace that accompanies divorce in rural Bangladesh: in that case, the prohibition of unilateral divorce would be a more effective policy. While dowry is usually thought of as a bad custom, it seems that the root of the problem for women is the highly unequal gender relations in rural Bangladesh. In this same line, enforcing compulsory substantial (dower) payments to wives to be made by husbands who want to divorce would provide the same deterrent effects that dowry is currently providing. However, since that may be a difficult policy to enforce (as is currently happening with dowry prohibition), what seems the most urgent policy is to further spread awareness of the benefits of marriage registration among the Muslim community, and provide dowry with a legal framework that can prevent violence and extortion through further payments.

7 References

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8 Econometric Appendix: estimation using a double-selectivity model based on Tunali (1986)[42]

In particular y_{1i}^* and y_{2i}^* in (2)-(4) are unobservable continuous random variables, X_i is a vector of regressors, β_j is the vector of unknown parameters, σ_3 is an unknown scale parameter, and $u_i = (u_{1i}, u_{2i}, u_{3i})$ is the vector of disturbances with mean zero and covariance matrix as follows

$$\sum = \begin{pmatrix} 1 & \sigma_{12} & \sigma_{13} \\ \sigma_{12} & 1 & \sigma_{23} \\ \sigma_{13} & \sigma_{23} & 1 \end{pmatrix}$$

Let $\qquad D_1 = \left\{ \begin{array}{l} 1 \text{ if } y_{1i}^* > 0 \\ 0 \text{ if } y_{1i}^* \leq 0 \end{array} \right\} \qquad (5) \qquad \text{and} \qquad D_2 = \left\{ \begin{array}{l} 1 \text{ if } y_{2i}^* > 0 \\ 0 \text{ if } y_{2i}^* \leq 0 \end{array} \right\} \qquad (6)$

Equations (5) and (6) define a dummy variable that indicates whether a couple has been given a dowry and whether a couple reports a dowry amount respectively.

Equation (4) can be rewritten as:

$$\begin{aligned} E\left(y_{3i}^* \mid D_1 = 1, D_2 = 1\right) &= \beta_3' X_{3i} + \sigma_3 E\left(u_{3i} \mid D_1 = 1, D_2 = 1\right) \\ &= \beta_3' X_{3i} + \sigma_3 E\left(u_{3i} \mid y_{1i}^* > 0, y_{2i}^* > 0\right) \end{aligned} \qquad (7)$$

As long as the last term in (7) is different from zero, OLS estimates will be inconsistent. In order to consistently estimate (7) we need to know the form of this conditional expectation, which in turn means that we need to impose additional restrictions on the structure of the model. Tunali (1986) shows that if $u_i \sim N(0, \Sigma)$ independent across couples and of X_{mi}'s, then the likelihood function for this case is:

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[42]The application of Tunali (1986) on which this is based is Henneberger and Sousa-Poza (1998).

$$L = \prod_{S1} F\left(-\beta_1' X_{1i}\right) \cdot \prod_{S2} G\left(\beta_1' X_{1i}, -\beta_2' X_{2i}; -\rho\right) \cdot$$
$$\prod_{S3} \int_{-\beta_1' X_{1i}}^{\infty} \int_{-\beta_2' X_{2i}}^{\infty} \frac{1}{\sigma_3} h\left(u_{1i}, u_{2i}, \frac{y_{3i}-\beta_3' X_{3i}}{\sigma_3}\right) du_{1i} du_{2i}$$

where F denotes the standard univariate normal distribution function, G the standard bivariate normal distribution function (with correlation coefficient ρ), and h the trivariate normal density for u. Tunali (1986) proposes the following two-step estimation procedure. In the first stage, equations (2) and (3) are estimated using standard bivariate probit techniques, in this case with sample selection (since the response decision is only observed for couples who have been given a dowry). In the second stage, equation (4) is estimated using OLS with two additional regressors, λ_P and λ_R, the inverse Mills' ratios for the participation and report decision respectively, computed from the estimated parameters in the first stage, which rid estimates of β_3 of selectivity bias. The dowry payment equation to estimate is then:

$$y_{3i} = \beta_3' X_{3i} + \sigma_3 \sigma_{13} \lambda_P + \sigma_3 \sigma_{13} \lambda_R + W_{3i} \qquad (8),$$

where

$$\lambda_P = \frac{f(\beta_1' X_{1i}) F\left(\frac{\beta_2' X_{2i} - \rho \beta_1' X_{1i}}{\sqrt{1-\rho^2}}\right)}{G(\beta_1' X_{1i}, -\beta_2' X_{2i}; -\rho)} \qquad \text{and} \qquad \lambda_R = \frac{f(\beta_2' X_{2i}) F\left(\frac{\beta_1' X_{1i} - \rho \beta_2' X_{2i}}{\sqrt{1-\rho^2}}\right)}{G(\beta_1' X_{1i}, -\beta_2' X_{2i}; -\rho)},$$

W_3 is a stochastic disturbance term with mean zero, f denotes the standard normal density function, and ρ is equal to σ_{12}.

