

# Evolution of Mehr and Dowry among Muslims in Bangladesh: Natural Shocks as an Explanation\*

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This version: May 2014

**Abstract:** In this paper, we argue that the fluctuations in the value of mehr and dowry observed since 1960s in Muslim marriages in Bangladesh can be explained by the natural economic and political shocks: the Green Revolution (GR) in the 1960s, the Independence War (IW) in 1971 and the famine in 1974. The positive income effect of the GR increased the values of both dowry and mehr. However, rise in agricultural production during the GR also increased the demand for, and consequently the shadow price of, female labor within the household, which exerted downward pressure on the value of dowry. Therefore, the net effect on dowry was ambiguous. In contrast, the negative income effect of the war and famine had decreased the values of both dowry and mehr, and their values remained at lower levels in the absence of further shocks. Using two household survey datasets, we find support for our hypotheses. Our results have important implications that natural shocks influence the evolution of social institutions.

**JEL Codes:** J12, O13, Z12

**Keywords:** Dowry, Mehr, Muslim Family Law, Natural Shocks, Bangladesh

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\* We would like to acknowledge helpful comments and suggestions by Arnab Basu, Christopher Barrett, Shahe Emran, and Fahad Khalil. All errors and omissions are the sole responsibility of the authors.

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## I. Introduction

In this paper, we attempt to explain the evolutions of mehr and dowry in Bangladesh since 1960s. Muslim marriage contract, according to Islamic law, requires specifying a mehr, a monetary payment from husband to wife to be paid before the marriage is consummated (Bianquis 1996, Carroll 1986). Dowry is the opposite, a payment, from wife to husband during marriage, is a common practice among Muslims (and non-Muslims) in Bangladesh and neighboring countries. Despite being forbidden by law in India since 1961, in Pakistan since 1976, and in Bangladesh since 1980, dowry persists in all three settings (see Rao 1993 for India, Anderson 2003 for Pakistan, and Esteve-Volart 2004 for Bangladesh). However, both mehr and dowry experienced large fluctuations, especially in Bangladesh since 1960s (see Figures 1 and 2 in Section III). In this paper, we provide natural shocks as plausible explanations which contest alternative explanations that are based on legal changes.

We argue that natural exogenous economic and political shocks can explain the evolution of mehr and dowry in Bangladesh. These shocks are characterized by the introduction of new technology in agriculture (Green Revolution, GR), war of independence (IW), and famine. We hypothesize that the positive income shock due to new technology adoption increased the values of both dowry and mehr. However, rise in agricultural production during the technological change also increased the demand for, and consequently the shadow price of, female labor within the household, which exerted downward pressure on the value of dowry. Therefore, the net effect on dowry was ambiguous. In contrast, the negative income shock of the war and famine had decreased the values of both dowry and mehr, and their values remained at lower levels in the absence of any further shocks.

The past literature on marriage market transactions in Bangladesh and elsewhere in South Asia focused mostly on dowry, not on mehr since there is a rising participation accompanied by substantial dowry inflation (Rao 1993, Anderson 2003). In Bangladesh, it is often claimed that the incidence of dowry has substantially increased (Esteve-Volart 2004) as well the amount of dowry being paid (Amin and Cain 1997)<sup>1</sup>. Though there is no systematic data gathering process on dowry related violence and death, it is estimated that in Bangladesh, more than 200 women are being killed every year due to dowry related violence ([http://khabarsouthasia.com/en\\_GB/articles/apwi/articles/features/2012/02/15/feature-02](http://khabarsouthasia.com/en_GB/articles/apwi/articles/features/2012/02/15/feature-02)). Hence, dowry remains an important challenge for policy makers and academicians alike.

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<sup>1</sup> Amin and Cain (1997) found a rise in the real amount of dowry being paid albeit their finding is based on two villages in northern rural Bangladesh.

We analyze two household survey datasets collected in 2004 and 2010.. We also extend our analysis by combining the two datasets. Our identification relies on the pre-post comparisons of the causal effect of natural shocks on mehr and dowry. We document that the value of mehr increased significantly during the GR from the previous period; and there was no significant change in the IW-famine period from the GR level but it declined significantly in the post-1974 period. Lastly, it declined in the post-1974 period from the IW-famine period. The value of dowry did not change in the GR period from its previous level but otherwise followed a trend similar to that of mehr. The results are robust to controlling for bride and groom attributes.

The findings have important implications that natural shocks influence the evolution of social institutions. It is important to mention that there were legal changes in Bangladesh during 1960-2000 to restrict polygamy and curb the practice of dowry. We show that such legal changes had no effect on the changing patterns in the value of mehr and dowry. Our findings of no-effect of legal changes on dowry and mehr are consistent with the existing literature. Esteve-Volart (2004) used a similar rural household survey conducted in one sub-district of Bangladesh (Matlab Health and Socio Economic Survey) and found no effect of the Registration of Muslim Marriages and Divorces Act (MMDA) of 1974 on the amount of dowry given in Muslims marriages post-1974 (Table 5).

In marriage market, sorting on attributes, such as education, income etc that lead to assortative matching patterns are well recognized in theory (Bekcer 1973) and empirical evidence support such patterns (Hitsch et al 2010). In Bangladesh and elsewhere in South Asia, marriage is often an important economic decision arranged by parents rather than by prospective spouses (Rosenzweig and Stark 1989, Banerjee et al 2013). Our findings that standard marriage market characteristics such as income and education matter in sorting in families are also consistent with both theoretical and empirical literature.

The rest of the paper proceeds as follows. Section II describes the economic and political shocks that Bangladesh experienced since the 1960s, and their likely impacts on the value of mehr and dowry. Section III discusses the two datasets and some key descriptive statistics. The identification and estimation strategy are explained in Section IV. Section V presents the results. Section VI shows that legal changes were ineffective in influencing the value of mehr and dowry. Finally, Section VII concludes.

## II. Natural shocks and their likely effects on the trends in dowry and mehr

In this section, we hypothesize that the observed trends in dowry and mehr can be explained by three exogenous natural shocks that took place in Bangladesh: i) the introduction of new water-fertilizer-seed technology in the 1960s popularly known as the Green Revolution (GR), ii) the War of Independence in 1971, and iii) the famine in 1974. We provide a less formal but intuitive explanation of how these exogenous aggregate shocks impacted the values of mehr and dowry in Bangladesh.

We broadly define GR as indicating the increase in agricultural productivity associated with the adoption of several new agricultural technologies. Beginning in 1959, the then East Pakistan government introduced, in several stages, various new agricultural technologies combined with policies favorable to the sector; it introduced chemical fertilizer (Hossain et. al. 1994) and mechanized irrigation in 1959 (Falcon and Gotsch 1970). These inputs (fertilizer and irrigation) were heavily subsidized under the “Grow More Food” and became readily available among farmers in the early 1960s. As an example, the distribution of chemical fertilizer increased, on average, by 35.5% per year during the 1961-70 period (Khan, 1972, Table 5.8, p. 50). We consider 1961 as the start-date of the Green Revolution, as that is the earliest period of documented increase in agricultural productivity, although our results, presented in Section V, are largely robust to the choice of alternative start-dates for example, 1967, when HYV seeds were introduced (David and Otsuka 1994).

Not surprisingly, during the 1961-70 period, Pakistan (both East and West) experienced, for the first time, unprecedented growth in agriculture and rural private investment owing to the introduction of new agricultural technologies. The annual agricultural growth rate nearly tripled, increasing from 1.2 percent to 3.2 percent. In Bangladesh (then East Pakistan), the agricultural sector grew on average at 3 percent per annum over this period. Rice, which contributed 70 percent of the value added of all crops, grew at 3.4 percent per annum, and *Boro* rice, which primarily utilized modern inputs, notably grew at 6.2 percent per annum (Falcon and Gotsch, 1970, Table 9.12, p.293, Table 9.13, p.295). Major factors that contributed to this rapid growth were mechanized irrigation, chemical fertilizer, pesticides, improved local seed varieties, and a shift to the “Japanese Method” of rice culture, which involved a series of labor-intensive operations (Falcon and Gotsch 1970, pp. 270, 288-298).

