Women's Inheritance Rights and Bargaining Power: Evidence from Kenya*

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Abstract

This paper investigates the human capital effects of a statutory law reform granting Kenyan women equal inheritance rights. I employ a difference-in-differences strategy, exploiting variation in pre-reform inheritance rights across religious groups. I find that a variety of human capital outcomes are affected: women exposed to the reform are more educated, both in absolute terms and relative to males; they are less likely to undergo genital mutilation and more likely to be medically assisted during childbirth; they tend to delay marriage and childbearing, and to have better marriage market outcomes. I provide robustness checks by showing that these improvements occur across ethnic groups, regardless of initial education level, and are more pronounced for women with fewer siblings, for whom the absolute inheritance share is potentially larger. There is suggestive evidence that women exposed to the reform participate more in family decisions, indicating that improved bargaining power might be the main channel. These findings suggest that legal recognition of women's inheritance rights can be beneficial for women even in a context of poor enforcement and in spite of the persistence of deep-rooted social norms.

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1 Introduction

In numerous countries across the developing world, particularly in Sub-Saharan Africa, gender discrimination takes the form of unequal inheritance and property rights. As inheritance is one of the main ways for women to acquire and control property, women's legal inability to inherit property can significantly undermine their economic security and independence, as well as their access to economic opportunities (World Bank, 2011, 2012). Among initiatives aimed at remedying such discrimination, development practitioners and international organizations have been advocating legal reforms establishing equal de jure rights in matters of inheritance and family law. This view is illustrated in the 2012 World Bank Gender Equality and Development Report, according to which "the most promising policies to increase women's voice in households center on reforming the legal framework (...): land laws and aspects of family law that govern marriage, divorce, and disposal of property are particularly important" (World Bank, 2012). Legal reforms are further claimed to have the potential to "improve economic outcomes" and "strengthen women's economic empowerment" (World Bank, 2011). Quantitative evidence on the effects of reforms of this type remains, however, scant, particularly in Sub-Saharan Africa[1]. A priori, it is not obvious that such policy initiatives benefit women: first, legal reform alone may do little to change women's de facto rights, particularly in contexts where legal enforcement is poor and social norms strongly oppose women holding property (UN-HABITAT, 2006; Human Rights Watch, 2003; USAID, 2003). Second, if women are granted improved property rights on physical assets, other household members may respond by engaging in compensatory behavior, putting women in a disadvantage with respect to other margins. For instance, Quisumbing et al. (2003) as well as Rosenblum (2015) find evidence that parents substitute land inheritance and human capital investments, the two major forms of intergenerational wealth transfer in developing countries.

This paper studies the human capital effects of a statutory law reform granting Kenyan women equal inheritance rights, exploiting variation in pre-reform inheritance rights across religious groups. Before the 1981 Law of Succession Act, inheritance in Kenya was determined by the customary law of the ethnic group of the deceased, and, in the case of Muslims, by Koranic law. The customary law of virtually all ethnic groups in Kenya denies women any right of inheritance, whereas Islamic law entitles women to half of the inheritance share that goes to each of their brothers. The 1981 reform made inheritance a matter of statutory law, and formally established equal inheritance rights for men and women, regardless of religious affiliation. In 1990 pressure by the Islamic community induced the government to create an exemption for Muslims, who were allowed to revert to Koranic succession law. I exploit the timing of the 1981 reform and subsequent 1990 amendment, as well as cross-sectional variation in religious affiliation, in order to estimate the causal impact of the reform on a variety of outcomes related to human capital and household decision making, in a difference-in-differences framework. An interesting feature of this setting is that the reform was amended for one of the two groups, creating three distinct regimes throughout the period of study. This allows me to estimate two effects: the impact of the "full reform" - increasing women's inheritance share

[1] As discussed below, existing evidence on gender-neutral inheritance rules is mostly based on the Hindu Succession Act in India

relative to men's from 0 to 1 - and the impact of the "incremental reform" - increasing this share from 0.5 to 1.

Drawing upon a rich set of outcomes from the Kenyan Demographic and Health Surveys, I find significant improvements along several dimensions, particularly in women's education and health. Women exposed to the reform are more educated, both in absolute terms and relative to males. Switching from a regime with no inheritance rights to equal inheritance rights (i.e. the "full" reform) is associated with a 20 percentage point increase in primary school completion rates for females, and with a 14 percentage point decrease in the same outcome for males. Women exposed to the "full" reform are also 19 percentage points less likely to undergo genital mutilation, and 7 percentage points more likely to receive medical assistance during pregnancy and childbirth. Moreover, they tend to delay marriage and childbearing and are matched to higher-quality husbands. These findings are compatible with both an investment and a bargaining power mechanism: on the one hand, as women have the ability to inherit physical capital, parents might decide to invest more in their human capital, if they view human and physical capital as complementary. On the other hand, the ability to inherit improves women's bargaining power and shifts human capital investment choices towards their preferences. While I cannot fully disentangle these mechanisms, I attempt to examine the latter channel by considering more direct proxies for women's household bargaining power, based on survey questions on decision making and attitudes. I find suggestive evidence that the reform makes women more likely to participate in family decisions, supporting the interpretation that women's bargaining power is indeed enhanced. My identification strategy is complemented by several additional checks. In particular, when available, I exploit information on number of siblings as a source of treatment heterogeneity, showing that the effects of the reform are less pronounced when a woman has a large number of siblings - and hence a smaller potential inheritance. I also show that there is no statistically significant difference in outcomes between Muslims and non-Muslims for households in districts that were exempt from the 1981 reform.

This work relates to two strands of the literature: that on intra-household decision making and that on intergenerational transfers.

In a non-unitary household, the allocation of resources between spouses will affect intra-household bargaining and associated socio-economic outcomes. Women's ability to control resources has been shown to translate into larger investments in children's education, health and nutrition in a variety of contexts (Duflo, 2003; Qian, 2008; Luke and Munshi, 2011).[2]

The importance of family law for household bargaining has been emphasized by Chiappori et al. (2002), who view the intra-household distribution of power as affected by outside opportunities, including legislation on the assignment of property rights in case of divorce. A number of empirical papers have examined the impact of family law in developing contexts. Ambrus et al. (2010) study the link between the value of dowry and prenuptial agreements and changes in family laws concerning polygamy and divorce. Carranza (2012) studies how changes in Islamic family and

[2]A number of papers focus specifically on women's physical asset ownership, documenting how this correlated with better health and education outcomes for their children (Katz and Chamorro, 2003; Quisumbing and Maluccio, 2003). In the context of urban China, Wang (2014) shows that transferring ownership rights to women leads to less consumption of male goods in the household.

inheritance law in Indonesia have affected fertility behavior and son preference.

Several recent papers have considered specifically gender-progressive changes in inheritance laws, by focusing on the Indian Hindu Succession Act. Most papers in this literature exploit variation in the timing of the reform across states in conjunction with the timing of the death of a woman's male family members.[3]This reform has been found to be associated with an increase in female education (Goyal et al., 2013; Roy, 2015), increased autonomy and labor supply (Heath and Tan, 2015), and greater bargaining power (Mookerjee, 2015). However, other studies find that women were made worse off under other dimensions: Anderson and Genicot (2015) show that the reform led to more suicides and wife beating, and interpret this as resulting from greater conflict over property within the household; Rosenblum (2015) finds evidence of higher female mortality, as parents substitute investments in human capital and land bequests. Overall, it is unclear whether women benefited in net terms from the reform and how this would generalize to other contexts.

Inter-generational transfers have been viewed mostly through the lens of the wealth model (Becker and Tomes, 1979) or the strategic bequest model (Bernheim et al., 1985). In the context of developing countries, a number of empirical papers has examined the interaction between traditional kinship systems and inheritance rules, emphasizing how parents rationally incorporate social norms which constrain their ability to make bequests (Goetghebuer and Platteau, 2010; La Ferrara, 2007; Mobarak et al. 2009; Platteau and Baland, 2001). La Ferrara and Milazzo (2014) look at strategic responses of matrilineal and patrilineal ethnic groups to an amendment to Ghana's Intestate Succession law, finding that parents substitute bequests with education. [4]

The rest of the paper is organized as follows. Section 2 describes the 1981 Kenyan Law of Succession and subsequent amendment, and provides additional background information on the Kenyan context. Section 3 outlines a conceptual framework for interpreting the effects of the reform under study. In sections 4 and 5 I present my empirical strategy and data sources and in section 6 I discuss my results. Section 7 concludes.

2 Background

Kenya is a fractionalized country in which ethnic and religious cleavages are salient. According to the 2009 Census, Kenya has a population of 38 million, subdivided in as many as 133 ethnic affiliations, according to the Census disaggregation. The 2009 Census reports that 83% of Kenya's inhabitants are Christians - of which 23% Catholics and 57% Protestants - and 11% Muslims. The remaining 6% is divided among traditional religions, no religion and Hinduism (Kenya National Bureau of Statistics, 2010). These figures have been widely disputed by the Muslim community, who has claimed to be selectively under-reported by the government. A more plausible figure for

[3]Although the Hindu Succession Act affected Muslims and non-Muslims differently, much like the Kenyan Law of Succession Act examined in this paper, the identification strategy in the papers discussed below is mostly based on variation within Hindus.

[4]A similar finding is that of Quisumbing et al. (2001) and Quisumbing and Otsuka (2001), who study the effects of the evolution of land tenure institutions and matrilineal inheritance practices on agricultural and schooling investments in Ghana and in Sumatra.

the Muslim population has been suggested to lie between 20 and 30% (The Daily Nation, 2010). Kenya's Muslims are not a homogeneous group, as they comprise converts from different ethnic groupings, among which notably Somalis and some other nomadic groups, Arabs and people of mixed Arab-African descent. Most Muslims live in the Coastal Province, where their sense of common identity is strongest (Oded, 2000).