9 Data Appendix

Most of the data comes from the Matlab Health and Socio Economic Survey (MHSS) household survey that is explained in section four. The survey gathers data from households in Matlab, a region northeast of Dhaka, Bangladesh.

Rice Price
While information about nominal dowry is provided in the data set, a deflator is needed to trace the evolution of real dowry over time. As a consumers price series for Bangladesh is not available for the period of study, we follow Khan and Hossain (1989) and Amina and Cain (1995) and use rice as a deflator. Since rice is both the main product and the main article of consumption, it is fairly representative of average prices. Getting any time series for Bangladesh is a real challenge: Bangladesh was part of the British Indian provinces of Bengal and Assam during 1757-1947, then it became part of Pakistan in 1947 (and was known as East Pakistan) until 1971, when it became independent.

We use a measure of **retail prices of medium rice** in Bangladesh. Ideally it would be best to use a regional measure (from the Comilla region)[43] , but this is not available, the most disaggregated level that is available is the *division* level, but this is only available in a consistent way for 1978 onwards. Our rice price series draws from several publications. For 1931 to 1946, information was taken from the *Statistical Abstract for British India* [HMSO, London] about the whole British India. For 1947 to 1949, it comes from the *Statistical Abstract: India* [Central Statistical Organisation, India]. For 1949 to 1968, information for Bangladesh is taken from the *Pakistan Statistical Yearbook* [Federal Bureau of Statistics, Karachi]. For 1968 on, we have used the data in the *Bangladesh Statistical Yearbook* [Bureau of Statistics, Bangladesh]. Since the Indian data is not only for Bangladesh but for the whole British India section, we believe that the series is consistent for the 1949-97 period. There are only 80 observations of dowry before 1950, the bulk of the data lying on 1970-96, where only the data from the same publication has been used.

Population statistics

Information about the number of females and males in the 'area' and their marital status comes from the respective censuses (*Census of India* 1931 and 1941 [India], *Census of Pakistan – East Pakistan* 1951 and 1961 [Census Comissioner, Pakistan], *Population Census of Bangladesh 1974*, and *Bangladesh Population Census* 1981 and 1991 [Bureau of Statistics, Bangladesh]).

To calculate the **sex ratio** we use the number of females to males in the Tippera/Comilla district for 1941 to 1981, and in the Chandpur Zila for 1991 (Matlab belonged to Comilla until the geographical reorganisation of 1984). In particular we use the *eligible* sex ratio, that is we take into account that marriageable age is different by gender: following Rao (1993a) and related literature we take the ratio of girls aged between 10 and 19 years to the number of boys aged between 20 and 29 years.

To calculate female and male **divorce rates** in the area we take the percentage of the population of age 10 years and above who are divorced.

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[43]Called *Tripura* or *T-para* before the mid 1950s. Jaffor Ullah (2000) explains the reason for the name change: "The name of present-day Comilla district in Bangladesh was Tripura or T-para before mid 1950s. Comilla was the name of one of the major towns in Tripura. However, when East Pakistan was formed in 1947 a part of Tripura was given to East Pakistan. The Pakistani officials could not handle the name Tripura. It sounded almost like a Sanskrit name, which it was. Nevertheless, in the early fifties the district was called Tripura. Later, they named the entire administrative district as Comilla. They must have heaved a great sigh of relief to get rid off that Sanskrit name as quickly as possible."

Table 1. Evolution of main variables: decade averages

Period	1931-49	1950-59	1960-69	1970-79	1980-89	1990-96
Female age at marriage	12 (93)	13.9 (161)	14.7 (252)	15 (493)	17.6 (588)	15.4 (4669)
Female age at *first* marriage[1]	12.3 (89)	14.2 (157)	14.6 (247)	15 (490)	17.7 (581)	15 (4596)
Male age at marriage	21 (47)	24.5 (128)	25.1 (233)	24.7 (437)	25.2 (505)	25.1 (2647)
Male age at *first* marriage[2]	22.4 (43)	24.4 (125)	25 (228)	24 (425)	24.4 (488)	24.7 (2564)
Age gap at marriage	9 (47)	10.9 (126)	10.7 (233)	9.7 (437)	7.6 (458)	9.5 (2603)
Age gap at *first* marriage	10.3 (40)	10.3 (119)	10.4 (224)	9 (422)	6.9 (483)	9.4 (2491)
Spouse from same *bari* (%)[4]	6.6 (91)	10.3 (156)	7.3 (245)	8.1 (482)	9.6 (581)	8.4 (4650)
Spouse from same village (%)	17.6 (91)	19.2 (156)	23.3 (245)	21.4 (482)	22.5 (581)	22.1 (4640)
Husbands with more than one wife (%)	2.2 (91)	3.2 (157)	2 (248)	1. (488)	1.5 (585)	1.5 (4680)
Dowry value[3]	12458 (3)	18559 (10)	4747 (20)	2332 (146)	865 (325)	884 (468)
Couples with dowry (%)	11.7 (94)	13 (163)	15.9 (252)	37.7 (493)	64 (588)	73.5 (11441)
Couples with dowry (%) – Muslim	11.8 (85)	6.3 (143)	11.9 (219)	34.6 (439)	62.6 (532)	72.4 (10292)
Couples with dowry (%) – Hindu	11.1 (9)	60 (20)	42.4 (33)	63 (54)	76.8 (56)	83.9 (1149)