The second major event was the Independence War (IW), which broke out abruptly in March 1971 and ended in December 1971 with the birth of a new country (East Pakistan became Bangladesh) at a cost of between 2 and 3 million civilian lives (Riedel 2011). Approximately 10 million refugees who

took refuge in neighboring India during the IW completed their resettlement in Bangladesh only by the end of 1973. In addition, the war devastated the economy; GDP declined by 5.6% in 1971 and by 15% in 1972 (Appendix Figure I.B). This was clearly a large negative income shock.

Soon after the war and resettlement of refugees, the country was hit by another major negative shock, this time a devastating famine in 1974 that primarily affected the rural population. GDP declined by more than 5 percent in 1975 after the famine. The combined effect of the IW and famine was a negative income shock during the 1971-74 period that may have persisted for quite some time because GDP returned to its pre-war level only in 1977 (Appendix Figure I.A).<sup>2</sup>

The first event, a permanent positive income shock resulting from the adoption of new agricultural technologies, would have shifted the demand curve for grooms outward, increasing the equilibrium value of dowry. Higher income would have increased the ability of brides' families to pay dowry. Given that the supply of brides is fixed (being unmarried, for marriage-age girls, is socially stigmatized and not observed in the data), an increased ability to pay dowry translates into an increased willingness to pay dowry. However, there is a counter-balancing effect to the positive income shock. Higher agricultural production increased the demand for labor, especially post-harvest labor, which in Bangladesh is typically supplied by women within households. Post-harvest activities, such as drying, sorting, storing, milling and processing, which are performed manually, are highly labor-intensive and traditionally performed by women. Pre-planting activities such as seed selection and germination are often performed by women as well. This higher labor demand would have increased the shadow price of female labor, exerting downward pressure on the demand for dowry. Therefore, the net effect on dowry depends on the relative magnitudes of the two opposing effects.

In contrast, the increased demand for female labor would have resulted in a higher price for brides in the form of mehr. One may question the effect on mehr, as mehr, unlike dowry, is a deferred payment, conditional on divorce. However, given that the deferred mehr is an accepted norm, one can think of a demand function for female labor where current demand is expressed in future prices. In addition, the positive income shock would also have increased the ability of grooms to pay mehr. The combined effect of increased income and higher demand for female labor would be reflected in a higher equilibrium value of mehr.

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<sup>2</sup> The severity of the effect of the famine among rural households cannot be judged simply by the fall in GDP. For a discussion, see the seminal work of Amartya Sen (1981) on the causes and consequences of the 1974 famine.

The next two events, the IW and famine, are both negative income shocks that would have lowered the value of both mehr and dowry. The mechanism in these cases is thus opposite to that of the positive income shocks described above. Furthermore, the IW had a profound effect on socio-cultural and psychological characteristics of the people of Bangladesh, as it created a new secular country distinct from Pakistan, which had been founded on the basis of religion.<sup>3</sup> The effect may not be negligible, especially for young males who fought for the country's independence; a large portion of this group was also of marriage age. Such an effect might have further decreased the demand for dowry and maintained it at a persistently lower level.<sup>4</sup>

To summarize, the positive income shock due to the GR would have increased the value of mehr, while its effect on dowry is indeterminate. The negative income shock (and socio-psychological effects) associated with the IW and famine would have decreased the values of both dowry and mehr from GR levels. Lastly, depending on the persistence of the previous shocks and the absence of any further shock, both dowry and mehr would have stabilized during the post-1974 period at lower levels compared with IW-famine levels. We therefore characterize our sample period based on the above three exogenous economic and political shocks: i) the Green Revolution (1961-1970), ii) IW and famine (1971-74), and iii) post-1974 tranquil period.

### **III. Data and descriptive statistics**

We have utilized two household survey data sets. The first survey was administered to 1,820 households in 91 villages across all major geographical regions of Bangladesh in December 2010 – January 2011. These households were drawn from an existing survey commissioned by Palli Karma Shahayak Foundation (henceforth PKSf) and conducted by the Bangladesh Institute of Development Studies (BIDS) in 1997-98. Survey modules on marriage, divorce, mehr and dowry identical to the next data set described below were included in the resurvey of the PKSf households. After employing the cleaning steps described below, it retains 1,981 marriages coming from 1,457 households.

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<sup>3</sup> In 1947, the Indian subcontinent was divided into India and Pakistan based on majority populations of Hindus and Muslims in India and Pakistan, respectively.

<sup>4</sup> This also suggests that the value of dowry would have decreased more than that of mehr in the post-1974 period, which is supported by data (Figures I II and III).

The second data set was collected in December 2004 and January 2005 for Bangladesh Rural Urban Linkage Survey (henceforth BRULS) by International Food Policy Research Institute (IFPRI). It was a follow-up study to the 2000 Household Income and Expenditure Survey (HIES) conducted by the Bangladesh Bureau of Statistics (BBS). In HIES 2000, the BBS surveyed 1,360 rural households drawn from 68 villages (mouzas) from Rajshahi region/division of which BRULS re-surveyed 1,271 households (6.5 percent attrition) drawn from 68 villages of the 16 districts of Rajshahi Division. To address a specific question related to contract farming, the sample was extended and an additional 200 new households coming from 10 new villages in 2004, taking the total household number to 1471 and total village number to 78. We have used the original data (section1a and section1c) that covers 1,367 marriages in 865 households.

The following steps are taken to retain our working sample: i) only Muslims households are included (by discarding all non-Muslim households); ii) only households members between 18 and 65 years of age are included; iii) only first marriages are included; iv) only relationships involving household heads, spouses or sons/daughters are included; and v) missing values of dowry and mehr are deleted (further discussions on the working sample in Section V). It is important to note that the final step leaves only positive values of dowry and mehr. We lastly have converted the nominal values of dowry and mehr into their respective real values, using the price deflator reported in the online Appendix of Ambrus et al. (2010). Important information needed to match the price deflator with the values of dowry and mehr, but not collected in the survey, is the year of marriage. However, for each household member, information on their current age and age at marriage was collected. We have calculated the year of marriage as  $(2010 - \text{current age} + \text{age at marriage})$ .

Figure 1 shows the trends in dowry and mehr observed in PKSF data where the mean values of dowry and mehr in real terms by year are displayed. For ease of exposition, all the natural shocks discussed in Section II, green revolution (GR), the war of independence (IW), and famine of 1974 (Fam), are marked along the horizontal axis. Appendix Figure II depicts the picture from BRULS data.

It is evident that both dowry and mehr fluctuated considerably from the 1950s through the 1970s after which both stabilized from the 1980s. However, few things are obvious: first, while there is no unambiguous trend, both dowry and mehr first increased and then decreased; they increased till 1974 and then decreased till the mid-1990s. Second, in the pre-GR period, the average real value of mehr was substantially lower than the average real value of dowry. Third, fluctuations in the values of dowry and

mehr are more pronounced during the years marked by natural exogenous shocks. Fourth, from a very low start, the value of mehr picked up in the green revolution period and it eventually outstripped the value of dowry in the 1980s. We observe a similar trend in the BRULS data (Appendix Figure II).

[Insert Figure I II about here]

Table I present the descriptive statistics of the real values of dowry and mehr and other variables used in our empirical analysis. Similar descriptive statistics obtained from BRULS data are presented in Appendix Table A1. As in Figure I, the real value of mehr substantially increased from an average of 18,009 Taka before the green revolution to 65,112 Taka after the war of independence followed by a decline after the famine. A similar trend is observed in the case of the value of dowry as well.