Sub-Saharan Africa represents a unique setting for studying women's property rights, as land and family rights are governed by multiple and overlapping legal domains. In Kenya, property rights are defined by a complex interplay of customary law, statutory law and Islamic law. The 1969 Constitution, which is the reference one for the time period considered in this study, embraced legal pluralism recognizing the application of customary law and Islamic law in specific instances. Section 82(4) stated that the customary law of an individual's particular tribe could to be applied in cases of "adoption, marriage, divorce, burial, devolution of property on death or other matters of personal law", an exception with the statutory principle of non-discrimination (Cooper, 2011). In those matters listed under Section 82(4), Islamic law has been applied to Muslims and enforced by Kadhi Courts[5]. Throughout the history of post-colonial Kenya, until the recent constitutional review process, a tension has persisted between the Muslim community, who sought to reinforce and expand the role of Kadhi courts, and Christian leaders, claiming that Islam should not be afforded special rights. (Oded, 2000; Cooper, 2011).

Before the 1981 Law of Succession Act became operational, there were four separate systems of inheritance for Africans, Europeans, Muslims and Hindus. Since the 1897 Order-in-Council, African customary law in matters of succession was to apply to Africans, as long as it was not "repugnant to justice or morality", a judgment which courts have typically been unable to make. In 1961, the African Wills Ordinance was passed to enable Africans to make written wills, while intestate succession continued being governed by the respective customary law of the deceased. The 1897 Native Courts Regulations Ordinance proclaimed that the law of succession for Muslims was the law contained in the Quran. This continued to apply until independence when the government reaffirmed the position of the Muslims as part of a constitutional bargain, in order to counter their threat to break away or secede from the rest of Kenya. The government assured them that under the new constitutional order, they would be allowed to keep their own personal law. This guarantee was given constitutional backing by section 66 of the Constitution, which provided for the establishment of the Kadhi courts to decide matters of personal law. Finally, the scant European and Hindu population were ruled by the British Indian Succession Act (1865) and by Hindu customary law respectively.

In 1967, a commission appointed by the President began looking into marriage, divorce and inheritance law. A Report on the Law of Succession in Kenya was issued in 1968, recommending a uniform code of inheritance. A succession bill eventually passed in 1972 as the Law of Succession

[5]When the Sultan of Zanzibar in 1895 authorized the British to administer the coastal strip of today's Kenya as a protectorate, the British agreed to respect the judicial system then in existence, which included Kadhi Courts. With independence in 1963 a new agreement entered into between the governments of Kenya and Zanzibar which guaranteed the existence of the Kadhi Courts at all times in exchange for annexion of Muslim territories to independent Kenya. The courts were enshrined in the independence Constitution in compliance with the agreement and the Kadhi Courts Act enacted in 1967.

Act (Cap 160), but only came into force in 1981. The process of drafting and approving the bill was lengthy and highly contentious (Oded, 2000) for both political and substantial reasons. First, depriving local authorities and courts of legal competence in matters of inheritance was perceived as a threat to the independence of individual ethnic groups, thus altering the already precarious political equilibrium in a highly fractionalized country. The most common reason cited in opposition to the reform was the fear that daughters would be allowed to "inherit too much land", which may enable their husbands, potentially from other clans, to control the traditional land of their wife's family. This argument has been made again today in the occasion of the debate on the new constitution (Cooper, 2011).

The 1967 Report on Marriage was ignored, and to date the Married Women's Property Act of 1882, a remnant of British colonial rule, remains the only statute to govern married women's right to property acquired during a marriage, and it applies to all Kenyan marriages regardless of the type of marriage or regime governing the marriage.

The Law of Succession Act, operational since July 1st 1981, was passed with the intention of merging and consolidating all the four systems of inheritance law into one uniform statute, applicable to all Kenyans. The Law of Succession Act outlines a Western-style type of succession based on bilateral descent, establishing equal inheritance rights for female and male children, regardless of whether married or unmarried, on their parent's property (Section 38). It is applied automatically in case of intestate succession or by the court, in case there is a will but not reasonable support for any dependents. Most people in Kenya die intestate (Mutongi, 2007). If there is one surviving spouse and a child or children, the spouse is entitled to an absolute interest in the deceased's personal and household effects, and a life interest in the rest of the estate (e.g. land and house, business, etc.), although this cannot be disposed of without court permission (Sections 35 and 36). The latter provision was meant to protect widows from eviction or property grabbing. Although non-discriminatory in the treatment of the children of the deceased, there are still the vestiges of discriminatory customs in the provisions concerning spouses: when the surviving spouse is a woman, her interest in the property is invalidated if she remarries, whereas a surviving husband maintains his interest also upon remarriage. Children inherit the estate when a surviving spouse dies and, in a woman's case, remarries. If the deceased did not have a spouse or child, the estate goes first to the father, then to the mother if the father is deceased. If both parents are deceased, it goes to the brothers and sisters if there are any, then to their children. In cases of polygamous marriages, the estate is divided among the households according to the number of children in each house. There is no provision for additional protection of the property rights of spouses who were married for longer periods and contributed more towards accumulated property.

Finally, Section 32 exempts from intestacy provisions of the Act "agricultural land, crops on such land and livestock" in ten specific districts specified by gazette notice: Marsabit, Narok, Tana River, Samburu, West Pokot, Turkana, Isiolo, Mandera, Wajir and Kajiado. According to section 3(1) "agricultural land" means land used for agricultural purposes which is not within a municipality or a township or a market, but does not include land registered under the provisions of any written law (UN-HABITAT, 2002). These so-called "gazetted" districts (henceforth: exempt districts) comprise the semi-desertic part of the country, scantly populated and inhabited by nomadic and

semi-nomadic pastoral communities. Exempt districts encompass roughly 60% of the territory of Kenya but include only about 15% of the total population according to the 2009 Census (Kenya National Bureau of Statistics, 2010) The reason for exemption is that these are areas where land was owned communally, and as such difficult to apportion to individuals (UN-HABITAT, 2002).

Between 1981 and 1990, there was intense agitation by the Muslims who regarded the passing of the Law of Succession Act as a repudiation of the assurance given at independence. This debate culminated in one of the moments of maximum tension between the Muslim and Christian community in the post-colonial history of Kenya. The Kenyan Muslim community protested through newspaper editorials, petitions and heated public demonstrations in Mombasa (Oded, 2000). The government gave in to the pressure mounted by the Muslims in 1990, as it was keen to have the Muslim support in view of the transition to multi-partyism, and section 2 of the Succession Act was ultimately amended by Statute Law (Misc. Amendment) Act No. 2 of 1990 to specifically exclude application to Muslims. The Amendment disapplied the Act to persons who at the time of their death were Muslims, and the Kadhi Courts regained jurisdiction to determine questions relating to Muslim succession (Kenya Law Resource Center, 2011).

Islamic Inheritance is clearly pinned down by the Quran. A widow receives 1/4 of her husband's estate; women in polygamous marriages receive 1/8 if they are childless. What is left is divided among sons and daughters in such a way that sons receive twice as much as daughters of their father's property. Even if there is no obligation to provide for dependents, only 1/3 of the Muslim's estate can be disposed of by will; at least 2/3 should be dealt with according to Koranic principles i.e. with fixed shares for particular heirs (UN-HABITAT, 2005; Kenya Law Resource Center, 2011).

A comprehensive source for the customary law of Kenya's various ethnic groups is the Restatement of African Law (Cotran, 1968). Virtually all ethnic groups covered do not allow women to inherit land from their parents nor their deceased husbands. The vast majority of Kenyan ethnic groups are patrilineal.

That of inheritance has been perceived as a sensitive and contentious issue from Kenyan independence until the recent constitutional review, and the debate on women's inheritance rights has received over the years considerable media attention. For instance, in 2008 the Kenya Law Reform Commission issued a memorandum to civil society organizations to invite feedback on the existing provisions of the Succession Act. This seems to suggest that even though observed enforcement might be poor, knowledge of the law should be reasonably widespread.

There are no official or systematic reports on the enforcement of the Succession Law nor quantitative evidence on the evolution of women asset ownership following the reform. According to UN-HABITAT (2005) "while in the majority of cases, the rights enjoyed by women under this Act have been upheld, some incorrect interpretations have also been made" and "courts have on occasion ruled to disinherit married daughters". An ambiguity arises from the fact that legal pluralism formally persisted during the period of analysis in the 1969 Constitution's Section 82(4), which recognized customary law to be applicable in matters of personal law. While no systematic data exists on actual asset ownership by Kenyan women before and after the reform, the qualitative human rights literature reports enforcement problems and emphasizes how local custom strongly opposes women's inheritance (Kameri Mbote, 1995; Cooper, 2011).

3 Conceptual Framework

In this paper I focus on the human capital consequences of allowing women to inherit parental property.[6] There are primarily two channels through which such a legal change can impact investments in human capital: a bargaining power channel, and an "optimal bequest" or investment channel.