1\Marriages where the female age was between 6-28 (1.6% of the cases are outside these bounds).
2\Marriages where the male age was between 12-40 (3% of the cases are outside these bounds).
3\In rice kg. (see Data appendix).
4*Bari* is a compound where an extended family usually lives in Bangladesh.
Note: Number of observations in parentheses.

Table 2. Probit estimation of the probability of remaining married

Dependent variable =1 if still married, =0 otherwise

Muslim

Gender:	Male	Female
Dowry amount in real terms	0.00007***	0.00002**
	(2.82)	(2.11)
Parents chose spouse (=1 if yes, =0 if not)	0.03	0.02
	(1.03)	(1.14)
Year of marriage	0.003	0.003***
	(1.53)	(3.33)
Number of observations	565	558

Hindu

Gender:	Male	Female
Dowry amount in real terms	0.00001	0.00001
	(1.25)	(1.09)
Parents chose spouse (=1 if yes, =0 if not)	0.04***	0.03
	(2.37)	(1.36)
Year of marriage	0.0003	0.002***
	(0.66)	(3.10)
Number of observations	123	143

Notes: Absolute t-statistics calculated using robust standard errors clustered at the extended household level are in parentheses, *significant at 10%; **significant at 5%; ***significant at 1%. Coefficients denote the increase in the probability for a one unit increase in the independent variable (this is a discrete change from 0 to 1 in the case of a dummy variable)

Table 3. Probit estimation of the probability of remaining married, only Muslims

Dependent variable =1 if still married, =0 otherwise				
Gender:	Male		Female	
	(1)	(2)	(3)	(4)
Dowry amount in real terms		0.00006***		0.00001**
		(2.82)		(1.94)
Wife can read	0.06***	0.04	0.25*	0.006
(=1 if yes, =0 if not)	(2.43)	(1.15)	(1.75)	(0.94)
Husband can read	0.04**	0.03	0.07	0.007
(=1 if yes, =0 if not)	(1.99)	(0.85)	(0.50)	(1.03)
Husband's total assets	-0.001	-0.001	0.001	-0.001
	(1.40)	(0.69)	(0.76)	(1.20)
Groom's age at marriage	0.002	0.002	-0.002***	-0.001***
	(1.27)	(0.59)	(3.09)	(4.24)
Bride's age at marriage	-0.01***	-0.015***	0.005***	0.03***
	(4.13)	(3.13)	(3.00)	(4.82)
Parents chose spouse	0.02	0.03	0.01	0.03**
(=1 if yes, =0 if not)	(0.73)	(0.80)	(0.71)	(2.22)
Spouse from same village (=1 if same HH, bari or village, =0 if not)	0.04*	0.05	0.03**	-0.0001
	(1.83)	(1.34)	(2.10)	(0.26)
Dummy post1975	-0.004	0.15	-0.01	-0.004
	(0.11)	(1.20)	(0.33)	(0.47)
Eligible sex ratio	-0.15	-0.49	-0.11	-0.13**
	(0.99)	(1.49)	(1.17)	(2.19)
Year of marriage	0.003	0.01**	0.002	0.002**
	(1.05)	(2.31)	(0.84)	(2.26)
Number of observations	1087	353	1092	327

Notes: Absolute t-statistics calculated using robust standard errors clustered at the extended household level are in parentheses, *significant at 10%; **significant at 5%; ***significant at 1%. Coefficients denote the increase in the probability for a one unit increase in the independent variable (this is a discrete change from 0 to 1 in the case of a dummy variable)

Table 4. Bivariate probit estimation of the probability that a dowry was 1) given and 2) reported