In both datasets, PKSF and BRULS, participation in dowry seems universal among Muslims in Bangladesh. Since the 1950s, the starting point of the data sets, some form of dowry related payments took place in all marriages. However, it seems the bequest dowry has decreased while the dowry for groom increased over time. Similarly, the composition of dowry has changed. Use of land as dowry has decreased substantially while the use of cash as dowry has increased. The popularity of consumer goods as dowry has remained unchanged (in BRULS data it has decreased).

In terms of bride and groom attributes, education of bride has substantially increased from less than a year (0.78) to four years (3.98), and the education of groom has also increased from 1.6 years of schooling to 3.99. Bride's age at marriage increased over time (from 13.5 to 16.5), while for grooms remained almost unchanged (about 24 in PKSF data and 22 in BRULS data)

[Insert Table I about here]

The survivorship bias<sup>5</sup> is more acute in the BRULS than the PKSF data. In the BRULS survey, the percentages of observations in the pre-GR, GR, IW-famine and post-1974 periods are 0.59%, 3.29%,

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<sup>5</sup> The concept of survivorship bias is often used in the finance and public health literatures. In finance, it refers to a tendency for failed companies to be excluded from performance studies (for example, Brown et al., 1992). In public health, it refers to a tendency to exclude information on dead persons that is vital in estimating the treatment effects of public health interventions (for example, Liu et al., 2010). In our case, only a small fraction of individuals who married in earlier periods were alive during the survey.

2.64%, and 93.49%, respectively. In contrast, the respective numbers in the PKSF data are 4.04%, 9.19%, 5%, and 81.78%. One explanation is that the rural northwestern region in Bangladesh, where the BRULS was conducted, has historically been the poorest region in the country, with the highest incidence of poverty and the shortest life expectancy.<sup>6</sup> Therefore, the number of surviving married individuals who married in earlier periods is smaller in the BRULS dataset. In contrast, the new survey covers all of Bangladesh, thereby reducing survivorship bias in the sample.

#### IV. Estimation strategy

To test the impact of the natural shocks on the values of dowry and mehr discussed in Section II, we estimate the following two equations:

$$\ln M_{iyr} = \alpha^M + \beta^M \mu_y + \delta^M \mathbf{X}_{iyr}^M + \varepsilon_{iyr}^M \quad (1)$$

$$\ln D_{iyr} = \alpha^D + \beta^D \mu_y + \delta^D \mathbf{X}_{iyr}^D + \varepsilon_{iyr}^D \quad (2)$$

where  $\ln M_{iyr}$  and  $\ln D_{iyr}$  are the logarithm of the real value of mehr and dowry,<sup>7</sup> respectively, for a woman  $i$  married in year  $y$  in region  $r$ , and  $\mu_y$  is a vector of three dummy variables for four time periods and are the same in both equations: i) pre-1961, ii) 1961-1970, iii) 1971-1974, and iv) post-1974. Given the exogeneity of the shocks, our identification relies entirely on the pre-post comparisons. To find out the effect of a particular shock, we compare the values of both mehr and dowry after the shock with the respective values in the previous period; the 1961-1970 values with the pre-1961 values; the 1971-1974 values with the 1961-1970 values, and the post-1974 values with the 1971-1974 values.

Both the vector  $\mathbf{X}^M$  and  $\mathbf{X}^D$  include an indicator of relationship to the household head (specifically, whether the woman is the daughter-in-law as opposed to the daughter or wife of the household head), a linear trend in year of marriage and its square (to capture any non-linearity in the

<sup>6</sup> In 2005, the extreme poverty rate (defined as the percentage of individuals who cannot consume 2,100 calories per day, even if they spend their entire incomes on food purchases) was 25 percent nationwide but 35 percent in the northwestern region (BBS 2005). Because life expectancy and income are highly correlated, it is likely that surviving members came from relatively well-off households and hence had commanded high levels of mehr and dowry that may not represent national averages.

<sup>7</sup> As the steps outlined to select the working sample retain only positive values of dowry and mehr, logarithmic transformation does not decrease the sample size in our analysis. Such transformation is also very useful in accounting for heteroskedasticity.

trend of the value of mehr and dowry), and the regional (district) dummies. They also include a set of attributes of bride and groom: age difference between bride and groom, two dummies for relative wealth of the bride's and groom's families<sup>8</sup> at the time of marriage, and an indicator of whether the groom chose the bride or the marriage was arranged by the families. When mehr is the dependent variable,  $\mathbf{X}^M$  includes the bride's education and age in the regression. Similarly, in the case of dowry,  $\mathbf{X}^D$  includes the groom's education and age in the regression.<sup>9</sup>

In the marriage market literature since Becker (1973), it is widely recognized that brides and grooms have preferences for certain attributes and that such preferences can lead to the emergence of marriage-related payments. Moreover, the nature and direction of such payments are often affected by socio-economic factors (Anderson 2003). Empirical evidence pertaining to both developed (Hitsch et al. 2010) and developing countries (Rao 1993, Edlund 2000, Anderson 2004) usually supports the existence of preferences regarding spousal attributes. One might argue that bride and groom attributes are endogenous. However, our main focus is on the  $\beta^M$  and  $\beta^D$  coefficients, which compare average values of mehr and dowry, respectively, in different periods. Given that the relevant economic and political events are completely exogenous, the estimated  $\beta^M$  and  $\beta^D$  coefficients should be unbiased, even after controlling for bride and groom attributes. Furthermore, we estimate equations (1 and 2) both without and with the brides' and grooms' attributes. The standard errors are clustered at the household level.

## V. Results

In the following, we first present the results separately for the PKSf and BRULS data and then the same after merging them to exploit an even larger sample size. Merging the two datasets is justified as the information used in the analysis is the year of marriage and the values of mehr and dowry paid or specified as part of the marriage, which are independent of the timing of the survey. The same is true of bride and groom attributes at the time of marriage.

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<sup>8</sup> Relative wealth is categorized into three groups, depending on whether the bride's family was i) economically richer, ii) poorer, and iii) equal relative to the groom's family.

<sup>9</sup> Attributes found important in the marriage market such as skin tone and height (Banerjee et al. 2013) are not controlled for in the regression analysis as such data were not collected; the caste system is absent among Muslims.

#### *V.A Results from the PKSF (2010) data*

The regression results are presented in Table II. The (log) value of mehr and dowry are estimated relative to the pre-GR period, which is the base category in the regression. The values in the subsequent periods relative to their previous period are reported at the bottom of the table. Column 1 presents the results for mehr, excluding the attributes of bride and groom. The value of mehr increased significantly during the GR from the previous period (the coefficient is 0.684 with a  $t$ -value of 2.015); although it did not significantly decline in the IW-famine period from the GR level, it declined significantly in the post-1974 period (the coefficient is -1.159 with a  $t$ -value of -3.62). Lastly, it declined in the post-1974 period from the IW-famine period (the coefficient is -0.898 with a  $t$ -value of -3.34). These results are robust to controlling for bride and groom attributes (column 2). The value of dowry did not change in the GR period from its previous level but otherwise followed a trend similar to that of mehr, although with slightly lower statistical significance (columns 3 and 4). These results support our hypotheses about the role of natural shocks in influencing the values of both mehr and dowry.

[Insert Table II about here]

#### *V.B Results from the BRULS (2004) data*

The regression results are presented in Table III. Column 1 presents the results for mehr when bride and groom attributes are excluded from the regression. The value of mehr increased during the GR from the pre-GR period, but the difference is not statistically significant. It decreased in the post-1974 period relative to the GR period, but the difference is again not statistically significant. However, the value of mehr decreased significantly in the post-1974 period relative to the IW-famine period (the coefficient is -0.636 with a  $t$ -value of -1.81), a result that is qualitatively similar when the bride and groom attributes are included (column 2). The value of dowry followed a very similar trend. Comparing the results with PKSF data, the main difference is that the change in mehr in the GR period is insignificant. However, in contrast to the value of mehr, the value of dowry significantly decreased in the post-1974 period from its GR level; the coefficient ( $t$ -value) is -0.729 (-1.85) when bride and groom attributes are excluded and -0.833 (-2.20) when these attributes are included (columns 3 and 4). Again, the overall results provide weak support for our hypotheses. It is important to mention the survivorship bias is more acute in the BRULS than the PKSF data because of the smaller sample (discussed in

Section III); there are only 8 observations in the pre-GR period. This may be a reason for the statistical insignificance of the estimated coefficients.