First, allowing women to inherit represents a positive shock to wives' potential asset ownership, that affects the intra-household bargaining process. As property rights on land are intimately related to an individual's ability to fulfill subsistence needs outside the family, in the context of a non-unitary household inheritance rights make an example of those "distribution factors" (Chiappori et al., 2002) or "extra-marital environmental parameters... that shift the threat point" but that, at least in the short run and to first order, "do not affect prices and non-wage income faced by married individuals." (McElroy, 1990). Human capital investment choices are affected insofar as the relative bargaining weight of wives increases following the reform. It is worth emphasizing that this bargaining power hypothesis does not rely on women actually realizing their inheritance rights following the reform, but merely on women having the option to claim such rights in a court, based on a codified law. I view inheritance rules as Chiappori et al. (2002) view divorce laws: as "distribution factors that can influence the intra-household balance of power ... even when the marriage does not actually dissolve". By the same line of reasoning, it is possible to detect a bargaining power effect of inheritance rights and yet observe no realized inheritance in equilibrium[7]

Holding constant the relative bargaining weights of spouses, the provision of equal inheritance shares for sons and daughters also affects the optimal bequest problem faced by parents. In the context of a wealth model of transfers à la Becker (1974) and Becker and Tomes (1979), altruistic parents maximize a collective utility function, which includes their children's future incomes as well as their own consumption. The income-generating process of children depends on the stock of human capital (health and education) and physical capital (assets) inherited, and could be different for sons and daughters. The model predicts that parents will choose the optimal mix of human and physical capital to bequeath to sons and daughters, given their relative comparative advantages in income-generating activities. The inheritance reform adds an additional constraint to this problem, by introducing a lower bound on the amount of physical capital that should be bequeathed to daughters. The optimal amount of human capital bequeathed to sons and daughters will change, in a direction which depends on whether human and physical capital are complements or substitutes in the income-generating process. For example, human capital in the form of education could be a complement for physical capital in the form of a family business, if more education increases the returns to running such business. Human capital in the form of health and nutrition could be a complement to physical capital in the form of family land, if healthier farmers reap higher returns from agricultural land. In both cases, forcing parents to increase the amount of physical capital

[6] The Law of Succession also included provisions concerning the ability of widows to inherit from their deceased husbands, but I do not focus on this aspect. First, it is not clear that these provisions should affect the bargaining power of the wife while the husband is still alive. Moreover, these norms should not alter significantly the terms of parents' bequest decision problem since the assets inherited by the widow will eventually pass onto the children.

[7] In the case of the Indian Hindu Succession Law, Roy (2015) finds that women do not inherit more land following gender-progressive inheritance reform. However, both Roy (2015) and Goyal et al. (2013) authors find large positive effects on the education of girls.

bequeathed to daughters would also make them increase the amount of human capital invested in them. Alternatively, human and physical capital could be substitutes. This would yield the opposite prediction: as parents are forced to bequeath more assets to daughters, they substitute human capital for physical capital and disinvest in their daughters' education and/or health.

As this discussion highlights, the effects of improved inheritance rights on human capital are a priori ambiguous. Education, for instance, could be affected by the inheritance reform in at least three ways. The first channel is mothers' bargaining power: as mothers have a greater bargaining weight, intra-household decisions concerning human capital investments will reflect to a larger extent the preferences of women. Since it is well documented that these preferences tend to be tilted towards the well being of children, and especially girls, we should expect outcomes such as health and education to unambiguously improve for girls and possibly boys as well. The second channel is the complementarity of education and physical assets: if education increases the returns to physical capital for daughters, once parents are forced to assign to daughters a larger share of physical capital they will also want to provide daughters with more education. Conversely, as boys receive a smaller share of assets, their education should decrease. A third channel is substitution between human and physical capital: parents might decide to invest less in the human capital of girls and more in that of boys, to compensate the fact that law now forces them to bequeath the same amount of physical capital to both.[8] How human capital outcomes respond to changes in inheritance rules is thus ultimately an empirical question, which I attempt to address in the next sections.

4 Data sources

All the data used in this study come from the different rounds of Kenyan Demographic and Health Surveys (DHS): 1989 (DHS-I), 1993 (DHS-II), 1998 (DHS-III), 2003 (DHS-IV), and 2008-2009 (DHS-V). DHS are household surveys with large sample sizes (usually between 5,000 and 10,000 households) which provide data for a wide range of monitoring and impact evaluation indicators in the areas of health and demography, with specific focus on female household members. The core DHS questionnaire is administered to all women aged 15 to 49 in each selected household and contains detailed questions on reproductive and maternal health as well as on the health of the respondent's youngest children. Basic demographic data and information on educational attainment is collected for all other household members as well. In each round, a small sub-sample of households is selected for an additional questionnaire to be administered to males 15-49.

[8] A priori, one could argue that there is another potential mechanism, besides bargaining and bequests, through which the reform affects human capital: one mediated by marriage markets. All else being equal, the ability to inherit physical assets makes a woman a more attractive bride, which would lead her to change her pre-marital investments. For instance, relative to a woman who doesn't inherit, she may afford investing more in education and postponing marriage. While plausible at the individual level, this mechanism is unlikely to play a major role in the case of an inheritance reform that affects all women of a certain religion and cohort. Given that marriage occurs within religious groups, in this context "treated" women compete on marriage markets primarily with women who are also "treated". Empirically, the marriage market implications of the reform are difficult to explore with my identification strategy, as I rely on comparisons across religious grous, that don't inter-marry. For these reasons, I choose not to focus on the marriage market channel.

Waves IV and V also include a module on gender with specific questions about household decision making, whereas wave IV includes an additional siblings questionnaire. While waves IV and V are nationally representative, earlier waves exclude the North Eastern province - a semi-desertic area scantly inhabited by nomadic populations, predominantly of Muslim religion. For consistency as well as to avoid potential confounding effects, I exclude households from the North Eastern province from my analysis.[9] My results are qualitatively unchanged if such households are included (results available upon request).

The advantages of DHS data are manifold. First, the relatively large sample size allows me to obtain fairly precise estimates even if the variation I rely on comes from a minority in the population. Second, the high degree of comparability across waves mitigates measurement error problems associated with pooling together different waves. Finally, DHS surveys are among the very few surveys administered in Kenya which report detailed data on religious and ethnic affiliation, information which the National Statistical Office is typically not willing to disclose, given its political sensitivity. The most obvious limitation of my data is that all waves are administered post-reform, with the exception of the 1989 wave, which is administered shortly before the 1990 amendment. This implies that I will not be able to employ my difference-in-differences strategy to analyze outcomes measured at the time of the survey - such as current health measures - but only cumulative or past outcomes - such as the accumulated stock of education or the timing of fertility onset. Furthermore, I will typically not be able to include any pre-reform household characteristics as controls.

5 Empirical Strategy

My identification strategy exploits within-country variation in pre-reform customary inheritance law across different religious groups. Following Duflo (2001), Bleakley (2010) and, specifically in the case of inheritance, La Ferrara and Milazzo (2014), my basic specification relies on a difference-in-differences between cohorts exposed and not exposed to the reform, across Muslims and non-Muslims. The identifying assumption is that, absent the change in inheritance rules, the outcomes of interest would have evolved over time following the same linear trend across religious groups. Such a strategy is thus robust to differences in time-invariant characteristics of different religious and ethnic groups.

The reform under study includes two subsequent legal changes: the 1981 Law of Succession, granting all women a share of parental inheritance equal to that of their brothers, and the 1991 Amendment, exempting Muslims from the rule. This generates three different inheritance regimes, as summarized by Table 1. In the pre-1981 regime, non-Muslim women inherit a 0 share of assets, while Muslim women inherit half the share which is entitled to their brothers. In the "post 1" regime, between 1981 and 1990, the Law of Succession applies to both Muslims and non-Muslims alike and grants women the same inheritance share as their brothers. In the "post 2" regime, after 1990, the Law of Succession continues to apply to non-Muslims, for whom the same share is granted

[9] A natural concern could be that more recent Muslim cohorts are not comparable to earlier ones, as they include nomadic and arguably more traditional households.

to sons and daughters, but no longer applies to Muslims, who revert to the pre-1981 rule that grants daughters half the share entitled to their brothers. My empirical specification thus includes two different "post" periods: one for the regime in place between 1981 and 1990 ("post 1") and one for the post-1990 one ("post 2").

Consider human capital outcome y of individual i born in year t, belonging to ethnicity e, surveyed in wave w and living in province r, district d at the time of the survey. My benchmark difference-in-differences specification is:

$$\begin{aligned} y_{itrdw} &= \alpha + \beta_0 \cdot non - Muslim_i + \\ &+\beta_1 \cdot post1_t \cdot non - Muslim_i + \beta_2 \cdot post2_t \cdot non - Muslim_i + \\ &+e_i + \alpha_r + \eta_w + \mu_t + \varphi_r \cdot t + ASAL_d \cdot t + X_{itrdw} + \varepsilon_{itrdw} \end{aligned} \tag{1}$$

where $e_i, \alpha_r, \eta_w, \mu_t$ are respectively ethnicity, province, wave and cohort fixed effects; $\varphi_r \cdot t$ is a province-specific time trend; $ASAL_d \cdot t$ is a time trend specific to Arid and Semi-Arid Lands (ASAL)[10] and X_{itvrdw} are additional controls observed in wave w - for instance, urban residence. The definition of the $post1_t$ and $post2_t$ dummies will vary based on the specific dependent variable considered, depending on how old a cohort should be at the time of the reform in order to be affected in each particular outcome.[11]My benchmark specification includes province fixed effects as well as a province-specific linear time trend to capture region and cohort-specific effects that may be correlated with the error term, for instance variation across regions and over time in the supply of education.[12] Ethnicity dummies capture time-invariant characteristics of each ethnic group, controlling for different traditions and customs concerning family, marriage and inheritance. Since ethnic boundaries in Kenya are typically coterminous with political and administrative boundaries (Ferré, 2009), ethnic groups can also serve as good proxies for areas of birth. DHS data provide quite detailed information on ethnic affiliation - respondents can choose among 10 different options in earlier waves, 15 in more recent ones.[13] I estimate all my specifications by OLS and cluster standard errors at the household level.