1. Dependent variable =1 if dowry was given, =0 if not

	All	*Muslim*	*Hindu*
Wife can read (=1 if yes, =0 if not)	-0.13 (1.26)	-0.22** (1.92)	0.65** (2.00)
Husband can read (=1 if yes, =0 if not)	-0.27*** (2.53)	-0.22** (1.94)	-0.75** (2.11)
Bride's father was richer than father-in-law (=1 if yes, =0 if not)	0.40*** (4.13)	0.41*** (3.99)	0.35 (1.10)
Groom is professional (=1 if professional, =0 if not)	0.21 (1.23)	0.18 (0.99)	-0.15 (0.30)
Husband's total assets	-0.01 (1.37)	-0.01** (2.03)	0.001* (1.68)
Groom's age at marriage	-0.01 (1.51)	-0.01 (1.21)	-0.02 (1.17)
Bride's age at marriage	-0.05*** (2.96)	-0.05*** (2.68)	-0.08* (1.68)
Number of brothers older than 15 at time of marriage – bride side	0.04 (0.95)	0.02 (0.42)	0.33** (2.18)
Spouse from same bari (=1 if same HH or bari, =0 if not)	0.02 (0.11)	-0.05 (0.25)	0.28 (0.74)
Spouse from same village (=1 if same village, =0 if outside village)	-0.29* (1.85)	-0.31** (1.92)	-0.42 (0.91)
Eligible sex ratio	-0.09 (0.12)	0.68 (0.82)	-3.18 (1.38)
Muslim (=1 if Muslim, =0 if not)	-1.71*** (7.39)		
Dummy post1975 (=1 if marriage after 1975, =0 if not)	-0.84*** (2.49)	0.42* (1.83)	-0.83* (1.66)
Muslim*post 1975 (=1 if Muslim and if married after 1975, =0 if not)	1.34*** (4.58)		
Year of marriage	0.07*** (4.82)	0.06*** (4.13)	0.14*** (2.91)

2. Dependent variable =1 if dowry was reported, =0 if not

	All	*Muslim*	*Hindu*
Husband can read (=1 if yes, =0 if not)	0.35 (0.75)	0.21 (0.46)	5.78*** (2.40)
Year of marriage	0.03 (1.19)	-0.01 (0.05)	0.10*** (2.81)
Wald independence test (p-value)	0.68	0.70	0.83
Number of observations	1227	1097	130

Notes: Absolute t-statistics calculated using robust standard errors clustered at the extended household level are in parentheses, *significant at 10%; **significant at 5%; ***significant at 1%. The Wald test of independence tests the null hypothesis that the participation and the response decisions are independent.

Table 5. OLS estimation of dowry amount estimation, corrected by selectivity

Dependent variable: dowry in rice kg.

	All	Muslim	Hindu
Wife can read	359.3	283.7	6096.7
(=1 if yes, =0 if not)	(0.68)	(1.16)	(1.06)
Husband can read	-998.7	-5346	-7126
(=1 if yes, =0 if not)	(0.81)	(1.60)	(0.94)
Bride's father was richer than father-in-	288.3	503.5	7189**
law (=1 if yes, =0 if not)	(0.38)	(1.19)	(1.95)
Groom is professional	804.4	1117*	2587.9
(=1 if professional, =0 if not)	(0.64)	(1.65)	(0.36)
Husband's total assets	0.001	-0.01	0.003
	(0.09)	(1.05)	(0.22)
Groom's age at marriage	-45.6	-16.5	-480.7
	(1.38)	(1.15)	(0.94)
Bride's age at marriage	78.4	-32.3	-688.5
	(0.78)	(0.69)	(1.26)
Number of brothers older than 15 at time	-82.3	-41.7	-480.7
of marriage – bride side	(0.47)	(0.61)	(0.94)
Spouse from same bari	2732.2	64.8	13597
(=1 if same HH or bari, =0 if not)	(1.34)	(0.23)	(1.44)
Spouse from same village	-249.2	-853.1**	-13889
(=1 if same village, =0 if outside village)	(0.33)	(1.92)	(1.32)
Eligible sex ratio	-34522	-1804.6	-110343
	(1.49)	(0.46)	(1.17)
Muslim	-5204.7		
(=1 if Muslim, =0 if not)	(1.38)		
Muslim*post 1975 (=1 if Muslim and if	5178.3		
married after 1975, =0 if not)	(1.24)		
Year of marriage	-329.5	85.5	1418
	(1.39)	(1.12)	(0.99)
Participation inverse Mill's ratio	-30.86.8	5881**	28892
	(0.82)	(2.03)	(1.19)
Report inverse Mill's ratio	-137345	-469250	-71682
	(1.19)	(1.58)	(1.00)
Number of observations	433	356	77
Adjusted R^2	0.25	0.38	0.42

Notes: Absolute t-statistics calculated using robust standard errors clustered at the extended household level in parentheses, *significant at 10%; **significant at 5%; ***significant at 1%. See notes about the deflator in the Data Appendix.