[Insert Table III about here]

#### *V.C Results from the merged (PKSF + BRULS) data*

Our final exercise is to merge the PKSF and BRULS datasets to take advantage of an even larger sample size. One caveat, however, should be noted. The PKSF dataset represents all major geographical regions of the country, while the BRULS dataset represents only the northwestern region. As a result, the merged dataset places a relatively larger weight on the northwestern region.

The regression results are presented in Table V. The results for mehr both without and with inclusion of the bride and groom attributes are presented in columns 1 and 2, respectively. The corresponding results for dowry are presented in columns 3 and 4, respectively. All of these results are similar to those obtained using the PKSF data and with higher levels of statistical significance. To summarize, the results indicate that the value of mehr first increased during the GR period and then declined during both the IW-famine and post-1974 periods. However, only the decline in the latter period is statistically significant, probably owing to the time lag required for the effect of the shock to become manifested. Dowry, on the other hand, did not change during the GR period but otherwise followed a trend similar to that of mehr.

[Insert Table IV about here]

Although our focus is on the  $\beta^M$  and  $\beta^D$  coefficients, we briefly discuss below the estimated coefficients of brides' and grooms' attributes. The results presented in Tables III-V also show that the bride and groom attributes affect the real values of mehr and dowry. Bride and groom education levels increase the values of mehr and dowry, respectively. Their education difference (groom's education less bride's education) decreases the value of mehr and increases that of dowry. These results are robust in all datasets. Mehr decreases with the age of the bride, while dowry increases with the age of the groom. Both mehr and dowry increase with age difference (groom's age less bride's age). The groom receives less dowry when he chooses his bride than when the bride is chosen by his family and relatives. These results are pronounced in the PKSF and merged datasets. Although these results may not reflect true causality of the bride and groom attributes because of possible endogeneity, they are strongly aligned

with that part of the marriage market literature that seeks to explain marriage-related payments in Bangladesh (Esteve-Volrat 2004, Arunachalam and Logan 2006) and other parts of South Asia (Rao, 1993, Anderson 2004, Dalmia and Lawrence 2005).

## **VI. Natural shocks or legal changes?**

Natural shocks that we considered above in some instances were coincided with legal changes during the 1960-2000 that aimed to restrict polygamy among Muslims and curb the practice of dowry. Ambrus, Field and Torero (2010, *The Quarterly Journal of Economics*) (henceforth, AFT) showed that two of those legal changes influenced the value of mehr and dowry. Their estimation was also based on the BRULS data but employing a different (and extensive) data cleaning procedure than we do.<sup>10</sup> In the following, we show the AFT results are not robust to modest changes in their empirical estimation, or alternative data cleaning procedure, while our results do thus leading us to conclude that the legal changes were ineffective. But first we briefly explain the legal changes.

In Bangladesh, between 1961 and 2004, there were five legal amendments to, and case law developments in, Muslim family laws governing marriage, dowry and divorce: i) the Muslim Family Law Ordinance (MFLO) of 1961; ii) the Registration of Muslim Marriages and Divorces Act (MMDA) of 1974; iii) the Dowry Prohibition Act of 1980 and Dowry Prohibition (Amendment) Ordinances of 1982, 1984 and 1986; iv) Case Law Development in 1990 (*Rustom Ali v. Jamila Khatun*) and a Supreme Court verdict in 1998; and v) the Women and Children Repression Prevention Act of 2000.

Briefly, the main objective of the MFLO was to restrict polygamy and arbitrary divorce. The main mechanism by which it was to achieve its desired effect was the requirement that, in cases of divorce, a husband obtains the first wife's consent and written permission of local government authorities of the second wife's residence. The MFLO became effective in Bangladesh (then East Pakistan) in 1963 ([http://bdlaws.minlaw.gov.bd/print\\_sections\\_all.php?id=305](http://bdlaws.minlaw.gov.bd/print_sections_all.php?id=305), accessed February 29,

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<sup>10</sup> AFT has made their cleaned data and STATA estimation code available in <http://sites.duke.edu/ericafeld/data/> (accessed March 19, 2014). However, the cleaning procedure in STATA that AFT employed and made available to us through the QJE are much more extensive. We received this acknowledgement from AFT also through the QJE that a small perturbation in the cleaning procedure done by AFT changes the dataset. Hence, our results using the BRULS data are, unless otherwise mentioned, based on our own cleaning process discussed in Section III.

2012). The main objective of the MMDA was to further restrict polygamy and arbitrary divorce by making a marriage registrar widely available ([http://bdlaws.minlaw.gov.bd/print\\_sections\\_all.php?id=476](http://bdlaws.minlaw.gov.bd/print_sections_all.php?id=476), accessed February 29, 2012).

The main objective of the Dowry Prohibition Act and subsequent amendments in the 1980s was to reduce dowries by making both the giving and receiving of dowries illegal ([http://bdlaws.minlaw.gov.bd/sections\\_detail.php?id=607&sections\\_id=10780&vol=22](http://bdlaws.minlaw.gov.bd/sections_detail.php?id=607&sections_id=10780&vol=22), accessed February 29, 2012). Anti-dowry laws were further strengthened by the Women and Children Repression Prevention Act of 2000, which mandated imposition of the maximum possible punishment for dowry related violence and death.

The two case law developments of 1990 and 1998 went against the *Maliki*<sup>11</sup> interpretations of alimony obligations specified in the MFLO. In 1990, in *Rustom Ali v. Jamila Khatun*, 43 DLR (1991) 301, the High Court ruled that a former wife may not claim alimony unless the parties have a previously established agreement. In 1998, the Supreme Court upheld the 1990 ruling on alimony.

AFT formulated a model that predicts that the MFLO would increase equilibrium levels of both dowry and mehr by imposing financial barriers to men in abandoning their wives without formal divorce and that the MMDA (under certain assumptions) would decrease equilibrium levels of both dowry and mehr by strengthening the enforcement of alimony payments, thereby increasing the contract-independent costs of divorce. Their empirical findings support both the hypothesis that levels of dowry and mehr increased sharply after 1963 when legal barriers to polygamy were enacted and the hypothesis that these payments decreased after 1974 when marriage registrars became widely available.<sup>12</sup> They considered the two case law developments of 1990 and 1998 in their empirical estimation but found no

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<sup>11</sup> *Maliki* is one of four prominent schools of religious law within Sunni Islam, the dominant denomination among the Muslims in Bangladesh.

<sup>12</sup> Information on marriage registration was not collected in the BRULS data. Therefore, availability of marriage registrars cannot be empirically established from their data. In the PKSf dataset that contains marriage registration information, it is found that between 1972 and 1974, 73% of Muslim marriages were registered. In contrast, 69% of Muslim marriages were registered between 1975 and 1977, suggesting no apparent association between the MMDA in 1974 and the marriage registrations.

impact of them on dowry or mehr.<sup>13</sup> It is important to note that they did not consider the other two legal reforms in 1980 and 2000 in their empirical estimation, although they mentioned them (p. 1356, last paragraph).<sup>14</sup>

AFT estimated the same equations as (1) and (2) with the exceptions that the values of dowry and mehr were not expressed in log, and the attributes of the brides and grooms were excluded. The identifying assumption in AFT is that the legal changes in 1963 and 1974 did not coincide with any other changes that may have influenced dowry and mehr. In addition, they divided the entire period into seven equal (eight year) sub-periods, and included one dummy variable for each sub-period (one less than the total number of periods because one period is used as a base category). The inclusion of the dummies for the seven sub-periods in the regression is not explained, except when they briefly note that these dummies account for non-linearity in the trends of dowry and mehr. However, the trend in the values of dowry and mehr displayed in Figure II does not justify their inclusion. One plausible reason for including the period dummies would be to account for the business cycles that repeat every eight years on average in the USA (see Baxter and King, 1999, for the business cycle pattern in the USA). However, the trend in GDP in Bangladesh contradicts these cycles, as shown in Appendix Figures I.A-I.B. The coefficients of these dummies provide estimates of the average value of dowry or mehr in each sub-period relative to the base category. Similarly, the dummies for the legal changes also provide estimates of the average value of dowry or mehr in the respective periods relative to the base category. Given that these two sets of dummies substantially overlap with one another, it is not clear about what the dummies for legal changes capture.