The coefficients of interest are those on the interaction terms $\beta_1$and β_2. Coefficientβ_1 captures the difference between Muslims and non-Muslims in differences between the "post 1" period and the "pre" period; thus, it estimates the impact of the following experiment: allowing women who used

[10] ASAL comprise the poorest areas in the country, which the government has identified as needing specific attention and has occasionally targeted with specific policies. For instance, in 1971 school fees were abolished up to the 4th year of primary school in ASAL districts; this policy was extended to the rest of the country in 1973 (Ferré, 2009).

[11] It should be noted that a woman whose parents have died before the reform will not experience any increased bargaining power by changes in inheritance rules, as her potential inheritance has been already realized. Unfortunately, in my data I do not have any information on the timing of parents' death and I will necessarily consider as "treated" also women who are not affected by the reform given that their parents have already died. This should attenuate my estimates, but not invalidate my identification strategy, to the extent that the timing of parents' death is not systematically different for Muslims and non-Muslims.

[12] It is in principle also possible to control for household district of residence. Kenya, however, has almost doubled the number of districts between the first DHS wave (1989) and the last one (2008-09), making it sometimes hard to match new districts with the older, coarser definitions. My results are only marginally altered by including district fixed effects (results available upon request).

[13] In order to make ethnicity definitions comparable across DHS waves, I draw on ethnic people trees from the Joshua Project, (http://www.joshuaproject.net/joshua-project.php).

to inherit half the share of their brothers to inherit the same share - what could be we could call the "incremental" reform. Coefficient β_2 captures the difference between Muslims and non-Muslims in differences between the "post 2" period and the "pre" period; thus, it estimates the impact of the following experiment: allowing women who used to inherit a 0 share to inherit the same share as their brothers - the "full" reform. Unless there are strong non-linearities in the effects of inheritance rights, we should expect $\beta_1$and β_2 to have the same sign, and β_2 to be larger in magnitude than β_1. In practice, a complication arises in the interpretation of coefficient β_2: cohorts exposed to the "full" ($post2$) reform are in some cases so young, that the previous generation has also been exposed to the reform - specifically, to the "incremental" ($post1$) reform. Given that I typically do not know the year of birth of the mothers of respondents, I cannot exclude these young cohorts from my sample. Thus, for a number of outcomes, the coefficient β_2 will effectively capture a cumulative effect: that of being exposed to the full reform as well as the effect of having parents exposed to the incremental reform.

The main threats to identification are related to confounding trends across religious groups. In particular, I would be overestimating the effects of the reform if non-Muslim ethnic groups started doing systematically better than Muslims after the reform. In order to address these concerns. I complement my main identification strategy with a number of robustness checks, described in more detail when discussing each specific outcome. First, when sample size allows, I restrict the sample to individuals too old to be affected by the reform and estimate the effects of hypothetical "placebo reforms", typically finding precise zero effects. Second, I repropose my benchmark specification focusing on one ethnic group at a time, rather than pooling together all non-Muslim groups in a single category. There is significant heterogeneity in pre-reform outcome levels across non-Muslim ethnic groups. I show that, in spite of this heterogeneity, the reform had similar effects across different ethnic groups, regardless of how their pre-reform outcome levels ranked, relative to those observed among Muslims. Third, when available, I exploit information on the number of siblings that a woman has as a source of treatment heterogeneity. I show that the effects of obtaining inheritance rights are less pronounced when a woman has a larger number of siblings, especially brothers, which suggests that I am indeed picking up the effects of changes in a woman's potential inheritance share rather than a confounding trend.[14]

As discussed above, as per Section 32 in the Law of Succession Act, the reform did not apply to particular types of assets, if located in one of a list of "exempt" districts. Given the impossibility to identify the district in which parental assets are located, nor the nature of such assets, it is not possible to identify which individuals are unaffected by the reform due to this exemption. For this reason, information on household district together with the exemption rule cannot per se be used as an additional source of identification, and I choose to include observations from all

[14] Another possible source of confounding trends is related to differential enforcement across religious groups. Unfortunately, there is no quantitative evidence on actual enforcement. The fact that the Muslim community was strongly opposed to the reform, demanding and ultimately obtaining an exemption, could imply that enforcement of the reform was systematically more difficult among Muslims. If this is the case, the magnitude of coefficient β_1 is more difficult to interpret: intuitively, if enforcement is worse for Muslim women, the latter are exposed to a "smaller" incremental reform than Christian women, and I would be overestimating the effects of the "true" incremental reform. Differential enforcement is less of a concern for the interpretation of coefficient β_1, since in 1990 Muslims revert to the pre-1981 legislation and, presumably, enforcement standards.

districts, including exempt ones, in my benchmark specifications. However, I also report estimates for households located in exempt districts at the time of the survey, and typically find a treatment effect close to zero. Subject to the caveat discussed above, this can be cautiously interpreted as further evidence that I am indeed capturing the effects of the reform.

In the next sub-sections, I describe the construction my outcome variables from the DHS data.

Education All DHS waves include information on years of education and educational attainment of all household members, both males and females. I look both at education, measured in years, and educational attainment. I define the treatment as being between age 5 and 13 during the "post 1" or "post 2" period. I restrict my sample to individuals above age 20, to ensure they have completed their education and to avoid censoring problems. [15]Religious affiliation is only available for female respondents. As I am not always able to match males to a female relative whose religion is known, the resulting sample of males that I can use in my education specifications is significantly smaller than that of women.

DHS wave 4 also includes a siblings questionnaire, which allows me to retrieve the number of siblings of each adult female respondent. I can exploit information on the number of siblings as an additional source of variation in the intensity of the inheritance treatment. Given that respondents to DHS wave 4 are all too old to be exposed to the 1990 Amendment, in this sample I will only compare "post 1" cohorts to pre-reform ones. In order to test whether the reform differentially affects female education depending on the number of siblings, I estimate a triple differences specification:

$$\begin{aligned} y_{itrdw} &= \alpha + \delta_0 \cdot non-Muslim_i + \delta_1 \cdot siblings_i \cdot non-Muslim_i + \delta_2 \cdot siblings_i + \\ &+\delta_3 \cdot post1_t \cdot non-Muslim_i + \delta_4 \cdot post1_t \cdot siblings_i + \\ &+\delta_5 \cdot post1_t \cdot siblings_i \cdot non-Muslim_i + \\ &+e_i + \alpha_r + \eta_w + \mu_t + \varphi_r \cdot t + ASAL_d \cdot t + urban_{itrdw} + \varepsilon_{itrdw} \end{aligned} \tag{2}$$

where $siblings_i$ represents the number of siblings of respondent i. The coefficient of interest is δ_5, which captures the differential impact of the reform for those having one additional sibling.

Female Genital Mutilation DHS waves III, IV and V include a module on "female circumcision" or Female Genital Mutilation (FGM). Respondents of the core questionnaire - women between 15 and 49 - are asked whether they are themselves circumcised and, if so, their age at circumcision. The same questions are asked about their oldest daughters. I construct my sample by pooling together respondents and their oldest daughters. About 96% of women in the resulting sample are circumcised between age 2 and age 18. I thus define the treatment as being between

[15]From independence in 1964 until 1971, Kenyan children would start school at 6 and graduate from primary school at 13. There would then be 4 years of lower secondary, 2 years of upper secondary and 3 years of university - until the age of 22. In 1985 a new system was created which included 8 years of primary school , graduation from primary school at 14, followed by 4 years of secondary school until age 18, and then 4 years of university. Other relevant changes in the education system include the abolition of school fees up to the 4th year of primary school in ASAL lands in 1971 and its extension to most of the country in 1973 up to the 6th year of primary school (Ferré, 2009).

2 and 18 in a post reform period and restrict my sample to women above 18 in order to avoid censoring issues[16].

Maternal Health Drawing on the detailed birth histories provided by DHS respondents, I construct a maternal health sample, in which the unit of observation is the birth. All DHS waves collect information on the births occurred to each respondent in the previous 5 years. For each recorded birth I define two variables: "birth in hospital" is a dummy equal to 1 if delivery took place in a government, private or mission hospital; "professional prenatal care" is a dummy equal to 1 if the mother received prenatal care by a doctor, nurse or midwife.

Since the earliest DHS wave is from 1989 and the latest DHS wave is from 2008, I have information on births occurred from 1984 to 2003, namely all after the first reform period. With these data I can only compare births which occurred after the 1990 Amendment with births occurred before. Consider birth j occurring in year τ to mother i born in year t and denote with υ_τ a childbirth year fixed effect. I estimate:

$$\begin{aligned} maternal\,health_{j\tau itrdw} &= \alpha + \beta_0 \cdot non-Muslim_i + \\ &+\beta \cdot post2_\tau \cdot non-Muslim_i + \\ &+motherage_i + motherage_i^2 + birth\ order_j + \\ &+e_i + \alpha_r + \eta_w + \mu_t + \upsilon_\tau + \varphi_r \cdot t + ASAL_d \cdot t + urban_{itrdw} + \varepsilon_{itrdw} \end{aligned} \tag{3}$$

where $post2_\tau$ is a dummy equal to 1 if the delivery took place after 1990. The interpretation of coefficient β in this specification is similar to that of coefficient β_1 in previous specifications: it captures the impact of the "incremental" reform.

Nuptiality and Fertility Timing All DHS waves report the year of marriage of each respondent as well as the year of birth of each of her children. For each woman in the sample I define dummy variables for whether the respondent was married or had become a mother by a given age threshold. I define the treatment as "being of marriageable age in a post reform period". Given the distribution of ages at first marriage in my sample, I consider a broad definition of "marriageable age" as between 12 and 22 years of age. I restrict my sample to women above age 22, in order to avoid censoring issues, and drop women who have been in more than one union, as it is not clear whether the reported year of marriage refers to their first union.

