Marital "Mismatch" from Changes in Women's Litigant Rights

EFOBI, R., Uchenna

Abstract

This paper examines the effect of a change in a legal regime that reinstates the adjudication of criminal matters to Islamic courts. This change reduces the litigant rights of women in cases of illicit sexual behaviour and extra-marital relations. This study documents the effect of the change on the marital matches of women. Combining three rounds of a nationally representative survey in Nigeria, I show that a woman affected by the legal reform is 29 percentage points more likely to be married to a man who earns less than she does. A woman affected by the reform is significantly more likely to be married to an older male, a 7.5 percentage point more likely to be married to a spouse of at least five years older. Regarding the educational attainment of the spouse, I show that an affected woman is 21.5 percentage points less likely to be married to a spouse with higher educational attainment and more likely for the spouse to have lower educational attainment by four years. Finally, a woman affected by the reform enforcement is 7.6-percentage points less likely to report that they are involved in any four intra-household decision-making items and less likely to be involved in decision-making regarding spending her spouse's earnings. Some of these effects are only seen in non-matrilineal communities, and changes in the woman's attitude towards male dominance and outside marriage utility are other channels of effect.

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1. Introduction

The quality of a woman's spouse has significant consequences, including defining her fertility decisions, investment in children's health and education, and its effect on other economic decisions (Hahn et al. 2018; Heath and Tan 2019). Studies conclude that a woman's choice for a quality spouse is driven by her premarital endowments, such as asset holding and educational attainment (Fafchamps and Quisumbing 2007; Hahn et al. 2018). Nonetheless, a woman's legal right is also a defining feature of the utility that she derives from marriage entry (Godefroy 2018). Whether this feature explains part or all of a woman's mating choices, including the spouse's quality, remains an open question.

This study provides evidence of the marital match effects of a legal reform adopted and enforced by some States in Nigeria in 2000. The reform reduced female litigant rights and reinstated the adjudication of criminal matters to Islamic courts, thereby reducing women's outside utility. This legal reform only affects individuals of a specific religion (i.e., Muslim men/women) that reside within the enforcement States. The reform's enforcement is such that it reduced Muslim women's litigant rights in cases of illicit sexual behaviour and other extra-marital relations (Weimann 2010; Godefroy 2018). The convictions thus far regarding illicit sexual behaviours have been victims of rape, as the burden of proof rest on affected women[1], whose testimony is worth half the value of a man's testimony (Peters 2005; Ibrahim 2012). Therefore, investigating the reform's effect complements studies on women's rights, how religion interplays to define socio-economic outcomes, and the determinants of marital or assortative matching (Lewis and Oppenheimer 2000; Fafchamps and Quisumbing 2005, 2007; Hahn et al. 2018).

This study considers two series of estimations that rely on data from nationally representative Demographic and Health Surveys (DHS)[2] for Nigeria for 2008, 2013, and 2018. The first estimation considers the effect of the reform enforcement on the quality of spouses of affected women. The second series of estimations aims to understand the mechanism that drives the result. The analyses rely on the survey information about the quality of a woman's spouse to define the following outcome variables, as follows: a binary indicator if the woman earns more than her spouse, the difference in age between the couple, a binary indicator if the age difference between the woman and her spouse is above five years, a binary indicator if the

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[1] This is because consensual intercourse out of wedlock is a criminal offence.

[2] The DHS are surveys conducted every few years on a sample of men and women across the Nigerian States, containing information on marital relations of the surveyed women (including the year of marriage entry and spousal attributes) and other geographic, demographic, and economic information.

spouse's education completion is higher than the woman's, and the number of years of completed education of the spouse. I also compute from the DHS a different indicator that reflects a woman's intra-household decision making autonomy, including a binary indicator if the woman is involved in one of four decision-making categories (own health, large household purchases, daily household purchases, and family visits), and if the woman decides over husband's earnings. This later indicator reflects spousal quality regarding intra-household relationships and a woman's autonomy within the marriage.

I estimate a triple difference regression to determine the changes in the outcome indicators among Muslim women living in the High-enforcement States, with marriage years coinciding with periods after the enforcement. These women were the only individuals exposed to the enforced reform. All the specifications include separate fixed effects at the levels of the year of marriage entry, state of residence, their interactions, the survey year, and its interaction with the affected religion. The estimation rules out some unobservable factors at these levels that could affect the outcome variables. The most extensive specification, in which the results are subsequently discussed, also controls for the trends for the high enforcement location, affected religion, and high enforcement × affected religion.

The result analysis shows that a woman of the affected religion that resides in the high enforcement states (i.e., affected woman) is 29.2 percentage points more likely to be married to a spouse that earns lower than she does. Further, the age gap between the affected woman and her spouse is likely to be around two years, although affected women are 7.5-percentage points more likely to be married to a spouse that is five years older. Regarding the quality of human capital development of the spouse/husband, the result reveals a 21.5-percentage point significant decline in the likelihood of an affected woman getting married to a spouse/husband with higher educational attainment. The number of years of education completed by the spouse/husband is about four years lower for the affected woman.

The analysis also considers women's intra-household decision-making power, showing that an affected woman is 7.6-percentage points less likely to report involvement in any four decisions. Including decisions regarding her health, making large household purchases, making household purchases for daily needs, and visiting family or relatives. A similar negative effect (a 2.2-percentage points decline) was seen for the affected woman's involvement in decision-making regarding spending their spouse's earnings.

The evidence presented is consistent with the assortative matching literature, which suggests that the quality of matching between a woman and a potential spouse does not only depend on the specific merits of a particular match but also on the whole range of opportunities available to each partner, including other external factors (Fafchamps and Quisumbing 2005). Baird et al. (2019) show that an external factor such as a conditional cash transfer is related to a positive assortative matching among adolescent girls and young women in Malawi. Other studies, such as Fremeaux (2014) and Han et al. (2015), show marital sorting changes from family inheritance reform. This study emphasises adverse marital match effects from the reform enforcement, and one could begin to imagine the operative channels of impact. I examined three channels in this paper: the extent of the matrilineal structure of the woman's community, attitude towards male dominance, and utility outside marriage. The evidence suggests that the matrilineal structure of the woman's community is only a credible channel for the indicators of spouse's education and women's bargaining power within marital union. Additionally, the result shows that the changes in marital matching from the reform enforcement are reinforced by increases in women's justification of male dominance and lower utility outside marriage.

These results contribute to the broad literature on women's rights and how religion interplays to define socio-economic outcomes, as this area of inquiry remains largely under-researched (Iyer 2016). There has been some effort toward understanding the socio-economic outcomes of religious reform affecting women's rights, including Godefroy (2018). The author shows changes in women's fertility outcomes from the enforcement of similar religious legal reform in Nigeria, noting that the reform increased the yearly probability of birth by 0.026 (amounting to one additional child for every 40 women). Highlighting that the fertility increase was caused by women's fertility preference shifting towards their husbands' preference and the significant increase in the probability of marriage entry, among others. This current study builds on these findings by evaluating the reform's impact on the marital match of affected women, arguing that the weakening of women's position changes the incentives to marry. As a result, matching patterns may change either because women getting married may have otherwise been single in the absence of the reform or women are getting married sooner, suggesting the presence of search frictions. It could also be that families are concerned about their daughters' safety, including personal attacks outside of the home with the new law. Hence, they engage in certain practices, including marrying out their daughters early, perhaps to less preferred matches, to protect them from the consequences of the new regime. Therefore, apart from the primary focus on the marital match effect, this

study also unpacks the results' mechanisms, including highlighting the role of the social structure in the community of the women, the weakening of women's position (in the form of justification of male dominance), and lower utility outside marriage drives the results.