We now replicate the AFT benchmark results (AFT Table II, p.1384) along with two sets of additional results: excluding the eight-year sub-period dummies, and including the attributes of brides and grooms. Here we use cleaned data made available by AFT (<http://sites.duke.edu/ericafield/data/>, accessed March 19, 2014). Despite minor differences in magnitudes, we can replicate their benchmark results in Table VI (columns 1 and 2). The two legal changes, MFLO and MMDA, that AFT have highlighted are represented by post-1963 and post-1974, respectively. Post-1990 and post-1998

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<sup>13</sup> AFT did not explain why the case law developments of 1990 and 1998 had no effects on dowry and mehr. If legal changes were effective, these should have reduced the supply of women and increased the supply of men. Hence, they should have a negative effect on dowry and a positive effect on mehr.

<sup>14</sup> If dowry had decreased due to the legal change in 1974, there would have been no need to introduce the Dowry Prohibition Act in 1980.

represent two other legal changes. As found in AFT, these two legal changes had statistically significant impact on both mehr and dowry. We verify whether the conclusion in AFT would hold after excluding the eight-year sub-period dummies. The results for mehr and dowry are presented, in columns (3) and (4), respectively. However, AFT's main results no longer hold; the magnitude of the coefficient of the MFLO (the first legal change) is much smaller and not statistically significant in the case of the value of mehr. Similarly the magnitude of the coefficient of the MMDA (the second legal change) is also much smaller and not statistically significant in the case of the value of dowry. For the second robustness check, we control for the bride and groom characteristics. Results are reported in columns 5 and 6. Once again, AFT's main results no longer hold.

We now replicate the benchmark estimation in AFT, using our merged dataset, to determine whether AFT's results qualitatively hold in a larger and more representative sample. To be consistent with AFT, we retain marriages from the PKSf dataset only through 2004. The results are presented in Appendix Table A2. Columns 1 and 2 exactly replicate the specification in Table II in AFT, including the sub-period dummies. Columns 3 and 4 exclude the sub-period dummies, for reasons discussed earlier. Once again, we find no impact of any legal changes on the values of mehr or dowry. To summarize, we find that AFT results are not robust to modest changes in specification, and using alternative data.

[Insert Table V about here]

The ineffectiveness of legal changes is consistent with findings reported elsewhere in the literature. The literature on marriage market transactions in Bangladesh and elsewhere in South Asia have focused primarily on dowry, ignoring mehr. Despite being forbidden by law in India since 1961, in Pakistan since 1976, and in Bangladesh since 1980, dowry persists in all three countries (see Rao 1993 for India, Anderson 2003 for Pakistan, and Esteve-Volart 2004 for Bangladesh). However, these South Asian experiences are not the first instances of the ineffectiveness of laws prohibiting dowry; laws were imposed to limit such payments in the fifteenth and early sixteenth centuries in Europe but were largely ignored (Anderson 2007).

In contrast, mehr is enshrined in Islam and is accordingly regulated by Islamic personal law. However, as observed in Amin and Cain (1995), mehr in Bangladesh is seldom significant because payment is conditional on the termination of marriage, and divorce and remarriage prospects are minimal in Bangladesh. In the BRULS data, of 3,337 women who have married, only 0.78%

subsequently divorced. While this could be an equilibrium outcome, given the high exit barrier posed by mehr, divorced women in Bangladesh and other South Asian countries are socially stigmatized, and single working women are not accorded a status equal to that of married women (Dreze and Sen 1995, Esteve-Volrat 2004). In such a society, where remarriage of both women and men is strongly discouraged and hence not a preferred option, changes in laws governing marriage and divorce are unlikely to have any impact.

One might wonder whether the trends in dowry and mehr are due to a combination of economic shocks and legal changes in Muslim family laws. Empirically these two effects are difficult to disentangle since both types of events coincided in some important instances. For example, the dummy for 1961 captures both the first legal change and the first economic shock (GR), and the dummy for 1974 captures both the second legal change and the third (last) economic shock (famine). However, the second economic shock in 1971 (IW) was not coincided with any legal change.

Following the arguments of legal changes, both dowry and mehr should have increased since the first legal change in 1961 and decreased since the second legal change in 1974. In contrast, we have argued that dowry and mehr should have decreased since 1971 due to the IW and the rate of decline should accelerate in 1974 due to the famine. The data supports our arguments. Moreover, the important legal changes in the 1980s and 1990s to prohibit the practice of dowry were not coincided with any economic shock. As evident in the data, the value of dowry (and mehr) was stable since 1980 (and in fact slightly increased, as opposed to the theory in AFT), thus suggesting the ineffectiveness of these legal changes. If the legal change in 1974 indeed reduced dowry (and mehr), the subsequent changes in laws (or new laws) in 1980s and 1990s were not necessary to introduce.

We now see whether our explanation of the role of natural shocks holds in the BRULS data using the cleaning procedure employed by AFT. The results are presented in Table VII. It is worth mentioning that the sample size in the dowry equation decreases by about 30% after taking logarithm.<sup>15</sup> The results show that they are qualitatively similar to those obtained using the PKSf and BRULS data reported in Tables III-IV. Although the value of mehr in the GR period relative to the pre-GR period is negative, it remains statistically insignificant as before.

[Insert Table VI about here]

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<sup>15</sup> Some of the assumptions made in the data cleaning by AFT also involves changing the value of dowry (and mehr) recorded in the survey, which cannot be verified.

## VII. Concluding Remarks

In this paper, we have explained the fluctuations in the value of mehr and dowry in Muslim marriages in Bangladesh in terms of natural exogenous economic and political shocks. In the 1960s, modern agricultural technologies, commonly identified under the rubric of Green Revolution, were introduced, boosting the incomes of rural households. This positive income shock had positive effects on both mehr and dowry values due to increased aggregate demand but also had a negative effect on dowry because of the rising shadow price of female labor. In contrast, the economy was devastated by the Independence War in 1971, and the country also experienced a famine in 1974 that primarily affected rural households. These negative income shocks were responsible for fall in the values of mehr and dowry. The war also had profound psychological effects on young males (and females) who fought for the country's independence, effects that might have negatively affected the practice of dowry. Depending on the persistence of the negative income shock and the absence of any further shocks, dowry and mehr were expected to stabilize at lower levels.

Analyzing two household survey datasets, one collected in 2010 and another in 2004, we have documented that the pattern of the fluctuations in the values of mehr and dowry can be explained by the above natural shocks. We also have shown that the legal changes during 1960-2000 to prohibit polygamy and to curb the practice of dowry had no effect on the value of dowry and mehr.

It is important to note that, although agricultural productivity also increased in the post-1980 period, there have been no sharp changes in the values of dowry and mehr that may correspond to this development. This increase in productivity represents a continuation of a process that began with the GR, with periodic interruptions caused by the negative shocks discussed in this study. Since the post-1980 period, the non-agricultural sector has been the main driver of steady income growth, which has been confined primarily to urban areas. Both surveys were conducted only among rural households, which may explain the relatively steady values of dowry and mehr observed during this period.