Decision Making, Violence and Attitudes Self-reported measures of decision making ability, domestic violence and attitudes can be constructed drawing on the module on gender, available for DHS waves IV and V. This module includes questions on who takes decisions in the family on specific issues, on whether the respondent was ever hurt by a family member and on the respondents' attitudes towards wife beating and refusing sex with one's husband . The reference sample in this case comprises all women in DHS waves IV and V above 22 years of age and with

[16] I attribute to daughters the same religion, province and ethnicity as their mothers.

only one union. In order to cope with the large number of outcomes and the power issues induced by small sample size, I also report summary indicators for husband quality as well as for women's decision making ability, following the procedure outlined in Kling, Liebman and Katz (2007).

6 Empirical Results

In this Section, I present results on the impact of the reform on human capital, focusing on education and health. The bulk of my empirical analyses concerns the reform's impact on completed education, as this is an outcome that I can observe directly in the DHS data across all waves. Moreover, the conceptual framework outlined in Section 4 suggests that education could be affected by the reform both through a bargaining power channel and through an "optimal bequest" channel, with education being viewed by parents as a complement or a substitute to inheriting physical assets.

I then consider outcomes related to health. As discussed in Section 4, one of the limitations in my data is the inability to observe outcomes before and after the reform. This constrains me to examine only a limited set of outcomes related to health, all of which reflect past healthcare decisions. Specifically, I consider Female Genital Mutilation (FGM) and maternal health-seeking behavior. I argue that both could be affected by improved female bargaining power after the reform, although they reflect decisions taken by different agents within the household: FGM takes place mostly during childhood and teenage, and as such reflects mostly parental choices; seeking professional prenatal care is likely to reflect choices taken by adult women negotiating with their spouses. It is plausible that these outcomes would be affected primarily through a bargaining power channel, rather than an "optimal bequest" one, as there is limited scope for complementarities with physical assets. [17]

Total fertility is another outcome that the reform is likely to affect, both through a bargaining power channel, with family size plausibly getting closer to the preferences of wives, and through an optimal bequest channel, if parents want to avoid fragmentation in family property. Data limitations discussed in Section 6.4 prevent me from observing total fertility, and I consider age at marriage and fertility onset as an imperfect proxy.

Finally, in the attempt to pin down the bargaining power channel with more confidence, I provide some suggestive evidence on household bargaining power, drawing upon from self-reported survey questions on decision making and attitudes.

6.1 Education

[Insert Tables 2 and 3a]

Summary statistics from my main education sample are reported in Table 2. The average number of years of education is around 6, with a one year approximate gap across religious groups. That

[17] As FGM is considered a valuable trait - if not a prerequisite - for a bride, it could be viewed as a substitute for physical assets on the marriage market. This interpretation is related to the marriage market channel discussed in footnote 8. While this interaction is an interesting one, unfortunately my setting does not allow me to test this hypothesis directly as marriages occurr within religious groups, and my identification strategy relies on comparing across religions.

Muslims have been lagging behind in education is a well-known fact, which has sometimes been blamed on discriminatory practices in missionary schools (Oded, 2000). Columns (1) and (2) of Table 3a report my benchmark specifications for number of years of education, separately estimated for males and females. The coefficient on the "post 1" interaction is positive and significant for females, negative and insignificant for males. As expected, the coefficient on the "post 2" interaction has the same sign and is larger in magnitude, becoming significant also for males. According to these estimates, females receive roughly one more year of education following the "full" reform - going from a zero share to the same share as their brothers - whereas males receive roughly one and a half less year of education. This sizable reduction of the gender education gap suggests that parents substitute the education of males for that of females, in a way which is compatible both with a bargaining power channel and with an "optimal bequest" one. Columns (3) to (6) replicate the analysis for two alternative dependent variables related to educational attainment: a dummy for whether an individual has completed primary and secondary school respectively. The estimates confirm the pattern of columns (1) and (2) and are highly significant for females, slightly noisier for males. A girl exposed to the first reform ("post 1") is roughly 8 percentage points more likely to complete primary school, and a similar figure holds for completing secondary school.

[Insert Table 3b]

Table 3b reports a number of robustness and falsification checks. First, restricting my sample to exempt districts, I find insignificant effects for both males and females (cols. (1) and (2)); the coefficient for females, in particular, is significantly reduced in magnitude. This should, however, be interpreted with caution, given the small sample size and the large standard errors. Columns (3) to (6) show that the estimates in Table 3a are robust to a different, coarser treatment definition - being of age 5 to 18 during a "post" period, i.e. being exposed by high-school age - and to the inclusion of a household-level wealth index. While I view this as an endogenous control, it is reassuring to note that the estimated effect of the reform is minimally affected by controlling for wealth. In columns (7) and (8), I restrict the sample to individuals older than 18 in 1981 and thus unaffected by the reform. I then estimate the impact of a "placebo" reform, where the treatment is defined as being born after 1955. I find precisely estimated zero effects, which supports the "parallel trends" identifying assumption that my identification strategy relies on.

Overall, these estimates suggest a sizable improvement in the education of girls whose schooling decisions were made in the post-reform period, to the expense of boys. These results are in line with those of Goyal et al. (2013) and Roy (2015), who also find an increase in girls' education following improved inheritance rights with the Hindu Succession Act. On the other hand, my results contrast with those of La Ferrara and Milazzo (2014), who find that the education of boys decreases as their inheritance rights improve. In terms of absolute magnitudes, my estimated effect - up to one and a half year difference - is similar to the effects found in the above mentioned studies.

[Insert Tables 4 and 5]

In the analysis conducted so far, I have compared Muslims with all non-Muslim ethnic groups pooled together. This masks significant heterogeneity across non-Muslim ethnic groups in pre-

reform education levels, as highlighted by Table 4. While Muslims are initially less educated than non-Muslims considered as a group, there are individual non-Muslim ethnic groups for which the gap is more pronounced. In Table 5, I disaggregate the non-Muslim sample by ethnicity - following the 1989 DHS definition - and estimate my benchmark specification (from Table 3a) considering one non-Muslim ethnic group at a time, when sample size allows. It is interesting to note that my results still hold for virtually all the sub-samples, both in terms of significance and magnitude. This suggests that I am not capturing some religion-specific trend between the Muslim minority and the non-Muslim majority.

[Insert Table 6]

In Tables 6a and 6b I exploit sibling composition as a source of variation in treatment intensity.[18] We should expect a smaller inheritance effect, in absolute terms, for women with a larger number of siblings. Recall that the siblings sub-sample is drawn from DHS wave 4 only, consists only of females and does not include cohorts of the "post 2" period. Summary statistics are reported in Appendix Table A1 and show no large differences in the average number of siblings of Muslims and non-Muslims. Column (1) in Table 6a reports my benchmark years of education regression - similar to column (1) in Table 3a - as estimated in the smaller siblings sub-sample. The main qualitative result - that the reform increases the education of females - is replicated in this smaller sample. Before turning to the triple differences specification of equation (2), it is interesting to analyze split samples individually. Column (2) includes only cohorts not affected by the reform, and reports estimates from a difference-in-differences specification comparing Muslims and non-Muslims with different numbers of siblings. The coefficients indicate that a high number of siblings is associated to lower education levels for girls (-0.155) , but less so for non-Muslims (0.262): this is expected, since the pre-reform regime grants no inheritance rights to non-Muslim females, regardless on the number of siblings. Column (3) considers only non-Muslims, and compares females of pre- and post- cohorts with different number of siblings. The interaction coefficient -0.176 shows that the positive reform effect is attenuated for females with a high number of siblings. Results are noisier - arguably due to small sample size - on column (4), which considers Muslims only. The full triple differences specification is reported in column (5). The triple interaction coefficient is negative and highly significant, indicating that a higher number of siblings reduces the reform impact of roughly one fourth of a year of education for each additional sibling. Table 6b reports similar specifications considering separately brothers and sisters. The attenuating effect of having a large number of siblings seems larger in absolute terms in the case of brothers. This is consistent with the fact that, in spite of formal equal inheritance rights, males still tend to be favored in practice in inheritance matters.

6.2 Female Genital Mutilation

[Insert Tables 7 and 8]

[18] Unfortunately, this strategy is only possible when examining education as an outcome variable due to sample size limitations: only one DHS wave contains sibling information, and only education is available for a sufficient number of respondents, across a sufficient number of cohorts.

Female Genital Mutilation, officially deemed illegal in Kenya in 2011 (IFHRO, 2011), is widespread among women in my sample, and practiced across ethnicities and religious groups. Summary statistics for the FGM sample are reported in Table 7a. FGM appears to be equally prevalent in the Muslim as well as non-Muslim community, but aggregate figures mask significant differences across ethnicities, highlighted in Table 7b. Table 8 shows that both the incremental and the full reform are associated with a highly significant decrease in the probability of mutilation, by as much as 8 percentage points in the "post 1" period and 18 percentage points in the "post 2" period, according to the specification in column (1). While I am not aware of any other estimate that I can directly compare this figure to, this does seem large, as it is more than twice the size of the impact of the urban residence dummy. These estimates remain virtually unchanged when I add household level controls, including a wealth index (column (2)). When restricting my sample to exempt districts, I obtain a precisely estimated 0 effect (column (3)). Analogously, a precise 0 effect is found when restricting the sample to unaffected cohorts and estimating a placebo treatment (column (4)). As FGM arguably reflect choices made by parents during teenage and childhood, the most natural interpretation of these findings is as evidence of improved bargaining power of mothers following the reform, which translates into better health outcomes for their daughters.