Other papers have considered the effects of women's rights and empowerment on marriage market outcomes. Theory suggests that human capital accumulation, endowment (e.g., pre-marital asset ownership), and age at marriage entry are essential factors determining spousal quality, ceteris paribus (Fafchamps and Quisumbing 2005; Fremeaux 2014; Han et al. 2015). This paper's findings provide empirical support for these predictions by contemplating yet another external factor, in this case, a legal reform that adversely affects women's litigant rights. As a growing segment of the assortative matching literature has already documented, marriage market equilibrium – such that the groom is matched with an equivalent bride of a similar feature – has implications for intergenerational outcomes (Fafchamps and Quisumbing 2005; Hahn et al. 2018). Decisions relating to fertility and a child's human capital development, such as health and education attainment, might be affected by the mother's education and her spouse's characteristics or preferences (Fafchamps and Quisumbing 2007; Lavy and Zablotsky 2011).

Consequently, a spouse's quality may play a significant role in a woman's well-being and better outcomes within marriage, including higher household income, better marital stability, and human capital development of children (Hahn et al. 2018). This study, then, adds to this literature by providing evidence as to how legal reforms that devalue the litigant rights of women constitute part of the origins of non-assortative matching in the marriage markets in a developing country context. This inquiry is important, noting both its consequences on women and the human capital development of the next generation.

The rest of the paper is organized as follows. Section 2 discusses the background of the legal reform studied in this paper. Section 3 describes the empirical strategy, while Sections 4 and 5 discuss the results and present conclusions.

2. Background

During the colonial period, before the amalgamation of the Northern and Southern regions of Nigeria in 1914, the judicial system in the Northern region was based on Islamic law. After the amalgamation, the British colonials supported this judicial system, except for abolishing barbaric corporal punishments such as amputations, stoning, and flogging for criminal and civil matters (During 2020). Since independence in 1960,

the Nigerian constitution evolved from the first post-independence constitution in 1963 to the fourth republic constitution in 1999. The 1999 constitution legally recognized 36 states and a Federal Capital Territory, with a legal system and Penal Codes patterned after the British legal system. This constitution also recognizes the Sharia Court of Appeal (SCA) at the Federal and State levels. SCA's multifarious nature is such that it can simultaneously administer Islamic, Common, and Customary Laws (Oba 2004).

In 2000, some states in Northern Nigeria reformed their legal system to full implementation and enforcement of the Islamic penal sanctions, with full application of the corporal punishments that were earlier abolished. Three states have higher enforcement of the legal reform, including Zamfara, Katsina, and Sokoto (see Figure A1). Other states that reformed their legal system but do not intensely enforce corporal punishments are Kebbi, Niger, Kaduna, Bauchi, Kano, Jigawa, Gombe, Yobe, and Borno. This reform affects civil matters, including marriage, sexual relations, inheritance, property rights, and other criminal matters. Consequently, people convicted under this new legal regime for theft, murder, or illicit sexual relations were subject to corporal punishment (Godefroy 2019)[3].

The important contention in applying the reform is that most convictions, especially regarding sexual relations, are that the weight of evidence for the adjudication on such matters depends on the gender of the litigant. For example, depending on the judge, the value of a woman's testimony is lower than a male, and women require at least two witnesses to oppose a male defendant (Ibrahim 2000). Men are less likely to face sexual accusations, and when accused, judges (with male connivance) can discharge such accusations (Weimann 2010). In essence, the reform led to the lowering of a woman's litigant right in civil cases, the value of her testimony depends on the case being judged, and it is now worth half the value of a man's testimony or is discarded altogether (Peters 2005; Ibrahim 2012; Godefroy 2019).

Anecdotal consequences of the reform include gender-based discrimination in applying the law, such that pregnancy is considered sufficient evidence to condemn a woman for illicit sexual relations (or premarital sexual encounter). The case of Safiya Hussaini is an example of this practice, where she was sentenced to death for adultery based on her pregnancy. The man's oath denying having had sexual encounters with the woman is sufficient proof of innocence, and disproving the man, four independent and reputable eyewitnesses are

[3] Although such convictions can be overturned if appealed to the Supreme Court, which is secular, because the Constitution explicitly bans such cruel punishment.

expected to declare his involvement (Amnesty International 2002). This practice implies that men can violate the law as long as there are no witnesses to their crimes. Further, there are incidences of Judges under this new regime rarely receiving adequate training to judge criminal matters (Amnesty International 2002). Other evidence suggests a hurried reform implementation, and personnel tasked with the justice administration (including Judges) lacked the required training for proper and effective judicial procedures. For example, some cases of extra-marital affairs were tried within a short period (a matter of days), the defendants had the burden of proof, and defendants were not allowed to bring in any witnesses nor have legal representation/access to legal advice. In addition, there is documented evidence that some trials are conducted in languages different from the defendants, some of the judges of the Sharia court are not familiar with international human rights conventions, and they are conservatively bound by patriarchal traditions (Amnesty International 2002, 2003; Human Rights Watch 2004).

There is other evidence of judges refusing to hear cases of rape by women and outright dismissal of such cases on the grounds of unsupported medical evidence. Some male lawyers were not interested in cases of gender-based violence, giving rise to attacks on women outside their homes in an attempt to impose religiously aligned dress codes (Baobab 2003). Other evidence shows that reporting rape cases are equivalent to confessing to unlawful sexual behaviour, noting that about a third of rape cases in Nigeria remain unreported in periods 2015 to 2017 (National Bureau of Statistics 2019). In the absence of two credible witnesses or direct confession by the rapist, women would be subjected to punishments for illicit sexual behaviour and liable for false witnesses (Godefroy 2019). These incidences and the devaluing of a woman's litigant right due to the reform is likely to decrease women's utility outside marriage, and women could seek protection from such vulnerability by quicker marriage entry.

Three states (Zamfara, Katsina, and Sokoto) account for 60 per cent of all cases under the new legal reform (Weimann 2010). Zamfara state, for example, went further to enact a law establishing a state-controlled Sharia enforcement group responsible for arresting violators (Weimann 2010). Since there is no evidence that any other substantial change affected Muslim women's lives after the enforcement (Godefroy 2019), this study examines whether the reform significantly affected the quality of matching in the marriage market of enforcement states, seen by the quality of a woman's spouse.

3. Empirical Strategy

3.1 Data and Outcome Measures

This study relies on the Nigerian Demographic and Health Survey (DHS) rounds: 2008, 2013, and 2018[4]. The 2008 DHS consisted of samples from 888 clusters, while the 2013 and 2018 DHS sample was from 904 and 1,400 clusters. These three-survey periods sample the largest number of women from Nigeria. Samples for the 2008 and 2018 survey periods are selected in a two-stage stratification design[5], while a three-stage design applies to the sampling for the 2013 period[6].

The DHS provides information on the women's demographic and socioeconomic characteristics relevant to this paper's analysis, including age, educational attainment, religion, and marital and economic engagement. It also provides data about a woman's spouse/husband and information about a woman's decision-making power within the household. Therefore, this study's working sample includes only women aged 15 – 49 in each survey round, who are married, still married and never remarried, divorced, or separated. The sample restriction was necessitated to significantly eliminate biases introduced by including single women (or divorced, remarried, or separated women) from misreporting errors of spouse's characteristics[7].

Recall from section 2 that the effect of the reformed legal system will only affect Muslims that reside within the reform enforcement states' boundaries. In addition, this study's interest is to understand the reform's effect on spousal quality for women with marriage entry after the reform (i.e., those whose marriage entry year coincides with periods after the reform enforcement in 2000). Accordingly, the definition of affected women is broadened in the following way. The DHS provides information about the year of a woman's marriage entry, which was used to identify married women pre-and post-reform enforcement (i.e. '1' if married after the reform enforcement year 2000). The reference group (i.e., married pre-reform) was defined as women, with a year of marriage entry being 1998 and below, to avoid picking up effects that may be existing in the year of marriage in periods immediately before the reform enforcement. I also identify from the DHS those whose religion is Muslim, with a reference category as those women whose religion are Christianity, Traditionalist, and other religions (i.e., '1' if religion is Muslim). I identify a third variation by the location of the resident of the woman:

[4] I did not include the 2003 round because it surveyed fewer women than other rounds and included fewer women with marriage dates coinciding with periods after the reform year.