One important implication of our results is that natural exogenous shocks that affect household income can powerfully affect the evolution of major social institutions such as dowry and mehr.

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## Figures and Tables

Figure I- Mean Real Value of Mehr and Dowry by Year of Marriage – PKSF (2010) data

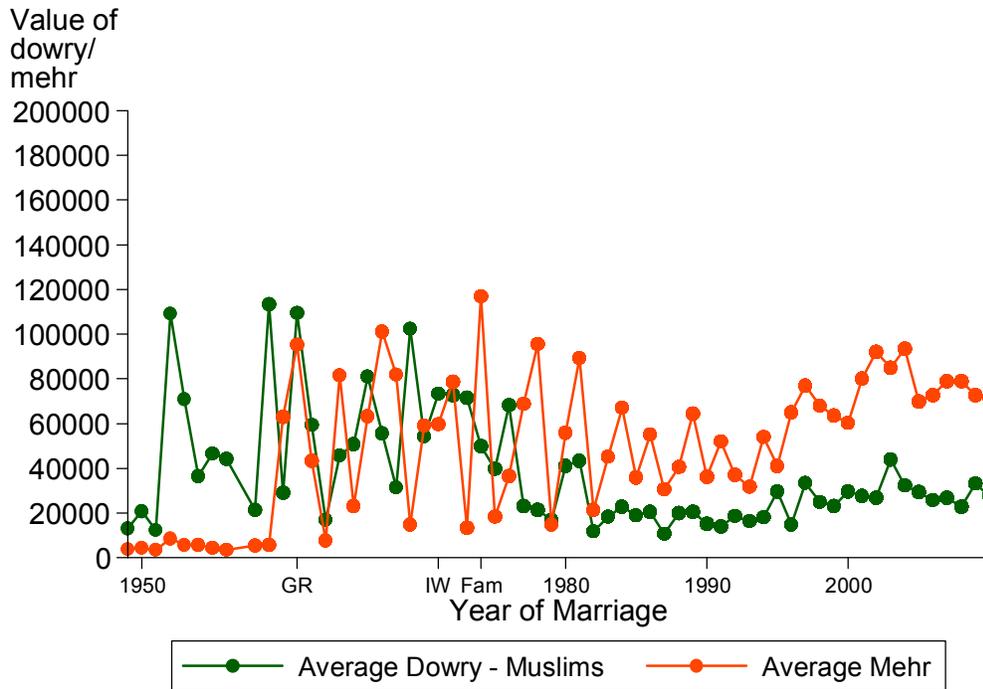


Table I: Summary Statistics – PKSf (2010) Data

	All marriages over period	Regime I Marriages (before 1961)	Regime II Marriages (1961-1970)	Regime III Marriages (1971-1974)	Regime IV Marriages (1975-2010)
	(1)	(2)	(3)	(4)	(5)
Value of mehr	57712.865 (2372.780)	18009.451 (11629.072)	56759.742 (11330.143)	65112.773 (14784.868)	59328.39 (2370.902)
Marriages involving any dowry	1 (0.000)	1 (0.000)	1 (0.000)	1 (0.000)	1 (0.000)
Marriages involving any dowry for groom	0.56 (0.011)	0.362 (0.054)	0.505 (0.037)	0.475 (0.050)	0.581 (0.012)
Fraction of marriages involving bequests					
All of dowry property of bride	0.184 (0.009)	0.3 (0.052)	0.275 (0.033)	0.202 (0.041)	0.167 (0.009)
Any dowry property of bride	0.54 (0.011)	0.713 (0.051)	0.621 (0.036)	0.606 (0.049)	0.519 (0.012)
Value of dowry	31642.026 (1615.990)	54256.62 (12496.895)	58591.527 (8700.909)	67704.356 (14992.950)	25293.787 (1267.562)
Any dowry cash	0.261 (0.010)	0.237 (0.048)	0.104 (0.023)	0.162 (0.037)	0.286 (0.011)
Any dowry land	0.009 (0.002)	0.013 (0.012)	0 (0.000)	0.04 (0.020)	0.007 (0.002)
Any dowry productive assets	0.024 (0.003)	0 (0.000)	0.016 (0.009)	0.02 (0.014)	0.026 (0.004)
Any dowry consumer goods	0.623 (0.011)	0.65 (0.054)	0.753 (0.032)	0.677 (0.047)	0.604 (0.012)
Education, bride	3.503 (0.085)	0.775 (0.208)	1.412 (0.190)	1.778 (0.274)	3.978 (0.096)
Education, groom	3.653 (0.090)	1.625 (0.336)	2.181 (0.268)	2.404 (0.371)	3.994 (0.100)
Age at marriage, bride	16.09 (0.068)	13.475 (0.391)	14.434 (0.201)	14.717 (0.289)	16.489 (0.071)
Age at marriage, groom	23.996 (0.108)	23.887 (0.616)	24.335 (0.413)	23.707 (0.513)	23.981 (0.116)
Bride's family richer	0.311 (0.01)	0.212 (0.046)	0.28 (0.033)	0.374 (0.049)	0.316 (0.012)
Groom's family richer	0.234 (0.01)	0.313 (0.052)	0.231 (0.031)	0.172 (0.038)	0.235 (0.011)
N (All female)	1981	80	182	99	1620

Figures in parentheses are standard errors.

Table II: Impact of exogenous shocks on the real values of mehr and dowry (PKSF 2010 data)—base category: pre-GR (pre-1961)

	Log of Mehr		Log of Dowry	
	(1)	(2)	(3)	(4)
GR (1961-1970)	0.684** (2.015)	0.598* (1.803)	0.134 (0.479)	0.060 (0.216)
IW-famine (1971-1974)	0.424 (0.897)	0.322 (0.698)	0.313 (0.849)	0.207 (0.570)
Post-1974	-0.474 (-0.818)	-0.447 (-0.794)	-0.296 (-0.705)	-0.336 (-0.813)
Year of marriage	-5.586*** (-3.238)	-3.844** (-2.289)	-1.480 (-1.279)	-0.522 (-0.465)
Year of marriage square	0.001*** (3.282)	0.001** (2.321)	0.000 (1.284)	0.000 (0.457)
Bride's education at marriage		0.146*** (7.676)		
Groom's education at marriage				0.090*** (8.931)
Education difference		-0.055*** (-2.648)		0.037*** (2.605)
Squared education difference		-0.000 (-0.062)		-0.003 (-1.593)
Bride's age at marriage		-0.038* (-1.830)		
Groom's age at marriage				0.025** (2.104)
Age difference		0.005 (0.227)		-0.006 (-0.484)
Squared age difference		-0.000 (-0.215)		-0.001** (-2.422)
Who choose bride (1=bride himself; 0=otherwise)		0.003 (0.015)		-0.231* (-1.772)
Whose family richer at time of marriage (1=groom; 0=otherwise)		0.059 (0.492)		0.025 (0.369)
Whose family richer at time of marriage (1=bride; 0=otherwise)		0.164 (1.352)		0.050 (0.691)
Observations	1,981	1,981	1,981	1,981
R-squared	0.182	0.214	0.212	0.255
IW-famine (1971-1974) relative to GR (1961-1970)	-0.260 (-0.965)	-0.276 (-1.033)	0.179 (0.813)	0.147 (0.687)
Post-1974 relative to GR (1961-1970)	-1.159*** (-3.622)	-1.045*** (-3.366)	-0.430* (-1.901)	-0.395* (-1.785)
Post-1974 relative to IW-famine (1971-1974)	-0.898*** (-3.336)	-0.769*** (-2.905)	-0.608*** (-3.122)	-0.542*** (-2.860)

Robust t-statistics in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. All regressions control for dummies for relationship with the household head, dummies for regions, and a constant.