[Insert Table 9]

Table 9 reports the specification in Table 8, column (1), considering one ethnic group at a time. This exercise is particularly useful for this outcome variable because of the significant heterogeneity in pre-reform FGM prevalence across ethnic groups. Table 9 shows that the result in Table 8 is mostly driven by the Kamba, Kikuyu and Meru groups, which all have a pre-reform FGM prevalence between 50 and 70% (Table 7b). Not surprisingly, no significant impact is detected when focusing on the Luhya and Luo groups, among which FGM was virtually never practiced (pre-reform prevalence is around 1%). Similarly, no significant impact is found when looking at the Kalenjin and Kisii, which are the groups where FGM was almost universally practiced (84% and 98% prevalence respectively). A plausible interpretation is that the inheritance reform reduced FGM rates only in contexts in which this practice was not universal to start with, but was not able to induce significant behavioral changes in groups in which FGM was very deep-rooted.

6.3 Maternal Health

[Insert Tables 10 and 11]

I next turn to an adult female health outcome: whether a woman received professional medical assistance during pregnancy and labor. In my maternal health sub-sample, the unit of observation is the birth. The estimated specification includes fixed effects for the year of the birth itself, and also for the year of birth of the mother. Therefore, it does not simply capture whether different cohorts of women have different practices concerning pregnancy and delivery, but also whether the same cohort of women behaves differently during pregnancies which occurred before or after the reform. Summary statistics for this sample are reported in Table 10. Professional prenatal care and hospital births appear to be slightly less prevalent among Muslims. Table 11 shows that women

adopt safer antenatal and birth practices for births occurring after the reform: for women of a given cohort, births which occurred after the full reform are roughly 7 percentage points more likely to take place in a hospital and to be preceded by professional antenatal care. These results are only minimally attenuated by the inclusion of controls (cols. (2),(4)). Moreover, the reform is estimated to have a precise zero effect in exempt districts (col. (5)).[19]

6.4 Nuptiality and Fertility Timing

[Insert Tables 12 and 13]

Changes in inheritance rules are likely to affect total fertility. First, the bargaining power channel suggests that post-reform fertility choices will be tilted towards women's preferences - typically involving a smaller number of children at the optimum. In fact, Sen (2001) argues that women's empowerment, including property rights, is a key instrument for reducing fertility rates. Secondly, as parents take the reform into account in their fertility decisions, they could reduce their target fertility in order prevent the fragmentation of family assets. For instance, it has been frequently argued that the French birth rate dropped very rapidly in the 19th century following the Napoleonic change in the inheritance laws, from primogeniture to equal division of estates amongst all children (Garner, 1914). Unfortunately, data limitations do not allow me to observe total fertility, given that cohorts of women exposed to the reform have typically not completed their fertility at the time of the survey. However, I can examine fertility onset and investigate whether there have been shifts in the timing of entry into motherhood and marriage.

Table 12 presents summary statistics for the nuptiality and fertility sample. The timing of childbearing and marriage seems to be overall similar for Muslims and non-Muslims, with around 50% of women in the sample entering motherhood before age 20. Table 13a shows that women exposed to the incremental as well as the full reform are less likely to get married before they are 18 and 20, with orders of magnitudes ranging from a 7 to a 17 percentage point decrease. A similar pattern is displayed by nuptiality dependent variable. This is not surprising since age at first birth and age at first marriage are highly correlated. Since the definition of treatment period for these outcomes ("being of marriageable age") overlaps substantially with the definition of treatment in the education sample ("being 5-18"), there is a concern that the coefficients in Table 13a may be purely driven by the mechanical effect of girls staying in school longer as a consequence of the reform, rather than a direct effect of inheritance rights on fertility and nuptiality decisions. My results, however, survive the inclusion of a variety of controls, among which wealth and education (Table 13b, columns (1),(3),(5),(7)). A placebo treatment administered to unexposed cohorts yields insignificant - although not very precise - results (Table 13b, columns (2), (4), (6), (8)). Overall, these results are suggestive that women exposed to the reform tend to postpone marriage and childbirth. While this could reflect a mere shift in timing, it seems plausible that it would also translate into a lower total fertility rate.

[19] Unfortunately the maternal health sample does not have enough pre-reform years to perform a meaningful falsification test using "placebo" reforms.

6.5 Other Outcomes: Decision Making, Violence, Attitudes

The results discussed so far are consistent with the reform having a bargaining power effect but also possibly an investment effect, with parents complementing physical capital with human capital in their optimal bequests. While it is, in general, difficult to disentangle these two effects, some suggestive evidence on bargaining power can be provided by considering self-reported measures of decision making ability and attitudes from the DHS gender module. If the reform increases women's bargaining power, one expects that couples formed after the reform should be characterized by a more balanced decision making process, and attitudes more favorable to women.

Results are provided in Appendix tables A3 to A6, while summary statistics are in table A2. Treatment status is defined as being of marriageable age - defined broadly - during one of the reform periods. This is to avoid endogeneity in the timing of marriage, which is affected by the reform, as documented in Section 6.4. I report both individual outcome variables - drawn from specific DHS questions - and, in the last column, a summary measure, coded such that higher values represent positive outcomes for women (e.g. more decision making power, or lower domestic violence). Table 3A shows that women exposed to the reform during their marriageable age are significantly less likely to report that their husbands have the final say on a variety of household decisions - from large purchases to the wife's health. Spousal and domestic violence (Tables A4 and A5) appear to be less prevalent in couples formed after the reform, although estimates are generally noisy and the summary measures are insignificant. Finally, Table A6 shows a slight shift in women's self reported attitudes towards refusing sex with their husbands, showing that after the reform women are more likely to consider it "justified". While small sample size and concerns related to self-reporting should make us cautious in interpreting these estimates, these results support the interpretation that the reform had a direct bargaining power effect, consistent with the findings of Heath and Tan (2015) and Mokerjee (2015) in the Indian context.

7 Conclusions

In this paper I attempt to quantify the impact of an inheritance law reform granting women equal inheritance rights, in the context of Kenya. I exploit variation in inheritance rights across religious groups and cohorts to assess how improved statutory inheritance rights affected a variety of human capital outcomes. I start by considering education of boys and girls and I compare cohorts who were of school going age before and after the reform. I find that the education of girls improves in absolute terms and relative to that of boys. These effects are attenuated if a woman has a large number of siblings, which supports the interpretation that I am indeed capturing the effects of the inheritance regime change. This is consistent with the reform having a bargaining power effect, but may also reflect an investment channel, with parents complementing physical capital with human capital in their "optimal bequest" choice. I then consider two female health-related outcomes: Female Genital Mutilation (FGM) and maternal health, proxied by medical assistance during pregnancy and labor. I find a significant decrease in the probability of being mutilated for girls who were children or teenagers after the reform, mostly in ethnic groups where FGM is not

universal to start with. I finally turn to outcomes related to marriage, finding that women who are of marriageable age after the reform tend to postpone marriage and fertility, suggesting that total fertility rates may be lower, and report having more decision making power within the household.

Overall, my results provide a quite coherent picture of a general improvement in women's status, health and education. These results are all consistent with a bargaining power effect, although these improvements can also reflect changes in the mix of human and physical capital that parents bequeath to their children in the post-reform inheritance regime. Given that the reform makes both parents and children become "treated" at the same time, an inherent limitation of my identification strategy is that it is not entirely possible to disentangle these two channels. However, the finding that women participate more in household decision making in unions formed after the reform are suggestive that women's bargaining power is indeed enhanced. Overall, these findings suggest that legal reform at the statutory level can have an impact even in a context of poor legal enforcement and in spite of the persistence of deep-rooted social norms. As many Sub-Saharan African countries are undergoing pro-woman reform or drafting new constitutions, these results indicate that formal legislation can be an important starting point even in contexts in which customs are perceived to be very hard to change.

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Table 1: Inheritance Regimes

	parental assets inherited by daughters / parental assets inherited by sons		
	pre	*post 1*	*post 2*
	pre 1981	1981-1990	post 1990
Muslims	0.5	1	0.5
non-Muslims	0	1	1

Table 2a: Summary Statistics, Education Sample, Females

	Total			Muslims			Non-Muslims		
	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.
Muslim	32885	0.069	0.253	2268	1	0	30617	0	0
Urban	32885	0.245	0.430	2268	0.513	0.500	30617	0.226	0.418
Birth year	32885	1963	13.805	2268	1964	14.219	30617	1963	13.768
Age	32885	35.771	12.629	2268	36.108	12.969	30617	35.746	12.603
Wealth Index (1 to 5)	26513	3.226	1.426	1950	3.362	1.556	24563	3.215	1.414
Years of education	32885	5.951	4.519	2268	4.063	4.523	30617	6.091	4.487
Completed primary school	32885	0.454	0.498	2268	0.301	0.459	30617	0.465	0.499
Completed secondary school	32885	0.139	0.346	2268	0.086	0.280	30617	0.143	0.350

Table 2b: Summary Statistics, Education Sample, Males

	Total			Muslims			Non-Muslims		
	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.
Muslim	23581	0.069	0.253	1624	1	0	21957	0	0
Urban	23581	0.266	0.442	1624	0.556	0.497	21957	0.245	0.430
Birth year	23581	1961	15.283	1624	1962	15.333	21957	1961	15.277
Age	23581	38.764	13.826	1624	39.275	14.377	21957	38.726	13.784
Wealth Index (1 to 5)	21831	3.312	1.432	1523	3.491	1.546	20308	3.298	1.422
Years of education	23581	7.625	4.376	1624	6.371	4.836	21957	7.718	4.326
Completed primary school	23581	0.640	0.480	1624	0.538	0.499	21957	0.647	0.478
Completed secondary school	23581	0.245	0.430	1624	0.192	0.394	21957	0.248	0.432

All DHS waves; individuals above 20 years of age.