Table 6. Two-sample tests of the incidence of dowry: all females vis-à-vis sub sample of females who inherited assets

All	1931-96	1931-74	1975-96
Dowry incidence (%)	69.4	19.5	72.6
Dowry incidence amongst women who inherited assets (%)	30.4	19.8	32
z-test	23.3	-0.09	23.3
(p>z)	(0.00)	(0.53)	(0.00)
Muslims	1931-96	1931-74	1975-96
Dowry incidence (%)	68.1	15.2	71.4
Dowry incidence amongst women who inherited assets (%)	26.8	16	28.3
z-test	23.1	-0.19	23.2
(p>z)	(0.00)	(0.57)	(0.00)
Hindus	1931-96	1931-74	1975-96
Dowry incidence (%)	80.8	51.1	83.1
Dowry incidence amongst women who inherited assets (%)	63.1	50	65.3
z-test	3.9	0.07	3.8
(p>z)	(0.00)	(0.47)	(0.00)

Note: The null (alternative) hypothesis under the z test is that the incidence of dowry in the main female sample is the same as (larger than) in the sub sample of women who inherited assets.

Figure 1. Evolution of dowry in nominal terms

Total value of dowry (y-axis, 0 to 80000)
Year of marriage (x-axis, 31 to 96)

Figure 2. Evolution of dowry in real terms

Dowry (rice kg) (y-axis, 0 to 125000)
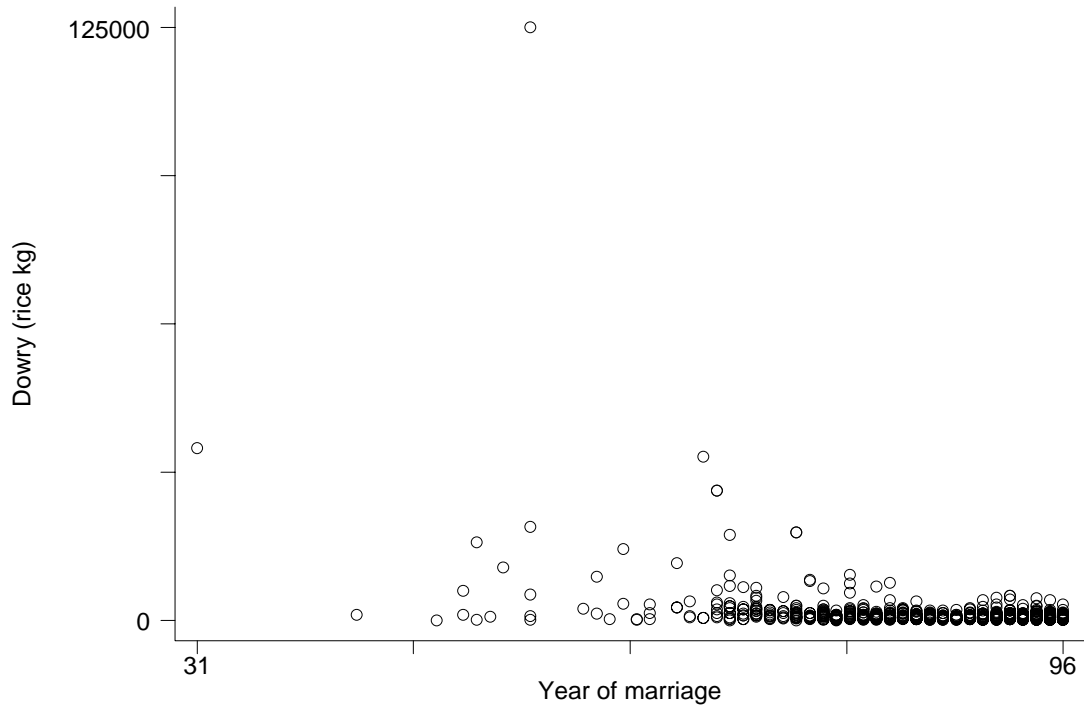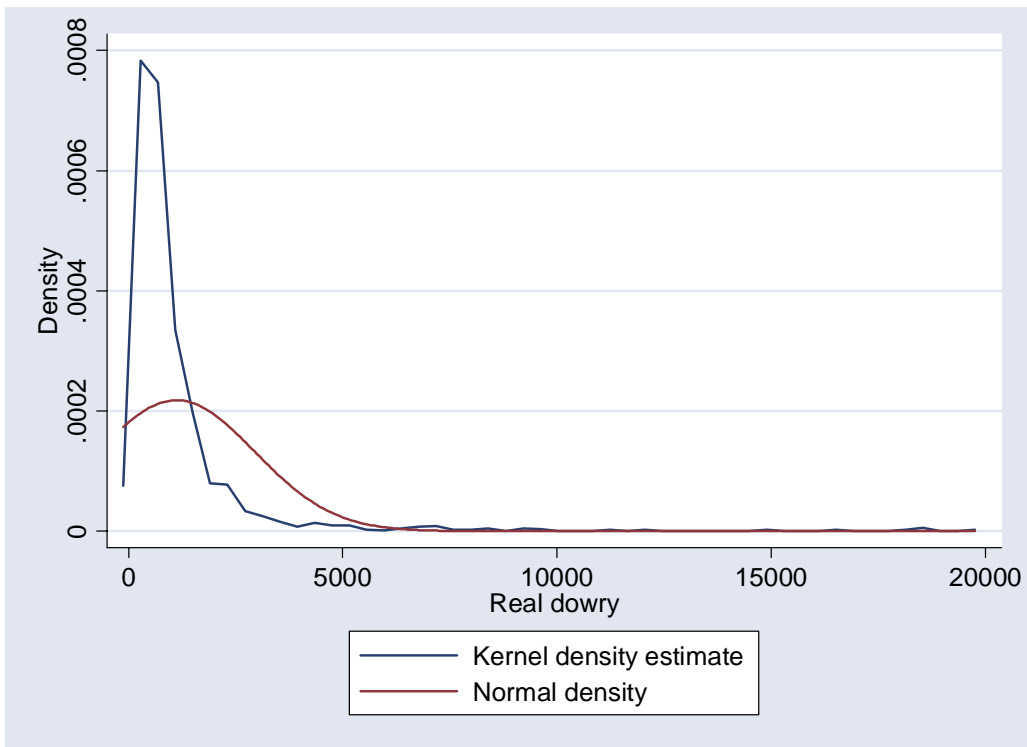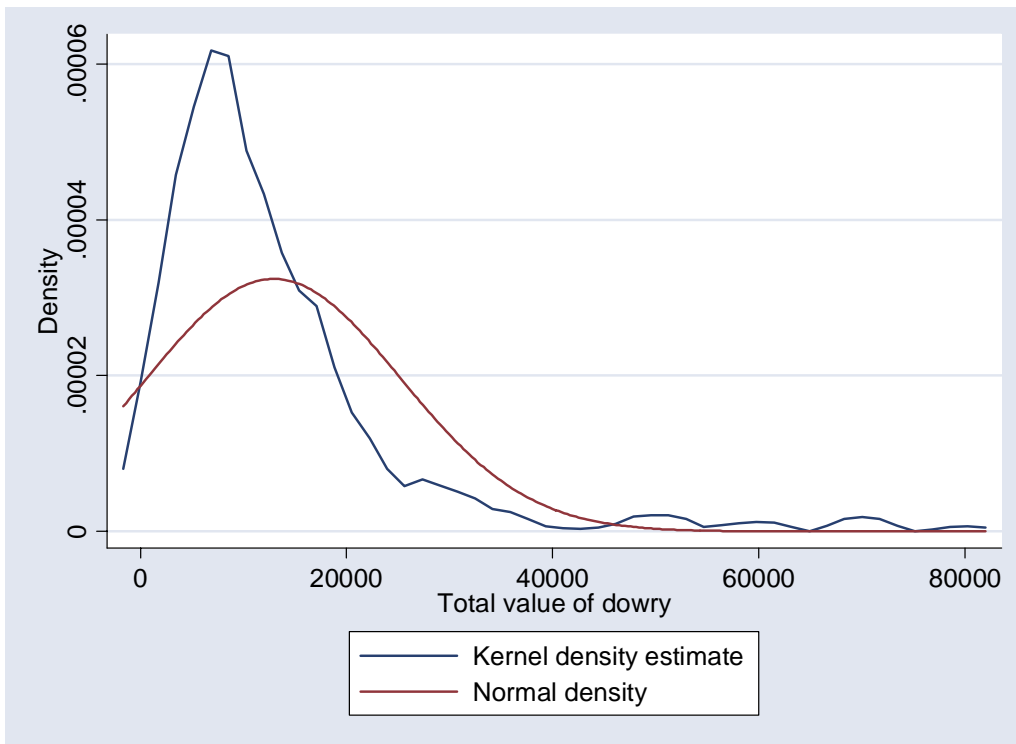Year of marriage (x-axis, 31 to 96)