[5] In the first stage, the enumeration areas are selected with probability proportional to the number of households in each cluster, while in the second stage, a fixed number of households are selected in every cluster through equal probability systematic sampling (National Population Commission and ICF, 2009; 2019).

[6] Localities are selected in the first stage; one cluster was randomly selected from most of the selected localities with an equal probability selection (in larger localities, more than one cluster was selected), while in the third stage, a fixed number of households are selected in every urban and rural cluster (National Population Commission and ICF, 2014).

[7] For example, the possibility of erroneous recollection of the spouse's characteristics could increase for women with multiple spouses by reporting characteristics about their previous spouse instead of their current spouse.

those residing in a state where the reform is highly enforced versus those residing in other states where the reform is not enforced and those that are residing in states without the reform (i.e. '1' if the location of resident is Katsina, Sokoto, and Zamfara). Therefore, relying on these three variations, I estimate the reform's effect on the spousal quality.

The main outcome variable – spouse quality – is defined as follows. (a) A binary indicator if the woman earns more than her husband/spouse or she earns the same (reference is if she earns less than the husband/spouse). (b) The difference between the age of the husband/spouse and the woman. (c) A binary indicator if the age difference between the husband/spouse and the woman is higher than five years[8]. (d) A binary indicator if the husband's education attainment is higher than the woman's (reference is if a woman has a higher education than the husband). (e) The total number of years of education for a woman's husband/spouse in single years.

The response to the question about who makes the household's decisions was used to construct woman's decision-making power within the household. The following question was asked: *who has the final say about (X) in the household*, including decisions about the woman's health, large household purchases, household purchases for daily needs, and visiting family or relatives[9]. A binary indicator that captures whether the woman is involved in at least one of the four decision-making items was constructed following La Mattina (2017). I consider participation in at least one of these domains because one of the decisions may be more desirable than others (Alkire 2007), so participating in any is reflective of higher intra-household decision-making power. Another essential dimension of autonomy is whether the woman is involved in deciding what to do with the money earned by the husband/spouse. Since the husband's earnings are a form of private good, a woman's involvement in such a decision about spending such earnings could reflect the husband's quality regarding the intra-household relationship and allowance for the wife's autonomy within the marriage.

Table 1 presents summary statistics for all women in the estimation sample from the DHS, broken down by the affected religion (Muslim) and the non-affected religion (non-Muslim). 11.1 per cent of the sample women earn (the same or) more than their husbands/spouses (5.5 per cent of the affected religion and 18.1 per

[8] I compute age grade as individuals within the age bracket 0 – 5 years. A woman whose age is 25, for instance, and married to a spouse of the same age or whose age is between 26 – 30 years is classified as being within the same age grade.
[9] The assumption is that participation in a decision is just as empowering as the only decision-maker. However, Heath and Tan (2019) discuss studies that note that this may not always hold, as simply having a say in decisions may not always be empowering to women. However, as noted by the authors, there remains no established standard for measuring women's autonomy other than those engaged in this study.

cent of non-affected). The average difference in age between the sample woman and husband is about 11 years (11 years for affected religion and 9 years for non-affected religion), while 83 per cent of the sampled women are in relation with spouses with over five years of age difference (88 per cent for affected religion and 77 per cent for non-affected religion). More women (74.7 per cent) report that their husbands' educational attainment is higher or equal to theirs (81.6 per cent of the affected religion and 69.1 per cent of non-affected religions). The average years of education in a single year of the sampled woman's husband/spouse is 4.78 years (4.135 for affected religion and 5.043 for non-affected religion).

Fewer women (32 per cent) have the final say in their health, making large household purchases, making household purchases for daily needs, and visiting family or relatives (17 per cent of the affected religion and 52.2 per cent of non-affected religions). More so, fewer women (29.1 per cent) decide what to do with their husband's money (17.1 per cent of the affected religion and 45.7 per cent of non-affected religions).

Table 1: Summary Statistics of the Estimation Sample

	Affected religion	N	Non-affected religion	N	All women	N
Spousal attributes						
Woman Earns more than husband	0.055	67,130	0.181	53,658	0.111	121,036
Difference in age	11.4841	113,296	9.443	82,914	10.625	196,633
Age difference above 5 years	0.881	113,296	0.768	82,914	0.833	196,633
Husband has higher education	0.816	37,956	0.691	47,272	0.747	85,376
Husband's education in Years	4.135	26,966	5.043	66,565	4.782	93,681
Intra-household Autonomy						
Woman decides in one of four decision-making items	0.170	113,907	0.522	83,407	0.319	197,737
Woman decides over husband's earnings	0.171	112,205	0.457	81,914	0.291	194,521
Tribe						
Igbo dummy	0.001	114,048	0.274	83,538	0.116	198,009
Yoruba dummy	0.080	114,048	0.147	83,538	0.108	198,009
Hausa dummy	0.515	114,048	0.011	83,538	0.302	198,009
Other characteristics						
Age	33.975	114,048	35.903	83,538	34.788	198,009
Age at first birth	17.809	112,901	20.013	82,973	18.741	196,297
Age at marriage entry	15.785	114,048	19.123	83,538	17.194	198,009
First sexual encounter in marriage	0.585	113,867	0.377	83,432	0.497	197,715
No education dummy	0.757	114,048	0.194	83,538	0.519	198,009

Primary education dummy	0.133	114,048	0.338	83,538	0.219	198,009
Some education dummy	0.243	114,048	0.806	83,538	0.481	198,009
Height (cm)	1.579	102,765	1.592	76,010	1.585	179,189
BMI	22.504	102,420	24.590	75,874	23.391	178,694
Rural dummy	0.748	114,048	0.623	83,538	0.695	198,009

Notes: Means are calculated and presented alongside the number of observations.

The average age of the sampled women is 35 years (34 years for affected religion and 36 years for non-affected religion), age at first birth is 19 years (18 years for affected religion and 20 years for non-affected religion), and age at marriage entry is 17 years (16 years for affected religion and 19 years for non-affected religion). 49.7 per cent of the sampled women report that their first sexual encounter is with their husbands/spouses (58.5 per cent for affected religion and 37.7 per cent for non-affected religion).

Regarding the characteristics of premarital investment in education, 51.9 per cent of the sampled women have no education (75.7 per cent of affected religion and 19.4 per cent of non-affected religion), 22 per cent have primary education (13.3 per cent of affected religion and 33.8 per cent of non-affected religion), and 48.1 per cent have any form of education (24.3 per cent of affected religion and 80.6 per cent of non-affected religion). Further, the average height of the sampled woman is 1.585 cm (1.579 cm for affected religion and 1.592 cm for non-affected religion), while the Body Mass Index (BMI) is 23.391 (22.504 for affected religion and 24.590 for non-affected religion). About 70 per cent of the women reside in rural locations (74.8 per cent of the affected religion and 62.3 per cent of non-affected religions).

3.2. Identification Strategy

Treatment effects for a reform that was enforced in a specific location at a specific time, such as the legal reform enforcement studied in this paper, are typically estimated by regressing an outcome variable on a binary indicator capturing exposure to the reform, conditioned on location of the individual and time fixed effects. However, in this case, exposure to the reform is determined by the individual's religion and the marriage entry timing. If the individual's religion and marriage entry timing respond to the reform enforcement, the estimates of treatment effects would likely capture such selection. Pending a more detailed discussion later, there is no evidence of selection by religion in response to the reform[10]. Therefore, the treated cohort is defined

[10] Indeed, Godefroy (2018) highlights that the timing of the reform enforcement was unexpected and unrelated to any hypothetical change in Muslims' ideology, social norms, religious fervor, and other social behaviors. More so, there was no selection by religion after the reform enforcement, as no evidence exists showing that individuals changed religion due to the reform enforcement. More so, the choice of religion is embedded within the family.

as a woman who resides in the reform enforcement state, whose religion is Muslim, and whose year of marriage entry coincides with the period after the reform was enforced[11].