Table 3a : Education

Dependent variable	*Years of education*		*Completed primary school*		*Completed secondary school*	
	(1)	(2)	(3)	(4)	(5)	(6)
	females	males	females	males	females	males
aged 5-13 in post 1 * non-Muslim	0.381**	-0.214	0.088***	-0.011	0.080***	0.012
	(0.187)	(0.242)	(0.021)	(0.026)	(0.014)	(0.022)
aged 5-13 in post 2 * non-Muslim	1.054**	-1.590**	0.195***	-0.138**	0.155***	-0.167**
	(0.485)	(0.622)	(0.056)	(0.070)	(0.036)	(0.079)
non-Muslim	0.792***	1.124***	0.060***	0.081***	0.0521***	0.101***
	(0.132)	(0.174)	(0.014)	(0.019)	(0.00898)	(0.014)
urban	2.293***	2.182***	0.226***	0.180***	0.162***	0.199***
	(0.071)	(0.082)	(0.008)	(0.009)	(0.007)	(0.009)
Observations	32,885	23,581	32,885	23,581	32,885	23,581
R-squared	0.415	0.314	0.275	0.215	0.215	0.208

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. All DHS waves; individuals above 20 years of age.

Table 3b: Education, Robustness

Dependent variable: years of education								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	exempt districts							
	females	males	females	males	females	males	females	males
aged 5-13 in post 1 * non-Muslim	0.102	-1.531						
	(0.594)	(0.876)						
aged 5-13 in post 2 * non-Muslim	0.612	0.903						
	(1.167)	(1.612)						
aged 5-18 in post 1 * non-Muslim			0.349*	-0.185	0.389**	-0.236		
			(0.180)	(0.236)	(0.195)	(0.241)		
aged 5-18 in post 2 * non-Muslim			1.085**	-1.600**	0.795*	-1.747***		
			(0.489)	(0.630)	(0.466)	(0.592)		
placebo: born after 1955 * non-Muslim							0.034	0.056
							(0.307)	(0.397)
non-Muslim	1.001	1.635**	0.757***	1.136***	0.859***	1.197***	1.187***	1.115***
	(0.664)	(0.723)	(0.143)	(0.193)	(0.164)	(0.199)	(0.205)	(0.256)
urban	1.133**	0.933	2.296***	2.181***	0.431***	0.477***	2.820***	2.594***
	(0.448)	(0.617)	-0.071	-0.082	-0.08	-0.089	(0.165)	(0.151)
wealth_index					1.104***	1.031***		
					(0.0198)	(0.0232)		
Observations	1,253	1,025	32,885	23,581	26,513	21,831	9,924	9,480
R-squared	0.445	0.397	0.415	0.314	0.495	0.376	0.350	0.326

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. All DHS waves; individuals above 20 years of age. Column (8): individuals older than 18 in 1981.

Table 4: Pre-reform Average Years of Education

Ethnicity	females	males
Kalenjin	2.5	4.8
Kamba	3.2	6.1
Kikuyu	5.1	7.6
Kisii	3.5	6.7
Luhya	4.2	7.1
Luo	3.5	6.7
Meru/Embu	3.5	5.9
Mijikenda/Swahili	1.3	4.3
other	3.5	5.6
Total non-Muslims	3.6	6.4
Total Muslims	2.2	4.8

All DHS waves; individuals above 20 years of age, born before 1962.

Table 5: Education across Ethnic Groups

Dependent variable: years of education

	Kalenjin		Kamba		Kikuyu		Kisii	
	females	males	females	males	females	males	females	males
aged 5-13 in post 1 * non-Muslim	1.407***	0.137	1.167***	-1.024	0.381	-0.830	0.988**	-0.592
	(0.344)	(0.772)	(0.300)	(0.656)	(0.298)	(0.629)	(0.400)	(0.820)
aged 5-13 in post 2 * non-Muslim	2.445***	-2.474	2.335***	-2.001	1.672***	-2.416	1.312*	-1.773
	(0.760)	(1.864)	(0.676)	(1.423)	(0.594)	(1.482)	(0.792)	(1.823)
non-Muslim	-1.272	-6.563***	0.113	2.979***	0.660	0.949	-1.322	-0.783
	(1.018)	(0.884)	(0.461)	(1.114)	(0.479)	(0.692)	(1.791)	(1.147)
urban	2.219***	2.212***	1.742***	2.193***	1.886***	2.322***	2.343***	2.923***
	(0.189)	(0.451)	(0.171)	(0.388)	(0.123)	(0.294)	(0.177)	(0.388)
Observations	4,829	1,305	4,564	1,079	7,816	1,721	3,627	841
R-squared	0.319	0.268	0.364	0.323	0.382	0.332	0.375	0.333

	Luhya		Luo		Meru		Mijikenda/Swahili	
	females	males	females	males	females	males	females	males
aged 5-13 in post 1 * non-Muslim	0.727**	-1.052*	1.022***	-0.382	0.853**	-1.314	0.0423	-0.114
	(0.303)	(0.633)	(0.304)	(0.651)	(0.366)	(0.841)	(0.311)	(0.715)
aged 5-13 in post 2 * non-Muslim	1.429**	-2.069	1.917***	-2.549*	1.683**	-2.569	-0.763	-4.446**
	(0.613)	(1.506)	(0.603)	(1.537)	(0.824)	(2.150)	(0.929)	(2.082)
non-Muslim	0.501	0.130	-0.692	-1.258	2.931***	2.080	0.183	0.597
	(0.367)	(0.571)	(0.910)	(0.812)	(0.666)	(1.548)	(0.226)	(0.583)
urban	2.127***	2.230***	2.208***	2.421***	2.085***	2.419***	2.506***	2.065***
	(0.134)	(0.286)	(0.135)	(0.280)	(0.186)	(0.435)	(0.203)	(0.459)
Observations	5,980	1,454	5,338	1,268	3,551	878	2,975	634
R-squared	0.296	0.246	0.354	0.314	0.348	0.325	0.307	0.348

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. All DHS waves; individuals above 20 years of age.

Table 6a: Education and Sibling Number

Dependent variable: years of education

	(1) benchmark	(2) pre	(3) non-Muslim	(4) Muslims	(5) DDD
non-Muslim	-0.446***	-0.389***			-0.974***
	(0.157)	(0.123)			(0.151)
nr siblings		-0.155***	0.089***	0.027	-0.157***
		(0.046)	(0.027)	(0.086)	(0.046)
non-Muslim * nr siblings		0.262***			0.266***
		(0.042)			(0.042)
aged 5-13 in post 1 * non-Muslim	2.276***				2.775***
	(0.281)				(0.579)
aged 5-13 in post 1 * nr siblings			-0.176***	-0.109	0.053
			(0.033)	(0.118)	(0.093)
aged 5-13 in post 1 * non-Muslim * nr siblings					-0.251***
					(0.093)
urban	1.313***	0.890***	1.267***	1.378***	1.318***
	(0.081)	(0.086)	(0.085)	(0.243)	(0.080)
Observations	13,301	8,489	12,247	1,054	13,301
R-squared	0.660	0.667	0.675	0.470	0.663

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, province, and birth year fixed effects; province * time trend, ASAL * time trend. DHS wave 4; females above 20 years of age.

Table 6b: Education and Sibling Number

Dependent variable: years of education

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	brothers				sisters			
	pre	non-Muslim	Muslims	DDD	pre	non-Muslim	Muslims	DDD
non-Muslim	-0.285**			-0.864***	-0.303**			-0.887***
	(0.130)			(0.155)	(0.124)			(0.152)
nr siblings	-0.312***	0.079**	-0.032	-0.316***	-0.295***	0.114***	0.099	-0.302***
	(0.081)	(0.039)	(0.135)	(0.079)	(0.087)	(0.037)	(0.136)	(0.086)
non-Muslim * nr siblings	0.421***			0.428***	0.438***			0.447***
	(0.079)			(0.077)	(0.084)			(0.083)
aged 5-13 in post 1 * non-Muslim				2.797***				2.569***
				(0.474)				(0.450)
aged 5-13 in post 1 * nr siblings		-0.173***	-0.004	0.240*		-0.207***	-0.255	0.140
		(0.047)	(0.176)	(0.136)		(0.046)	(0.179)	(0.147)
aged 5-13 in post 1 * non-Muslim * nr siblings				-0.449***				-0.380***
				(0.137)				(0.147)
urban	0.891***	1.270***	1.388***	1.323***	0.872***	1.267***	1.392***	1.314***
	(0.087)	(0.086)	(0.242)	(0.081)	(0.086)	(0.085)	(0.243)	(0.080)
Observations	8,489	12,247	1,054	13,301	8,489	12,247	1,054	13,301
R-squared	0.666	0.674	0.469	0.662	0.666	0.674	0.471	0.662

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, province, and birth year fixed effects; province * time trend, ASAL * time trend. DHS wave 4; females above 20 years of age.

Table 7A: Summary Statistics, FGM Sample

	Total			Muslims			Non-Muslims		
	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.
Muslim	18354	0.075	0.264	1378	1	0	16976	0	0
Urban	18354	0.297	0.457	1378	0.536	0.499	16976	0.277	0.448
Birth year	18354	1972	9.452	1378	1974	9.295	16976	1972	9.457
Age	18354	30.647	8.447	1378	30.205	8.170	16976	30.683	8.468
Wealth Index (1 to 5)	18354	3.313	1.439	1378	3.391	1.570	16976	3.306	1.428
Age of household head	18354	41.370	12.728	1378	42.242	13.626	16976	41.300	12.650
Number of household members	18354	5.333	2.621	1378	5.800	3.120	16976	5.295	2.573
Male-headed household	18354	0.659	0.474	1378	0.628	0.483	16976	0.661	0.473
Circumcised	18354	0.325	0.468	1378	0.316	0.465	16976	0.326	0.469

DHS waves III, IV and V; females above 18 years of age.