**Figure 3. Kernel density estimate of real dowry payments 1931-1996**

Note: four outliers for which dowry is larger than 20,000 kg have been dropped. N=966 observations are available. The normal density is pictured for comparison purposes

**Figure 4. Kernel density estimate of nominal dowry payments in 1992-96**

Note: N=276 observations are available. The normal density is pictured for comparison purposes

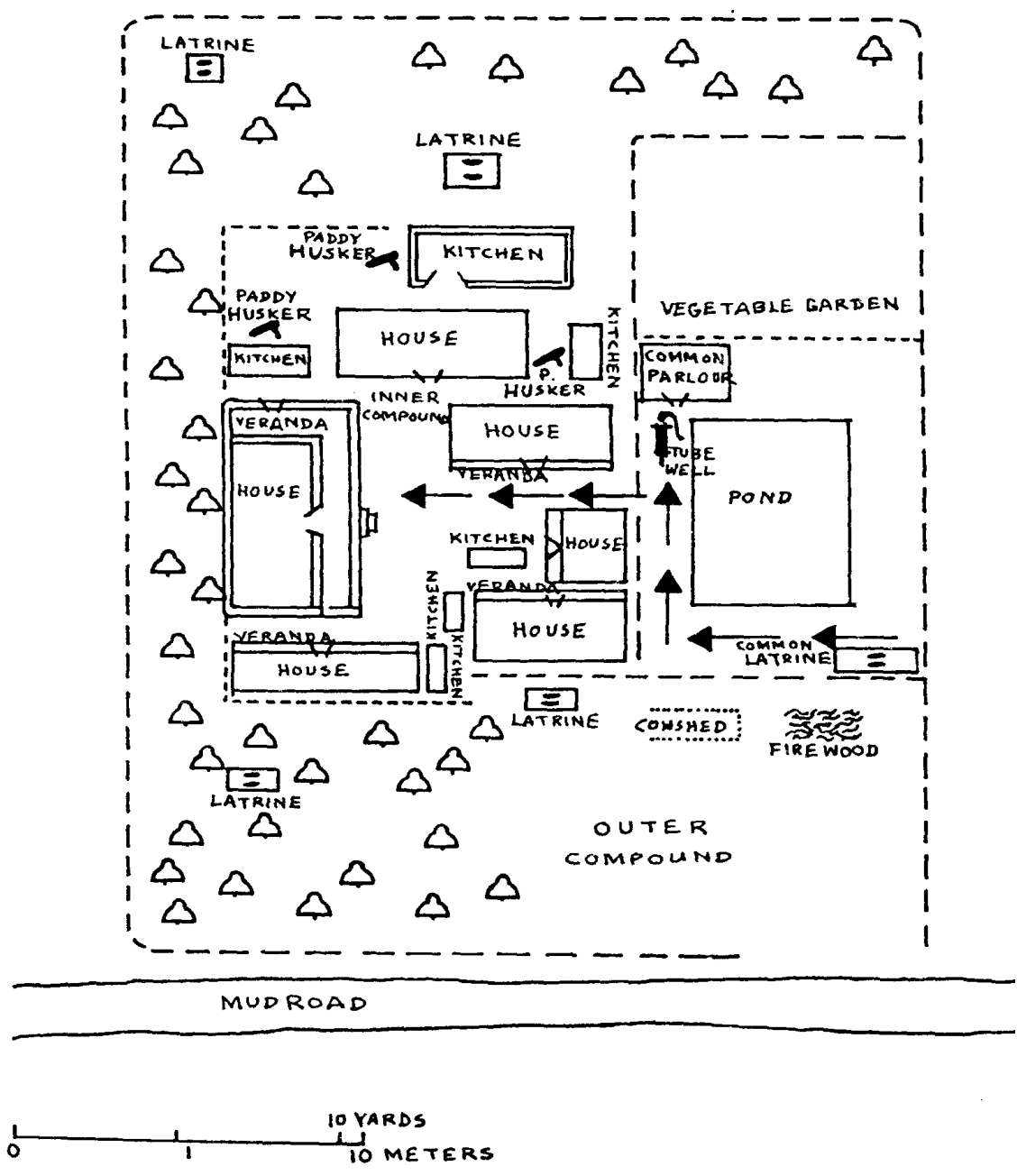**Figure 5. Female and male divorce rates, Comilla district, 1951-1991**
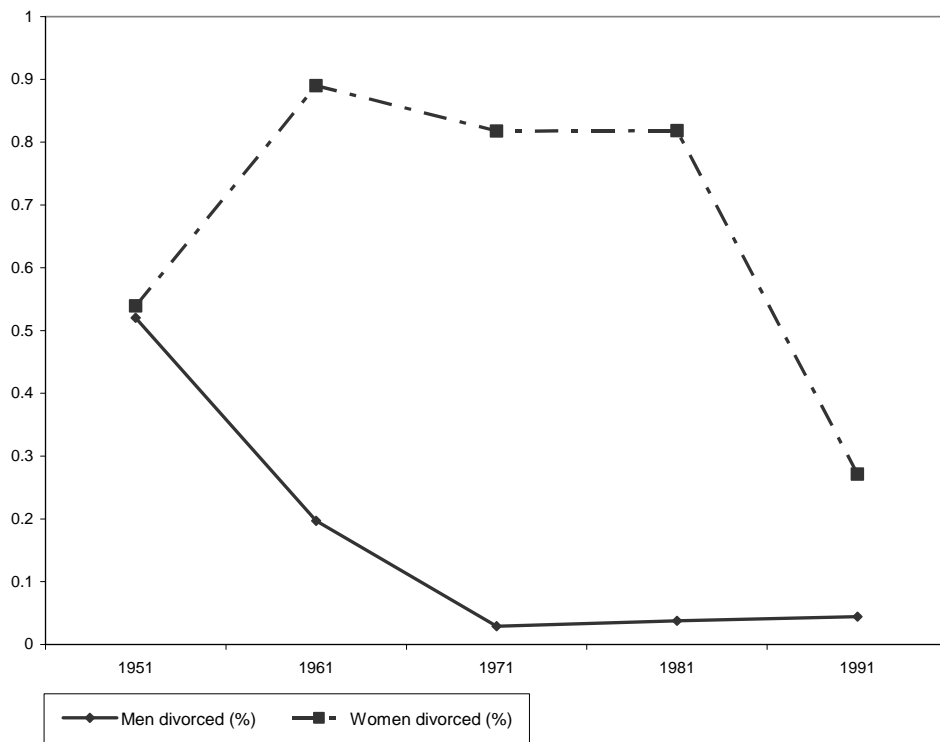
Note: age 10 years and above. Source: author's calculations using data from the Census of Pakistan and the Census of Bangladesh