Similarly, a control cohort consists of non-Muslim women who reside in the reform enforcement states, Muslim or non-Muslim women who reside in other states, and those whose year of marriage entry coincides with periods before the reform was enforced. This study's identification strategy is similar to previous studies on inheritance rights reforms (Heath and Tan 2019; Kerr 2019) and a reform of the minimum age of marriage (McGavock 2021). Specifically, in the DHS, where all women were surveyed after the reform enforcement in 2008, 2013, and 2018, I consider different outcome variables *Y* for a woman *i* of religion r with marriage year *m* living in state *s* and surveyed in year *t*. I consider religion a binary variable defined as 1 if the woman is of the affected religion (Muslim) and 0 if the woman is of the non-affected religion. The triple difference model to isolate impacts on a woman of affected religion that resided in reform enforcement states and entered into marriage after the reform enforcement is expressed as:

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\begin{aligned}
Y_{irmst} = \beta_0 &+ \beta_1 (High\ enforcement\ \times Married\ after\ \times Affected\ religion)_{irmst} \\
&+ \beta_2 (High\ enforcement\ \times Affected\ religion)_{irst} + \beta_3 (\ High\ enforcement \times Married\ after)_{imst} \\
&+ \beta_4 (Married\ after\ \times Affected\ religion)_{irmt} + \beta_5 Affected\ religion_{irmst} + \beta_6 X_i + m_m + s_s + m \times s_{ms} \\
&+ \tau_t + \tau \times Affected\ religion_t + \varepsilon_{irmst} \quad (1)
\end{aligned}
$$

The model is specified to include the characteristics of the individuals (X_i) as follows - binary variables for tribal groups (Igbo, Yoruba, and Hausa), age, age at first birth, age at marriage entry, a binary indicator if the first sexual encounter was in a marriage, binary indicators for education (no education, primary education, and some education completion), health indicators (height and Body Mass Index - BMI), and a binary indicator if the individual is residing in a rural location. Equation (1) also adjusts for specific fixed effects for the year of marriage entry (m_m), state of residence (s_s), the interaction between *m* and *s* ($m \times s_{ms}$), survey year (τ_t) and its interaction with the affected religion ($\tau \times Affected\ religion_t$). The fixed effects in equation (1) account for potential time-invariant marital match determinants that vary by marriage year, state of residence, those peculiar to marriage years in specific states, and survey year. It is possible that marital match differentially changes over time among women in the affected religions, which necessitates the inclusion of the fixed effects

[11] Although there is evidence that the reform enforcement resulted in a relative decrease in utility for single women due to a relatively increased vulnerability and an increase in the probability of being married (Godefroy 2018), a mean shift in the timing of marriage would not necessarily bias the estimates of the reform enforcement on spouse's quality unless there is differential change based on individual or household-level characteristics that also affect spousal quality.

$\tau \times Affected\ religion_i$. The usual error terms ε_{irmst} are clustered at the year of marriage, the state of residence, and $s \times \tau$.

β_1 is the unbiased estimator of the true effect of the reform enforcement on spouse's quality if there are no unobserved factors that differentially affect the spouse's quality at marriage entry of women of affected religion, conditional on the adjusted fixed effects. This study rules out other factors that could change marital matches of affected religion in the reform enforcement location among women who were not married at the reform enforcement period. Indeed, there are a series of targeted programs within some states in Nigeria that directly affect women. For example, education programs (Klugman et al. 2018), access to health care (Sato and Takasaki 2019; Okeke and Abubakar 2019), and some of the reform enforcement states engage in continuing education that provides a second chance to women who might have earlier dropped out of school (Ministry of Education Sokoto 2010).

Further, the national gender policy aims to address systemic inequalities by gender that prioritizes women's empowerment in all aspects of planning policy, developing legislation, and transformation activities in Nigeria (Ministry of Women Affairs and Social Development 2006). Such policies are expected to improve women's utility inside and outside marriage and the quality of choice relating to intimate relationships. Although these policies may have a religious or a year of marriage-specific effects, I have no reason to believe that they would have differential effects on Muslim women. Similarly, other policies targeting women mention religion-specific instances of acceptable social relationships and marriage affairs, such as the 2016 national strategy to end child marriage in Nigeria and raise the age at marriage entry (including overall female empowerment). Nonetheless, I do not know of any such laws that are state-specific. Even if this national strategy has state-specific effects on women because of differential enforcement, such effects would be accounted for by the fixed effect s_s.

Finally, Table A1 in the appendix test for evidence of pre-trends but do not confirm that the outcome variables are mostly different by religion and marriage years in states about to enforce the legal reform (see estimates for *Married years to reform* × *Affected religion* × *High enforcement* in Table A1). The only significant estimate was for the binary indicator that the age difference between the woman and her spouse is above five years. Howbeit, the coefficient was negative and counterintuitive to the expectations. Another significant difference by location in the high enforcement states and affected religion has necessitated including

the following trends in the most extensive specification (i.e., *affected religion* trend and *high enforcement* × *affected religion* trend). The essence of the inclusion of these trends is to adjust for specific patterns at these levels that might have been occurring outside of the reform enforcement, alongside the various fixed effects that were included at the levels of the year of marriage entry, state of residence, the interaction of year of marriage entry and state of residence, the year of survey, and the interaction of the year of survey and the affected religion.

4. Results

4.1. Effect of the Reform Enforcement on Marital Match

As described in Section 3, the triple-difference framework extends the difference-in-difference model by incorporating a potentially important background variable in the model. This variable, represented by the year of marriage entry (before or after the reform enforcement) in equation (1), captures a higher-order difference by marriage entry timing. Results for the spousal quality outcomes are presented in Table 2. The estimates for the quality of intra-marriage decision-making power are presented in Table 3. In each table, the first column of every model for the different outcome variables presents results using all the controls specified in equation (1), including the various fixed effects. The second column presents an alternative, more extensive, and preferred specification that includes all the controls, the fixed effects, and the different trends. I only report the primary estimate of interest for a concise presentation of results. That is, the interaction term – *High enforcement* × *Married after* × *Affected religion*, and the estimates of the possible combination of two of the three primary variables (i.e., *Married after* × *High enforcement*, *Married after* × *Affected religion*, and *Affected religion* × *High enforcement*).

A. Spousal Quality

The estimates in Table 2 show the reform enforcement's effect on the marital match for affected women. Columns (1) and (2) suggest that the legal reform enforcement has a significant adverse effect on the likelihood of a woman of the affected religion being married to a spouse that earns the same or higher than she does. The most extensive specification results in column (2) indicate that this estimated effect is a negative 29.2-percentage point, significant at the 5 per cent level. This effect is almost three-fold lower than the sample mean.

The estimates in columns (3) and (4) suggest a positive relationship between the reform enforcement and the affected woman getting married to an older spouse/husband. For example, column 4 suggests about 2-years age difference between the sampled woman and her spouse/husband, and this effect is significant at the 5

per cent level. Columns (5) and (6) estimate for the binary variable if the age difference between a woman and her husband/spouse is above 5 years, and the result from column (6) suggests a 7.5-percentage point higher likelihood that a woman of the affected religion (resident in the reform enforcement states) will be married to a spouse/husband that is at least five years older. This effect is only significant at the 10 per cent level.

Regarding the quality of the pre-marital human capital development of the spouse/husband, I present the estimates for (a) a binary indicator if the husband/spouse's education attainment is higher than the woman's (columns 7 and 8), and (b) the total number of years of education of a woman's husband/spouse (columns 9 and 10). The result from the preferred specification in column (8) indicates a 21.5-percentage point significant decline in the likelihood of a woman of the affected religion getting married to a spouse/husband with higher educational attainment. More so, as shown in column (10), the number of years of education completed by the spouse/husband is about 4 years lower for a woman of the affected religion who resides in the high enforcement states. This effect is significant at the one per cent level.