Table III: Impact of exogenous shocks on the real values of mehr and dowry (BRULS 2004 data)—base category: pre-GR (pre-1961)

	Log of mehr		Log of dowry	
	(1)	(2)	(3)	(4)
GR (1961-1970)	1.541 (1.25)	1.242 (0.98)	1.084 (0.89)	0.496 (0.41)
IW-famine (1971-1974)	1.627 (1.22)	1.208 (0.89)	1.052 (0.80)	0.367 (0.28)
Post-1974	0.991 (0.68)	0.552 (0.38)	0.355 (0.25)	-0.337 (-0.24)
Year of marriage	-2.916 (-1.07)	0.192 (0.07)	-6.411** (-2.45)	-3.198 (-1.33)
Year of marriage squared	0.001 (1.07)	-0.000 (-0.08)	0.002** (2.46)	0.001 (1.33)
Bride's education at marriage		0.097*** (9.93)		
Groom's education at marriage				0.117*** (12.99)
Education difference		-0.045*** (-3.64)		0.042*** (3.71)
Squared education difference		-0.001 (-0.28)		0.001 (0.61)
Bride's age at marriage		0.003 (0.23)		
Groom's age at marriage				0.003 (0.22)
Age difference		-0.002 (-0.11)		0.013 (0.65)
Squared age difference		-0.000 (-0.22)		-0.000 (-0.21)
Who choose bride (1=bride himself; 0=otherwise)		0.164 (0.96)		-0.266 (-1.57)
Whose family richer at time of marriage (1=groom; 0=otherwise)		0.099 (1.47)		0.034 (0.43)
Whose family richer at time of marriage (1=bride; 0=otherwise)		0.048 (0.72)		0.012 (0.15)
Observations	1,367	1,364	1,367	1,364
R-squared	0.136	0.205	0.110	0.244
IW-famine (1971-1974) relative to GR (1961-1970)	0.086 (0.20)	-0.035 (-0.08)	-0.033 (-0.09)	-0.129 (-0.36)
Post-1974 relative to GR (1961-1970)	-0.550 (-1.19)	-0.690 (-1.52)	-0.729* (-1.85)	-0.833** (-2.20)
Post-1974 relative to IW-famine (1971-1974)	-0.636* (-1.81)	-0.656* (-1.89)	-0.697** (-2.44)	-0.704** (-2.50)

Robust t-statistics in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. All regressions control for dummies for relationship with the household head, dummies for regions, and a constant.

Table IV. Impact of exogenous shocks on the real values of mehr and dowry (PKSF + BRULS data)—  
base category: pre-GR (pre-1961)

	Log of Mehr		Log of Dowry	
	(1)	(2)	(3)	(4)
GR (1961-1970)	1.044*** (3.254)	0.883*** (2.827)	0.259 (0.920)	0.114 (0.424)
IW-famine (1971-1974)	0.956** (2.253)	0.773* (1.879)	0.357 (1.016)	0.182 (0.539)
Post-1974	0.245 (0.482)	0.127 (0.259)	-0.364 (-0.921)	-0.477 (-1.263)
Year of marriage	-4.933*** (-3.384)	-3.649** (-2.543)	-1.435 (-1.383)	-0.420 (-0.423)
Year of marriage square	0.001*** (3.422)	0.001** (2.569)	0.000 (1.390)	0.000 (0.414)
Bride's education at marriage		0.126*** (11.598)		
Groom's education at marriage				0.099*** (14.076)
Education difference		-0.053*** (-3.780)		0.034*** (3.694)
Squared education difference		-0.000 (-0.112)		-0.000 (-0.252)
Bride's age at marriage		-0.038*** (-2.843)		
Groom's age at marriage				0.025*** (3.250)
Age difference		0.040*** (6.897)		0.020*** (5.111)
Squared age difference		0.000 (0.560)		-0.001 (-1.597)
Who choose bride (1=bride himself; 0=otherwise)		0.077 (0.471)		-0.241** (-2.282)
Whose family richer at time of marriage (1=groom; 0=otherwise)		0.067 (0.859)		0.055 (1.131)
Whose family richer at time of marriage (1=bride; 0=otherwise)		0.102 (1.299)		0.066 (1.287)
Observations	3,348	3,345	3,348	3,345
R-squared	0.209	0.253	0.158	0.233
IW-famine (1971-1974) relative to GR (1961-1970)	-0.087 (-0.375)	-0.110 (-0.486)	0.098 (0.514)	0.067 (0.363)
Post-1974 relative to GR (1961-1970)	-0.799*** (-2.986)	-0.756*** (-2.968)	-0.623*** (-3.194)	-0.592*** (-3.163)
Post-1974 relative to IW-famine (1971-1974)	-0.711*** (-3.240)	-0.646*** (-3.025)	-0.721*** (-4.364)	-0.659*** (-4.142)

Robust t-statistics are in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. All regressions control for the dummies for relationship with the household head, dummies for the regions, and a constant.

Table V: Impact of legal changes on the real values of mehr and dowry (AFT cleaned BRULS data)

	(1)	(2)	(3)	(4)	(5)	(6)
	Value of mehr	Value of dowry	Value of mehr	Value of dowry	Value of mehr	Value of dowry
Married post-1963	114,849.754*** (3.824)	18,213.205** (2.037)	34,515.820 (1.051)	18,732.050** (2.421)	33,751.357 (1.037)	18,618.318** (2.390)
Married post-1974	-85,571.043*** (-3.932)	-14,834.380* (-1.853)	-63,312.803*** (-3.340)	-7,301.049 (-1.301)	-61,322.529*** (-3.264)	-6,977.549 (-1.239)
Married post-1990	12,418.632* (1.662)	5,782.053 (1.373)	12,955.633 (1.575)	5,772.283* (1.913)	13,626.434 (1.626)	5,885.806* (1.941)
Married post-1998	42,639.008 (1.218)	13,874.051 (1.460)	33,743.861* (1.665)	17,998.046*** (3.117)	29,165.960 (1.530)	17,364.569*** (3.068)
Year of marriage	-3,194.735** (-2.077)	453.963 (0.632)	-1,491.513* (-1.961)	-217.231 (-0.919)	-1,932.312** (-2.361)	-283.507 (-1.187)
How old was at the time of first marriage?					3,966.032** (2.525)	586.026 (1.530)
Age difference between spouses					-3.337 (-0.005)	18.174 (0.061)
Bride's family wealthier than groom's					5,214.613 (0.782)	1,431.618 (0.588)
7 Eight year dummies included?	Yes	Yes	No	No	No	No
Bride & groom's characteristics included?	No	No	No	No	Yes	Yes
Observations	1,367	1,367	1,367	1,367	1,367	1,367
R-squared	0.099	0.034	0.087	0.031	0.095	0.033

Figures in parentheses are robust t-values clustered at the household level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Columns 1 & 2 use exact specification of AFT and their data. In columns 3 to 6, the seven eight-year dummies have been dropped. In columns 5 & 6, three characteristics (how old was at the time of first marriage, age difference between spouses, bride family wealthier than groom's) found in AFT data & used as dependent variables in their analysis (AFT Table III, columns 4 to 6) are added.