Figure A1. Map of Bangladesh showing the Matlab area
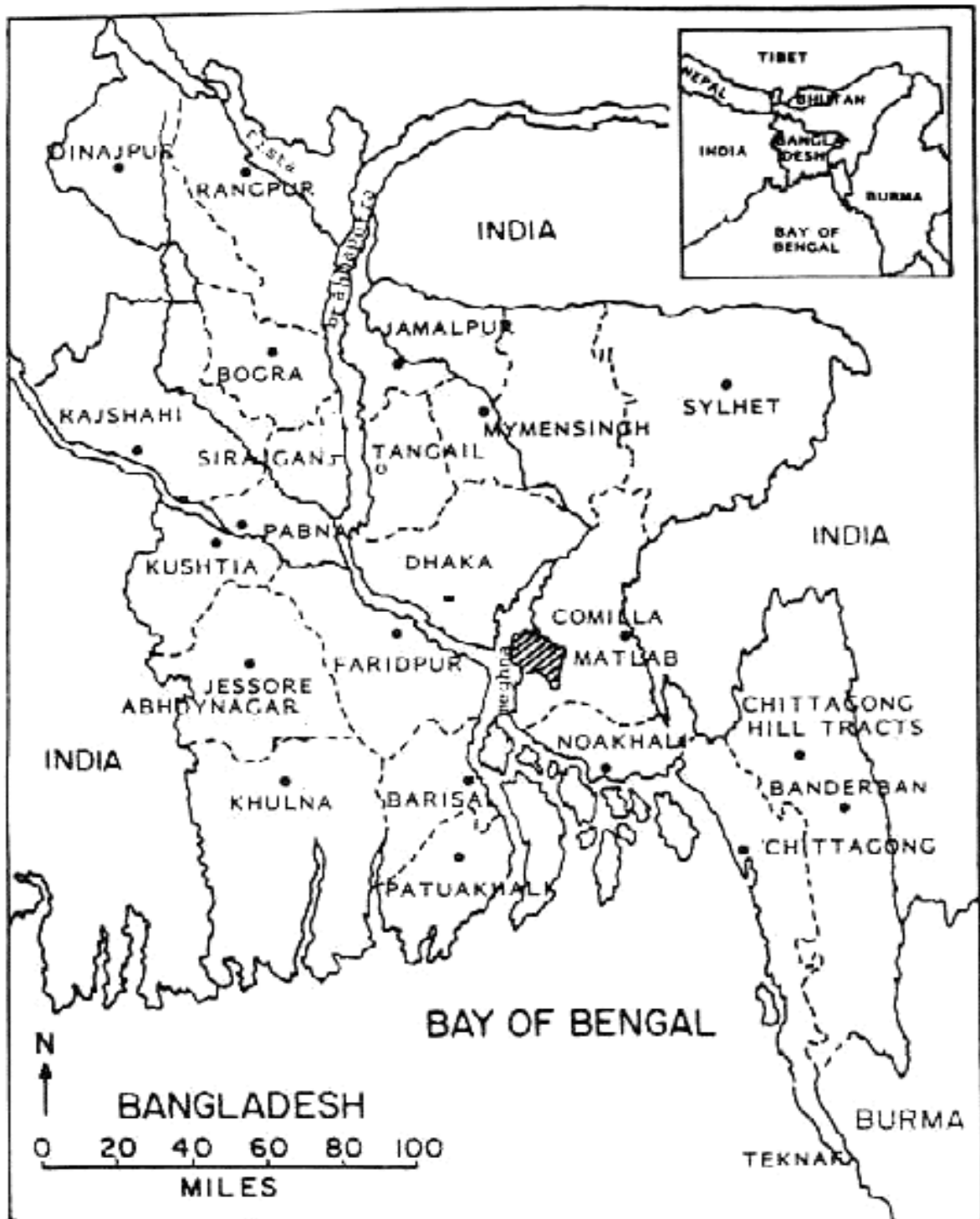
Source: Mostafa *et al* (1998)

Figure A2. Plan of a common bari in Matlab

Source: Rahman (1986)