The non-significant effect and the opposite sign for the estimates for women residing in the high enforcement states with marriage entry year after the reform enforcement (i.e., *Married after* × *High enforcement*), women of the affected religion with marriage entry year after the reform enforcement (i.e., *Married after* × *Affected religion*), and women of the affected religion that reside in the high enforcement states (i.e., *Affected religion* × *High enforcement*), provides reassurance that the effects earlier seen cannot be isolated to the religion of the sampled women. Therefore, the general inference from this conclusion is that the legal reform enforcement (not the religion) induced a significant decline in the quality of marital matches of affected women, seen by the quality of their spouses/husbands from the pool of other potential spouses in the marriage market.

B. Intra-Marriage Decision-making Power

Next, I consider the reform enforcement effect on women's decision-making power within the spousal household in Table 3. Recall, from Section 3, that intra-marriage decision-making power reflects the extent of a woman's autonomy within marriage and the quality of the spouse/husband regarding intra-household power relations. In essence, a woman's involvement in intra-household decision-making is attributable to higher female autonomy and spousal quality (La Mattina 2017). Therefore, I estimate the reform's effect on women's

decision-making power within the household for affected women whose marriage entry year coincides with the period after the enforcement.

Table 3 shows that in addition to the quality of observable spouse characteristics, the reform enforcement's effect is apparent for women's marriage to spouses that do not involve them in intra-marriage decision making concerning own health, making large household purchases, making household purchases for daily needs, and visits to family or relatives. A woman of the affected religion that resides in the high enforcement states and whose year of marriage entry coincides with periods after the reform enforcement is 7.6-percentage points less likely to report that they are involved in any of the four decisions (see column 2). This effect is significant at the 5 per cent level. Likewise, the reform enforcement appears to be negatively associated (by 2.2 percentage points) with the likelihood of the woman's involvement in deciding how to spend the earnings of her spouse/husband. This effect is only significant for the model that does not adjust for the different trends.

Overall, the results presented in subsections (A) and (B) suggest that the reform enforcement was most effective in changing matching patterns because women getting married may have otherwise been single in the absence of the reform or women are getting married sooner, suggesting the presence of search frictions. These results could explain the non-assortative matching process arising in locations where women's legal rights are lowered due to religious reform enforcement. As noted in Fafchamps and Quisumbing (2007) theoretical framework, the assortative matching process implies a significant correlation between brides' and grooms' combined physical and human capital in a given marriage pool. Implying that a spouse's choice by a woman matches her physical and human capital, ranging from a whole opportunity of spouses available to the woman. However, this may not be the case in a context where women's rights are significantly affected by a religious legal reform.

4.2. Mechanisms

A. Matrilineal Structure of the Community

In this section, I estimate the effect of the reform enforcement on spousal quality indicators by the matrilineal structure of the sampled woman's community. In a matrilineal society, women have greater autonomy in decision-making, including those related to sexual choices (Lowes 2020). Further, women's rights

are better protected in a matrilineal society because of kinship support from other group members. Such issues that affect women within the group are regarded as burdens borne by other kin groups (Giuliano and Nunn 2020; Lowes 2020). Therefore, I examine whether the effect of the reform enforcement varies by the matrilineal structure of the woman's community of birth and residence.

The community's cultural practices could significantly determine gender relations and female cooperation regarding interpersonal relationships. This is despite the state-wide reform enforcement with specific penal code prescriptions from religious law. For example, there is evidence that cultural traditions in Northern Nigeria that favour women's participation in the decision-making process records overall better gender relations (Tipilda et al. 2008), despite the enforcement of the reform. Therefore, to understand how the matrilineal structure of the society of birth and residence of the woman moderates the estimated effect, the estimation sample is distributed into two groups: (a.) those residents in non-matrilineal society. That is, if the cluster (enumeration area or local community) of residence of the sampled woman's household is within the 25th percentile of the intensity of women who solely decides on their health, large household purchases, visit family or relatives, or what to do with the money their husband earns. (b.) Resident in a matrilineal society: the cluster of residences of the sampled woman's household is above the 75th percentile of the intensity of women who are solely responsible for the four decisions. The construction of these variables is guided by Ferrara and Milazzo (2017) and Lowes (2020) argument that relates female decision-making autonomy to a matrilineal societal setup.

The results in Table 4 suggest that there is no heterogeneous effect of the reform enforcement on most of the indicators for spousal quality by the matrilineal structure of the location of residence of the sampled women. However, for the spouse's education completion indicator in a single year, the results in columns 5a and 5b show some heterogeneous effect by the matrilineal structure of the sampled women's residence location. Specifically, women in non-matrilineal societies are significantly likely to be in a marital union with spouses with lower education completion years of about two years (column 5a). However, for those who reside in matrilineal societies, the effect of reform enforcement is not significant at the traditional levels (see column 5b). Likewise, the results in column 6a suggest that women residing in non-matrilineal societies are 27.5-percentage points significantly less likely to be involved in one of the four decision-making items in the household (including health, making large household purchases, making household purchases for daily needs, and visiting

family or relatives). More so, they are 24.6-percentage points significantly less likely to be involved in decisions regarding what to do with husbands' earnings (see column 7a). These adverse effects are not seen for women resident in matrilineal societies. A plausible interpretation is that the reform enforcement adversely affected the matching patterns (in terms of spouse's education and women's bargaining power within the marital union) only in contexts where women's rights and autonomy in the decision-making process are not upheld.

B. *Women’s Attitude towards Male Dominance*

The next consideration is women's attitude towards male dominance, which is another mechanism that explains the reform's enforcement effects. I examine whether the marital mismatch seen could be because of changes in women's perception of male dominance due to the reform enforcement. Assuming that women's marital preference declines with the reform enforcement, assignments of mates will be based on non-assortative matching. Women will enter marital union with low-quality spouses not because of intra-marriage utility they may derive from the relationship but because of perceived male dominance. In other words, if the reform changes women's attitudes towards male dominance, one expects that an imbalance in spousal quality should characterize couples formed after the reform.

To test whether the empirical patterns are consistent with this framework, I use the DHS survey question that considers women’s attitudes towards male dominance to compute the following six outcomes. A binary indicator if the woman reports that wife-beating by the husband is justified for: (a) going out without telling him; (b) neglecting the children; (c) arguing with him; (d) refusing to have sex with him; (e) burning the food; and (f) at least one of the five situations. I analyze this variable cautiously by assuming that it reflects women’s attitudes towards male dominance that may have been reasonably fixed at marriage entry[12] (see La Mattina 2017).

I estimate model (1) whether the broad indicators of attitudes towards male dominance respond to the policy variable (*i.e., High enforcement* × *Married after* × *Affected religion*). The results presented in Table 5 (columns 1 and 2) show that women of the affected religion with marriage entry years after the reform enforcement are significantly more likely to report that male dominance within the household is justified. They are 18.4-percentage points significantly more likely to report that wife-beating for any of the five reasons is

[12] The limitation of this measure is that the attitudes toward male dominance may have evolved due to current intra-marriage conditions – such as women becoming more prone to say that wife-beating is justified because of domestic abuses that they may be experiencing in their current union. However, there is no clue from the DHS data regarding the evolution of this attitude. Therefore, the analysis of this outcome variable should be interpreted with significant caution.

justified (see column 2). A similar significant positive effect is seen for the indicators; it is justified to beat a wife if she goes out without telling her spouse (by 29.1-percentage points, see column 4) if she refuses to have sex with her spouse (by 27.8-percentage points, see column 10), and if she burns the food (by 21.2-percentage points, see column 12). Overall, these results suggest adverse effects on women's attitudes towards male dominance following the reform enforcement, therefore, tilting women's decisions in the marriage market.