Table VI: Impact of exogenous shocks on the real values of mehr and dowry (BRULS 2004 data—alternative data cleaning)—base category: pre-GR (pre-1961)

	Log of mehr (1)	Log of dowry (2)
GR (1961-1970)	-0.024 (-0.064)	-0.038 (-0.066)
IW-famine (1971-1974)	-0.026 (-0.063)	-0.719 (-1.217)
Post-1974	-0.600 (-1.543)	-1.925*** (-3.326)
Observations	1,367	915
R-squared	0.097	0.091
IW-famine (1971-1974) relative to GR (1961-1970)	-0.002 (-0.009)	-0.681** (-2.340)
Post-1974 relative to GR (1961-1970)	-0.576*** (-2.760)	-1.887*** (-7.427)
Post-1974 relative to IW-famine (1971-1974)	-0.573** (-2.393)	-1.206*** (-4.841)

Figures in parentheses are robust t-values clustered at the household level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

## Appendix

Figure I.A: GDP of Bangladesh (in million Taka)

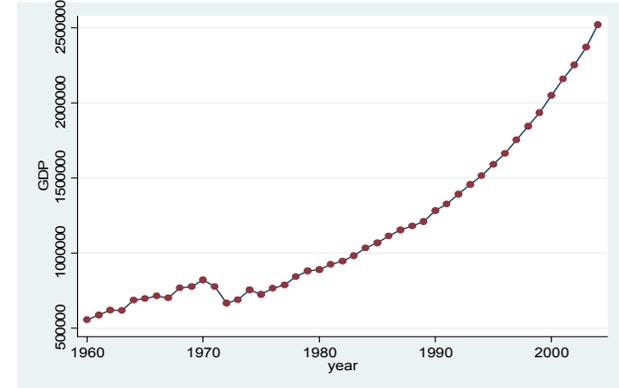
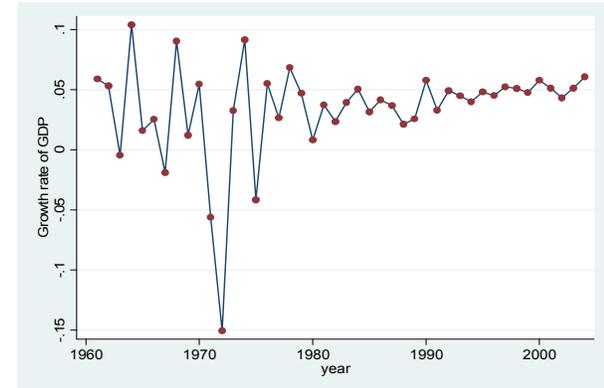


Figure I.B: Growth rate of GDP of Bangladesh



Source: World Development Indicators, World Bank (2013)

Figure II- Mean Real Value of Mehr and Dowry by Year of Marriage – BRULS (2004) data

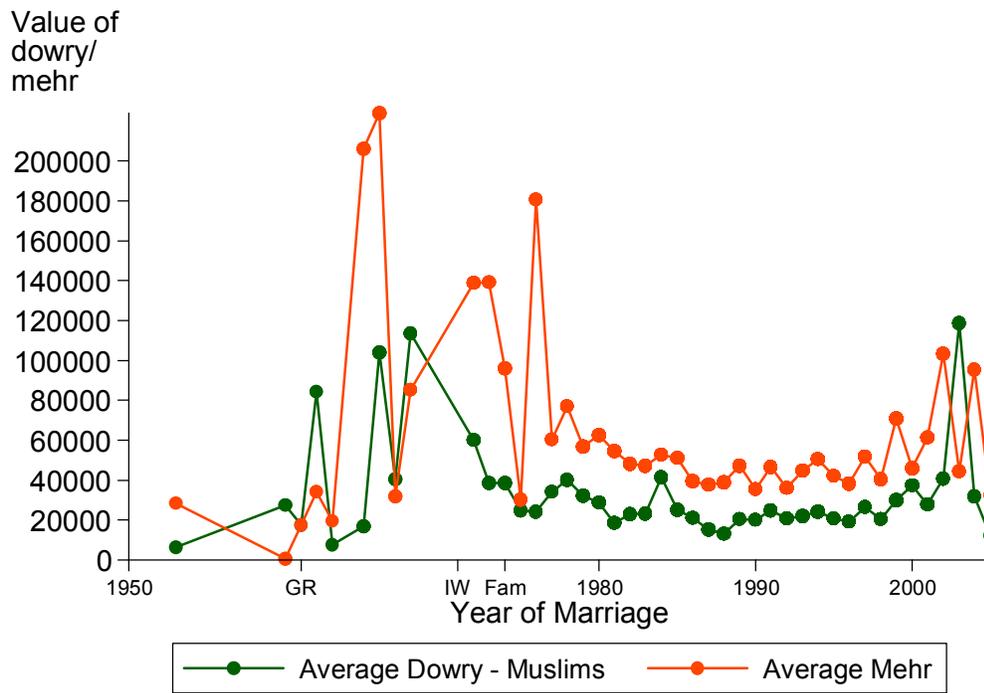


Table A1: Summary Statistics – BRULS (2004) data

	All marriages over period	Regime I Marriages (before 1961)	Regime II Marriages (1961-1970)	Regime III Marriages (1971-1974)	Regime IV Marriages (1975-2004)
	(1)	(2)	(3)	(4)	(5)
Value of mehr	61919.289 (3886.66)	367000 (342000)	198000 (52750.591)	165000 (34551.887)	52308.083 (2773.05)
Marriages involving any dowry	1 (0)	1 (0)	1 (0)	1 (0)	1 (0)
Marriages involving any dowry for groom	0.692 (0.012)	0.375 (0.183)	0.711 (0.068)	0.694 (0.078)	0.693 (0.013)
Fraction of marriages involving bequests					
All of dowry property of bride	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Any dowry property of bride	0.252 (0.012)	0.75 (0.164)	0.4 (0.074)	0.333 (0.08)	0.241 (0.012)
Value of dowry	34858.564 (3168.355)	350000 (214000)	144000 (50939.506)	95996.739 (41849.592)	27308.567 (2114.088)
Any dowry cash	0.715 (0.012)	0 (0)	0.267 (0.067)	0.306 (0.078)	0.747 (0.012)
Any dowry land	0.028 (0.004)	0.125 (0.125)	0 (0)	0.139 (0.058)	0.025 (0.004)
Any dowry productive assets	0.086 (0.008)	0.125 (0.125)	0.222 (0.063)	0.25 (0.073)	0.076 (0.007)
Any dowry consumer goods	0.139 (0.009)	0.625 (0.183)	0.444 (0.075)	0.278 (0.076)	0.121 (0.009)
Education, bride	3.113 (0.102)	1.125 (0.743)	1.289 (0.389)	1.694 (0.521)	3.23 (0.106)
Education, groom	3.754 (0.107)	3.429 (1.478)	2.733 (0.522)	2.889 (0.65)	3.817 (0.111)
Age at marriage, bride	15.739 (0.075)	12.375 (1.117)	13.822 (0.364)	14.528 (0.45)	15.862 (0.076)
Age at marriage, groom	22.636 (0.108)	21.75 (0.861)	22.622 (0.564)	22.306 (0.701)	22.652 (0.112)
Bride's family richer	0.345 (0.013)	0.5 (0.189)	0.356 (0.072)	0.222 (0.07)	0.347 (0.013)
Groom's family richer	0.296 (0.012)	0.5 (0.189)	0.356 (0.072)	0.333 (0.08)	0.292 (0.013)
N (All female)	1367	8	45	36	1278

Figures in parentheses are standard errors.

\* Because deleting missing values of dowry and mehr leaves only positive values, all marriages

Table A2: Impact of legal changes on the real values of mehr and dowry (PKSF + BRULS data—  
alternative specification)

	Value of mehr (1)	Value of dowry (2)	Value of mehr (3)	Value of dowry (4)
Post-1963	-11,834.074 (-0.251)	-18,108.566 (-0.878)	48,888.485 (1.598)	14,882.168 (0.747)
Post-1974	-58,680.678 (-1.024)	-30,113.342 (-1.310)	8,404.666 (0.253)	-27,002.876 (-1.519)
Post-1990	-47,682.420 (-0.835)	-25,948.558 (-1.065)	9,473.199 (0.262)	-20,175.854 (-1.081)
Post-1998	-29,380.522 (-0.506)	-12,113.438 (-0.479)	33,173.322 (0.837)	-1,931.228 (-0.097)
Observations	2,996	2,996	2,996	2,996
R-squared	0.077	0.069	0.064	0.058

Robust t-statistics are in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. All regressions control for dummies for relationship with household head, marriage year, dummies for regions, seven 8-year period dummies, and a constant. Columns (3) and (4) do not include seven 8-year period dummies.