C. *Women's Utility Outside Marriage*

The negative association between the reform enforcement and the indicators of spousal quality for women of the affected religion could also be because the reform enforcement also had a negative effect on women's utility outside marriage. Noting the reported effect of a reduction in women's public protection (mostly single women) from extra-marital violence (Godefroy 2018), a decrease in the value of being single will generally affect assortative mating by lowering marital preferences for quality spouses. While it is difficult to disentangle this mechanism, considering DHS measures of the age at marriage entry can provide some suggestive evidence on indicators of outside options or the value from being single. One can measure a woman's utility outside marriage by considering this indicator based on the assumption that age at marriage entry suggests the extent of derivable utility from being single while holding other factors constant (Oppenheimer 1988; Bruze et al. 2015).

I investigate in Table 6 whether the indicators of age at marriage entry respond to the policy variable – i.e., *High enforcement* × *Married after* × *Affected religion*. I report two indicators of age at marriage entry, drawn from specific DHS questions, coded as follows: (a.) a binary indicator if the woman's age at marriage entry is 15 years and below, and (b.) a binary indicator if the woman's age at marriage entry is 16 - 19 years. The reference to these two indicators are women whose age at marriage entry is 20 years and above. Consistent with the prediction, column (2) results suggest that women of the affected religion that resides in the high enforcement state are 4.7-percentage points significantly more likely to enter the marital union at ages below 15 years. Likewise, they are 31.2-percentage points significantly more likely to enter a marital union at the ages between 16 and 19 years. The consistent positive and significant results support the interpretation that the

reform enforcement had adverse outside options or value from being single, which is consistent with Godefroy (2018)'s findings[13].

4.3. Additional Empirical Evidence

As a final step, I estimate equation (1) for four arrangements of the data to more closely examine the consistency of the principal estimates in Tables 2 and 3 when excluding potential interstate migrants, excluding samples from adjacent states, controlling for fixed effects at the DHS cluster level, and estimate the model for a falsified "high enforcement" states.

A. Addressing Selective Migration

One factor that might confound these results is if there was a reform-induced migration. That is, the possibility that individuals or households might react to state reform enforcement by migrating to (or out of) the enforcement states, depending on many factors, including family religiosity. The evidence from Panel A of Table A2 in the appendix, when the main outcome variables were estimated by excluding women who moved across locations since 2000, suggests that migration is mostly not an item of concern.

B. Exclude Sample from Residents of Adjacent States

Recall, from Section 2, that there are two channels through which an individual may be affected by the legal reform: (1) the individual may be affected by residing in one of the states where the reform is being enforced, and (2) the individual must be Muslim. Up to this point, the analysis has focused on women of the affected religion that resides in the high enforcement state. However, residents of those states that share common borders with the high enforcement state could also be affected by the reform enforcement due to possible enforcement spillover to other locations closer to the enforcement states, which could bias the results. Therefore, in this sub-section, I exclude the sample for women who reside in the adjacent states to the high enforcement states, including Jigawa, Kaduna, Kano, Kebbi, and Niger. Therefore, the treatment group remains all women of the affected religion that resides in the high enforcement states (with marriage years after the reform enforcement), while the control groups are as earlier defined except for the exclusion of those women that resides in the adjacent states. The estimations in Panel B of Table A2 are comparable to those in Tables 2 and 3. Hence, minimizing the concerns for the possibility of reform enforcement spillover by geographical locations affecting the main results.

[13] This result is consistent with the statistics that around 6 percent of women who would have been single without the Reform's enforcement are married in a given year after the Reform (Godefroy 2018).

C. Controlling for fixed effects at the DHS cluster level

This check adjusts for cultural variation at the local level, which matters for the extent of adherence to the law[14]. For example, even among the Hausas[15] residing in the high-enforcement states, the reform's effect might differ depending on how many other individuals from this ethnic group reside in the neighbourhood. Therefore, I control for these issues by including DHS cluster level fixed effects in the empirical analysis. The results in Panel C of Table A2 are consistent in signs and not entirely different from those in Tables 2 and 3.

D. Falsification Tests

Finally, I estimate a falsification test that arbitrarily reassigns the high enforcement states to three pseudo-states. I assign a random number to other states (apart from the real high enforcement states) and then select the three states with the highest random numbers as the high enforcement states. Therefore, the main estimate (i.e., *High enforcement* × *Married after* × *Affected religion*) in the regression analysis is the interaction between the binary indicator for women that reside in the pseudo high-enforcement states (Bayelsa, Abia, and Abuja), the binary indicator for Muslim, and the binary variable for marriage year coinciding with periods after the reform enforcement (i.e., periods after the year 2000). The results of this exercise are presented in Panel D of Table A2. The primary estimates are not significant or, at best, oppositely signed compared to the estimates in Tables 2 and 3, which is suggestive that the reform enforcement has been effective in adversely affecting the quality of marital matches of women of affected religion relative to other women.

[14] Dev et al. (2016) and Okoye and Pongou (2014) highlight that there are significant differences, along several dimensions, even among ethnic groups in Nigeria.

[15] This is the predominant tribe in the reform enforcement states.

Table 2: Reform Enforcement and Spousal Quality

	Woman Earns more than husband		Difference in age		Age difference above 5 years		Husband has higher education attainment		Husband's education in Years	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
High enforcement × Married after × Affected religion	-0.304**	-0.292**	1.793***	1.831**	0.075*	0.075*	-0.165***	-0.215***	-3.940***	-3.904***
	(0.142)	(0.132)	(0.661)	(0.734)	(0.040)	(0.040)	(0.040)	(0.055)	(0.524)	(0.636)
Married after × High enforcement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Married after × Affected religion	0.046**	-0.010	-0.152	-1.289***	0.013	-0.047*	0.021	-0.038	0.345	-0.331
	(0.018)	(0.036)	(0.352)	(0.316)	(0.018)	(0.024)	(0.021)	(0.031)	(0.318)	(0.349)
Affected religion × High enforcement	0.010	0.005	-0.982	-0.968	-0.129***	-0.125***	0.198***	0.243***	2.081***	1.940***
	(0.018)	(0.024)	(0.876)	(1.115)	(0.023)	(0.022)	(0.031)	(0.056)	(0.465)	(0.557)
Observations	102,047	97,934	164,185	157,620	164,185	157,620	70,180	67,294	75,231	72,055
R-squared	0.159	0.161	0.107	0.108	0.107	0.108	0.348	0.352	0.385	0.389
Mean of outcome variable	0.111	0.111	10.624	10.624	0.833	0.833	0.747	0.747	4.782	4.782

Notes: All regressions include the following covariates – binary indicator for affected religion, marriage entry year after the reform, and residence in one of the high enforcement states. I also include dummy for the following tribes (Igbo, Yoruba, and Hausa); age; age at first birth; age at marriage entry; dummy if first sexual encounter was after marriage entry; dummy for no education, and primary education; dummy for some educational attainment; height (cm); body mass index; and rural location dummy. Further, I control for the following fixed effects – year of marriage entry (m), state of residence (s), the interaction between m and s ($m \times s$), and the fixed effect for the year of survey (t) and its interaction with the affected religion. The following trends were included in the analysis – i.e., Affected religion trend and High enforcement × Affected religion trend, in columns 2, 4, 6, 8, and 10. The standard errors are clustered at the year of marriage, the state of residence, and the interaction of these two variables. *p < 0.10, **p < 0.05, ***p < 0.01.

Table 3: Reform Enforcement and Women's Intra-household Decision-making Power

	Woman decides in one of four decision-making items		Woman decides over husband's earnings	
	(1)	(2)	(3)	(4)
High enforcement × Married after × Affected religion	-0.081**	-0.076**	-0.042***	-0.022
	(0.034)	(0.034)	(0.008)	(0.016)
Married after × High enforcement	0.001	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Married after × Affected religion	0.043***	-0.007	0.040*	-0.001
	(0.014)	(0.019)	(0.020)	(0.033)
Affected religion × High enforcement	0.026	0.021	0.055	0.036
	(0.075)	(0.081)	(0.063)	(0.078)
Observations	165,235	158,657	162,476	156,042
R-squared	0.291	0.291	0.227	0.227
Mean of outcome variable	0.319	0.319	0.291	0.291

Notes: The following trends were included in the analysis – i.e., Affected religion trend and High enforcement × Affected religion trend, in columns 2 and 4. The standard errors are clustered at the year of marriage, the state of residence, and the interaction of these two variables. *p < 0.10, **p < 0.05, ***p < 0.01. All other notes are similar to Table 2.

Table 4: Reform Enforcement and Spousal Quality by the Matrilineal Structure of the Community

	Woman Earns more than husband		Difference in age		Age difference above 5 years		Husband has higher education		Husband's education in Years	
	Matrilineal Society (No)	Matrilineal Society (Yes)	Matrilineal Society (No)	Matrilineal Society (Yes)	Matrilineal Society (No)	Matrilineal Society (Yes)	Matrilineal Society (No)	Matrilineal Society (Yes)	Matrilineal Society (No)	Matrilineal Society (Yes)
	[1a]	[1b]	[2a]	[2b]	[3a]	[3b]	[4a]	[4b]	[5a]	[5b]
High enforcement × Married after × Affected religion	-0.107	0.107*	4.551***	9.398***	-0.031	-0.147	-0.645***	-0.286***	-2.289***	-0.341
	(0.105)	(0.062)	(1.644)	(3.018)	(0.042)	(0.153)	(0.067)	(0.077)	(0.655)	(1.181)
Married after × High enforcement	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	-0.266
	(0.002)	(0.001)	(0.004)	(0.005)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(2.804)
Married after × Affected religion	-0.035	-0.023	-0.861	0.097	-0.020	-0.072	-0.032	-0.095	-0.205	-0.006
	(0.071)	(0.071)	(1.093)	(0.629)	(0.050)	(0.045)	(0.079)	(0.107)	(0.710)	(0.681)
Affected religion × High enforcement	0.108	0.117***	-2.927*	-10.671***	-0.188***	-0.030	0.374***	0.000	-7.208***	0.000
	(0.100)	(0.030)	(1.560)	(0.726)	(0.032)	(0.036)	(0.056)	(0.000)	(1.270)	(0.000)
Observations	23,731	24,595	41,188	36,295	41,188	36,295	14,198	19,626	11,021	26,369
R-squared	0.313	0.232	0.160	0.218	0.180	0.171	0.437	0.433	0.337	0.320
Mean of outcome variable	0.075	0.159	11.364	10.034	0.865	0.794	0.807	0.688	4.450	4.818
	Woman decides in one of four decision-making items		Woman decides over husband's earnings							
	Matrilineal Society (No)	Matrilineal Society (Yes)	Matrilineal Society (No)	Matrilineal Society (Yes)						

	[6a]	[6b]	[7a]	[7b]
High enforcement × Married after × Affected religion	-0.275***	-0.453	-0.246***	-0.562*
	(0.045)	(0.327)	(0.061)	(0.318)
Married after × High enforcement	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.001)
Married after × Affected religion	-0.107*	-0.057	-0.076	-0.159***
	(0.058)	(0.062)	(0.090)	(0.053)
Affected religion × High enforcement	-0.007	0.086	-0.039	0.073
	(0.063)	(0.065)	(0.059)	(0.052)
Observations	41,394	36,505	40,792	36,085
R-squared	0.357	0.257	0.357	0.201
Mean of outcome variable	0.211	0.463	0.207	0.386

Notes: The estimates in Table 4 are those from the preferred specification that includes all the controls, the fixed effects, and the different trends. I account for the following fixed effects – year of marriage entry (t), state of residence (s), the interaction between t and s ($t \times s$), the fixed effect for the year of survey ($year$) and its interaction with the affected religion ($year \times Affected\ religion$) in all the columns except those that relate to the "difference in age" and "husband's education in years" that only excludes the fixed effect $t \times s$ because of multicollinearity issues. The standard errors are clustered at the year of marriage, the state of residence, and the interaction of these two variables. All other notes are similar to those in Table 2. *p < 0.10, ***p < 0.01.

Table 5: Reform Enforcement and Attitudes towards Male Dominance

	Wife beating is justified in any of the five situations		Justified if she goes out without telling him		Justified if she neglects the children		Justified if she argues with him		Justified if she refuses to have sex with him		Justified if she burns the food	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
High enforcement × Married after × Affected religion	0.153***	0.184***	0.259***	0.291***	0.148	0.182	0.093	0.114*	0.244***	0.278***	0.195**	0.212***
	(0.010)	(0.008)	(0.083)	(0.075)	(0.125)	(0.127)	(0.061)	(0.061)	(0.053)	(0.048)	(0.071)	(0.072)
Married after × High enforcement	0.000	0.000	0.000	0.003	0.001	0.0001	0.000	0.002	0.000	0.000	0.000	0.002
	(0.000)	(0.000)	(0.000)	(0.013)	(0.001)	(0.003)	(0.000)	(0.010)	(0.000)	(0.000)	(0.000)	(0.011)
Married after × Affected religion	-0.024	-0.009	-0.045***	0.005	-0.030**	0.012	-0.014	0.005	-0.025**	-0.003	-0.045***	-0.001
	(0.015)	(0.025)	(0.012)	(0.014)	(0.014)	(0.024)	(0.013)	(0.010)	(0.012)	(0.019)	(0.014)	(0.012)
Affected religion × High enforcement	-0.053	-0.083	-0.110	-0.143	-0.049	-0.083	-0.036	-0.058	-0.162*	-0.196**	-0.086	-0.104*
	(0.108)	(0.100)	(0.117)	(0.109)	(0.135)	(0.138)	(0.075)	(0.076)	(0.092)	(0.089)	(0.059)	(0.060)
Observations	165,460	158,862	163,588	157,060	163,658	157,133	163,156	156,681	162,491	156,005	163,184	156,680
R-squared	0.204	0.205	0.189	0.190	0.166	0.166	0.161	0.161	0.201	0.202	0.143	0.143
Mean of outcome variable	0.428	0.428	0.329	0.329	0.306	0.306	0.274	0.274	0.270	0.270	0.177	0.177

Notes: All regressions include the following covariates – dummy for affected religion, marriage entry year after the reform, and residence in one of the high enforcement states. I also include dummy for the following tribes (Igbo, Yoruba, and Hausa); age; age at first birth; age at marriage entry; dummy if first sexual encounter was after marriage entry; dummy for no education, and primary education; dummy for some educational attainment; height (cm); body mass index; and rural location dummy. Further, I control for the following fixed effects – year of marriage entry (m), state of residence (s), the interaction between m and s ($m \times s$), and the fixed effect for the year of survey (t) and its interaction with the affected religion. The following trends were included in the analysis – i.e., Affected religion trend and High enforcement × Affected religion trend, in columns 2, 4, 6, 8, 10, and 12. The standard errors are clustered at the year of marriage, the state of residence, and the interaction of these two variables. *p < 0.10, **p < 0.05, ***p < 0.01.

Table 6: Reform Enforcement and Age at Marriage Entry

	Woman's age at marriage entry is 15 years and below		Woman's age at marriage entry is 16 - 19 years	
	(1)	(2)	(3)	(4)
High enforcement × Married after × Affected religion	0.060***	0.047**	0.215***	0.312***
	(0.015)	(0.018)	(0.067)	(0.052)
Married after × High enforcement	0.000	0.001	0.001	0.001
	(0.000)	(0.000)	(0.00)	(0.000)
Married after × Affected religion	-0.059***	-0.010	-0.016	0.021
	(0.015)	(0.009)	(0.020)	(0.036)
Affected religion × High enforcement	-0.019	-0.008	-0.121**	-0.219***
	(0.041)	(0.041)	(0.049)	(0.030)
Observations	165,460	158,862	88,528	84,680
R-squared	0.604	0.604	0.654	0.652
Mean of outcome variable	0.445	0.445	0.551	0.551

Notes: All regressions include the following covariates – dummy for affected religion, marriage entry year after the reform, and residence in one of the high enforcement states. I also include dummy for the following tribes (Igbo, Yoruba, and Hausa); age; age at first birth; age at marriage entry; dummy if first sexual encounter was after marriage entry; dummy for no education, and primary education; dummy for some educational attainment; height (cm); body mass index; and rural location dummy. Further, I control for the following fixed effects – year of marriage entry (m), state of residence (s), the interaction between m and s ($m \times s$), and the fixed effect for the year of survey (t) and its interaction with the affected religion. The following trends were included in the analysis – i.e., Affected religion trend and High enforcement × Affected religion trend, in columns 2, 4, 6, 8, 10, and 12. The standard errors are clustered at the year of marriage, the state of residence, and the interaction of these two variables. *p < 0.10, **p < 0.05, ***p < 0.01.

5. Conclusion

This paper shows that a legal reform that adversely affects women's litigant rights can have an adverse effect on the quality of their marital match in the marriage market. The evidence is stark, showing a large likelihood that the women of the affected religion entered into marriage with lower quality spouses after the legal reform enforcement. The affected women entered into marriage with spouses with the following characteristics: lower earnings, older ages, and lower educational

attainment. In addition, affected women's marriage entries are with men who are solely responsible for household decisions and solely decide what to do with their earnings. These results are partly driven by the matrilineal structure of the society where the sampled women reside. The increasing attitudinal changes of the sampled women towards male dominance and the adverse effects on women's outside marriage utility are other operative channels through which the results are seen.

At this point, it is important to acknowledge that one cannot give absolute causal interpretation to these findings, as it is difficult to clarify that the composition of marriages is changing at the same time as sorting or whether (or not) the effects presented are driven by changes in the composition of women who marry. Nonetheless, the results demonstrate those possible unintended consequences of non-assortative matching from implementing a legal reform that affects women's rights. That is, reforms that support the non-institutionalization of women's litigant rights, tied to religious laws mostly interpreted through a masculine lens (Ibrahim 2000; Pereira 2005), could affect the quality of marital matches of affected women.

More so, the control group of this study may significantly be composed of women from non-Muslim predominant ethnic groups (e.g., Igbo) and could be significantly different in diverse dimensions of social characteristics, such as education. Such systematic differences in the characteristics of the groups may be an important mechanism underlying the results in this paper and could be an important consideration for future research. Overall, this paper's findings have implications for other developing countries, seeking to favour applying a similar legal reform. This research's findings suggest that the legal reform's manner of application has important implications for the quality of marital matches for affected women.

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APPENDIX

Table A1: Test for parallel trends leading up to the Reform Enforcement beginning in Year 2000

	Panel A: Spousal attributes					Panel B: Intra-household Autonomy	
	Woman Earns more than husband	Difference in age	Age difference above 5 years	Husband has higher education	Husband's education in Years	Woman decides in one of four decision-making items	Woman decides over husband's money
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Married years to reform	-0.004***	-0.086***	-0.003***	-0.001	0.079***	-0.003**	-0.001
	(0.001)	(0.014)	(0.001)	(0.001)	(0.013)	(0.001)	(0.001)
Married years to reform × Affected religion	0.004***	0.077***	0.004***	0.007***	0.056**	0.002**	0.002
	(0.001)	(0.018)	(0.001)	(0.002)	(0.022)	(0.001)	(0.001)
Married years to reform × High enforcement	-0.002*	0.163***	0.008***	-0.008	0.080	-0.007**	-0.007***
	(0.001)	(0.048)	(0.001)	(0.008)	(0.077)	(0.003)	(0.002)
Married years to reform × Affected religion × High enforcement	0.001	-0.099*	-0.005***	-0.006	-0.102*	0.005	0.004*
	(0.001)	(0.053)	(0.001)	(0.005)	(0.055)	(0.003)	(0.002)
Observations	83,908	132,417	132,417	54,570	54,650	133,369	130,992
R-squared	0.075	0.038	0.033	0.095	0.079	0.246	0.178

Notes: This is a parsimonious regression. The sample includes married women ages 15 – 49 with marriage years in 1999 and below (i.e., the years before the reform enforcement began in year 2000). Affected religion is a dummy if a woman's religion is Islam, while high enforcement is a dummy if a woman resides in states that began the reform enforcement. All regressions include the following fixed effects at the state-, year of survey-, year of survey × affected religion- levels. The standard errors are clustered at the state-level. *p < 0.1; **p < 0.05; ***p<0.01.

Table A2: Additional Empirical Evidence – Robustness Checks

	Panel A: Spousal quality					Panel B: Intra-household Decision-making Power	
	Woman Earns more than husband	Difference in age	Age difference above 5 years	Husband has higher education	Husband's education in Years	Woman decides in one of four decision-making items	Woman decides over husband's earnings
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Addressing selective migration							
High enforcement × Married after × Affected	-0.650***	3.131***	0.143***	-0.360***	-1.653***	-0.070**	- 0.033
religion	(0.085)	(0.646)	(0.022)	(0.120)	(0.354)	(0.032)	(0.026)
Observations	78,026	123,295	123,295	51,378	53,315	123,809	121,655
R-squared	0.189	0.113	0.119	0.382	0.411	0.328	0.260
Panel B: Exclude sample from residents of adjacent states							
High enforcement × Married after × Affected	-0.302**	2.028***	0.084*	-0.211***	-3.942***	-0.078***	-0.014
religion	(0.132)	(0.677)	(0.044)	(0.057)	(0.664)	(0.031)	(0.021)
Observations	76,306	121,931	121,931	55,260	64,269	122,711	120,402
R-squared	0.156	0.115	0.111	0.354	0.383	0.263	0.214
Panel C: Adjust for community level time-invariant factors							
High enforcement × Married after × Affected	-0.293**	1.015	0.068	-0.287***	-4.040*	-0.005	-0.042***
religion	(0.111)	(0.980)	(0.042)	(0.072)	(2.295)	(0.041)	(0.014)
Observations	97,893	157,601	157,601	67,195	72,021	158,638	156,023
R-squared	0.230	0.152	0.146	0.420	0.462	0.351	0.285
Panel D: Falsification test - placebo high-enforcement states (Bayelsa, Abia, and Abuja)							
High enforcement × Married after × Affected	-0.035	0.040	0.047	0.040	-0.908*	0.110***	0.165***
religion	(0.035)	(0.610)	(0.039)	(0.049)	(0.453)	(0.028)	(0.030)
Observations	84,659	137,336	137,336	61,895	69,985	138,212	135,731
R-squared	0.158	0.114	0.107	0.345	0.385	0.285	0.224

Notes: All regressions include the following covariates – Married after × High enforcement, Married after × Affected religion, Affected religion × High enforcement, and dummy for affected religion, marriage entry year after the reform, and residence in one of the high enforcement states. I also include dummy for the following tribes (Igbo, Yoruba, and Hausa); age; age at first birth; age at marriage entry; dummy if first sexual encounter was after marriage entry; dummy for no education, and primary education; dummy for some educational attainment; height (cm); body mass index; and rural location dummy. Further, I control for the following fixed effects – year of

marriage entry (m), state of residence (s), the interaction between m and s ($m \times s$), and the fixed effect for the year of survey (t) and its interaction with the affected religion. The following trends were included in the analysis – i.e., Affected religion trend and High enforcement × Affected religion trend, in columns 2, 4, 6, 8, 10, and 12. The standard errors are clustered at the year of marriage, the state of residence, and the interaction of these two variables. *p < 0.10, **p < 0.05, ***p < 0.01.

Figure A1: Location of the High Enforcement States in Nigeria