Table 7B : Pre-reform FGM Prevalence

Ethnicity	
Kalenjin	83.9
Kamba	55.2
Kikuyu	59.4
Kisii	97.5
Luhya	1.3
Luo	1.4
Meru/Embu	72.4
other	63.9
Total non-Muslims	47.13
Total Muslims	28.95

Percentage points; DHS waves III, IV and V; females above 18 years of age, born before 1963.

Table 8: Female Genital Mutilation

Dependent variable: 1 if woman underwent FGM				
	(1)	(2)	(3)	(4)
	all districts	all districts	exempt districts	placebo
aged 2-18 post 1 * non-Muslim	-0.087***	-0.086**	-0.007	
	(0.033)	(0.033)	(0.066)	
aged 2-18 post 2 * non-Muslim	-0.187***	-0.187***	-0.074	
	(0.058)	(0.058)	(0.122)	
placebo: born post 1955 * non-Muslim				0.024
				(0.077)
non-Muslim	-0.057*	-0.062*	-0.269***	-0.173**
	(0.032)	(0.032)	(0.075)	(0.067)
urban	-0.062***	-0.067***	-0.008	-0.043*
	(0.007)	(0.007)	(0.038)	(0.022)
household head age		-0.002***		
		(0.000)		
household size		0.003**		
		(0.001)		
male-headed household		0.008		
		(0.006)		
Observations	18,354	18,354	939	3,181
R-squared	0.436	0.438	0.675	0.528

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. DHS waves III, IV and V; females above 18 years of age. Column (4): females older than 18 in 1981.

Table 9: FGM across Ethnic Groups

Dependent variable: 1 if woman underwent FGM							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Kalenjin	Kamba	Kikuyu	Kisii	Luhya	Luo	Meru
aged 2-18 post 1 * non-Muslim	0.046	-0.204***	-0.056	0.020	0.029	0.023	-0.113*
	(0.051)	(0.052)	(0.047)	(0.046)	(0.033)	(0.035)	(0.059)
aged 2-18 post 2 * non-Muslim	0.119	-0.190**	-0.198***	0.080	0.058	0.017	-0.376***
	(0.108)	(0.093)	(0.067)	(0.085)	(0.052)	(0.057)	(0.103)
non-Muslim	0.178	0.211***	-0.107	0.063	-0.022	-0.033	-0.068
	(0.141)	(0.077)	(0.110)	(0.211)	(0.029)	(0.033)	(0.113)
urban	-0.070***	-0.051**	-0.100***	-0.064***	-0.028***	-0.039***	-0.091***
	(0.023)	(0.020)	(0.016)	(0.015)	(0.010)	(0.011)	(0.021)
Observations	3,336	3,192	5,271	2,608	4,108	3,564	2,616
R-squared	0.370	0.336	0.238	0.704	0.591	0.599	0.354

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared, ethnicity; DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. DHS waves III, IV and V; females above 18 years of age.

Table 10: Summary Statistics, Maternal Health Sample

	Total			Muslims			Non-Muslims		
	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.
Muslim	28197	0.101	0.301	2851	1	0	25346	0	0
Urban	28197	0.201	0.401	2851	0.330	0.470	25346	0.187	0.390
Childbirth year	28197	1996	7.578	2851	2000	6.612	25346	1995	7.484
Mother age at delivery	28197	25.911	6.584	2851	25.572	6.487	25346	25.950	6.593
Wealth Index (1 to 5)	20483	2.840	1.461	2550	2.453	1.589	17933	2.895	1.434
Twin birth	28197	0.030	0.172	2851	0.034	0.180	25346	0.030	0.171
Professional prenatal care	24321	0.803	0.398	2003	0.737	0.440	22318	0.809	0.393
Birth in hospital	28197	0.311	0.463	2851	0.213	0.409	25346	0.322	0.467

All DHS waves; births occurred between 1984 and 2003.

Table 11: Maternal Health

	(1)	(2)	(3)	(4)	(5)
	Professional prenatal care	Professional prenatal care	Birth in hospital	Birth in hospital	Birth in hospital
	all districts	all districts	all districts	all districts	exempt districts
birth post 1990 * non-Muslim	0.073**	0.071**	0.074**	0.074**	-0.017
	(0.029)	(0.029)	(0.030)	(0.030)	(0.175)
non-Muslim	-0.078***	-0.079***	-0.067**	-0.071**	0.047
	(0.028)	(0.028)	(0.028)	(0.028)	(0.193)
urban	0.109***	0.093***	0.268***	0.237***	0.364***
	(0.008)	(0.008)	(0.010)	(0.010)	(0.055)
mother age		0.016***		0.009***	0.010
		(0.003)		(0.003)	(0.010)
mother age squared		-0.000***		-0.000	-0.000
		(0.000)		(0.000)	(0.000)
birth order		-0.017***		-0.038***	-0.016**
		(0.002)		(0.002)	(0.007)
twin		0.068***		0.125***	0.169
		(0.020)		(0.021)	(0.104)
female child		-0.009**		-0.016***	0.005
		(0.004)		(0.005)	(0.019)
Observations	23,770	23,770	27,174	27,174	1,364
R-squared	0.283	0.290	0.224	0.241	0.245

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: ethnicity, DHS wave, province, respondent year of birth, and childbirth year fixed effects; province * time trend, ASAL * time trend. All DHS waves; births occurred between 1984 and 2003.

Table 12: Summary Statistics, Nuptiality and Fertility Sample

	Total			Muslims			Non-Muslims		
	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.
Muslim	23427	0.057	0.232	1336	1	0	22091	0	0
Urban	23427	0.252	0.434	1336	0.522	0.500	22091	0.235	0.424
Birth year	23427	1965	9.985	1336	1968	9.876	22091	1965	9.965
Age	23427	33.210	7.458	1336	32.313	7.180	22091	33.265	7.471
Married by age 15	23427	0.106	0.308	1336	0.172	0.378	22091	0.102	0.303
Married by age 18	23427	0.350	0.477	1336	0.430	0.495	22091	0.346	0.476
Married by age 20	23427	0.551	0.497	1336	0.618	0.486	22091	0.547	0.498
Mother by age 15	23427	0.067	0.250	1336	0.083	0.276	22091	0.066	0.248
Mother by age 18	23427	0.310	0.462	1336	0.324	0.468	22091	0.309	0.462
Mother by age 20	23427	0.544	0.498	1336	0.513	0.500	22091	0.546	0.498

All DHS waves; females above 22 years of age with only one union.

Table 13a: Nuptiality and Fertility Timing

	(1)	(2)	(3)	(4)	(5)	(6)
	married by age 15	mother by age 15	married by age 18	mother by age 18	married by age 20	mother by age 20
marriageable age post 1 * non-Muslim	0.015	-0.002	-0.078**	-0.065*	-0.110***	-0.109***
	(0.032)	(0.023)	(0.038)	(0.036)	(0.037)	(0.038)
marriageable age post 2 * non-Muslim	0.027	-0.012	-0.130**	-0.089*	-0.171***	-0.183***
	(0.038)	(0.030)	(0.051)	(0.048)	(0.049)	(0.051)
non-Muslim	-0.043	-0.009	0.002	-0.001	0.016	0.033
	(0.029)	(0.022)	(0.034)	(0.033)	(0.033)	(0.034)
urban	-0.033***	-0.017***	-0.129***	-0.094***	-0.171***	-0.155***
	(0.006)	(0.005)	(0.009)	(0.009)	(0.010)	(0.010)
Observations	23,427	23,427	23,427	23,427	23,427	23,427
R-squared	0.064	0.022	0.117	0.059	0.116	0.074

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. All DHS waves; females above 22 years of age with only one union.

Table 13b : Nuptiality and Fertility Timing, Robustness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	married by age 18		mother by age 18		married by age 20		mother by age 20	
marriageable age post 1 *								
non-Muslim	-0.090*		-0.087**		-0.108**		-0.141***	
	(0.046)		(0.044)		(0.046)		(0.046)	
marriageable age post 2 *								
non-Muslim	-0.153***		-0.118**		-0.183***		-0.223***	
	(0.055)		(0.054)		(0.055)		(0.056)	
placebo:								
marriageable age post 1960 *								
non-Muslim		-0.086		-0.070		0.054		-0.019
		(0.098)		(0.088)		(0.089)		(0.094)
non-Muslim	0.063	0.043	0.048	0.050	0.067	-0.059	0.108**	0.029
	(0.043)	(0.092)	(0.042)	(0.079)	(0.043)	(0.082)	(0.043)	(0.086)
urban	-0.005	-0.143***	-0.006*	-0.098***	-0.010***	-0.167***	-0.007**	-0.124***
	(0.003)	(0.023)	(0.003)	(0.022)	(0.003)	(0.023)	(0.003)	(0.024)
wealth index	-0.038***		-0.031***		-0.040***		-0.039***	
	(0.001)		(0.001)		(0.001)		(0.001)	
years of education	-0.016		-0.002		-0.053***		-0.048***	
	(0.011)		(0.011)		(0.012)		(0.012)	
Observations	18,265	5,977	18,265	5,977	18,265	5,977	18,265	5,977
R-squared	0.196	0.079	0.118	0.034	0.199	0.076	0.154	0.047

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: ethnicity, DHS wave, district, province, and birth year fixed effects; province * time trend, ASAL * time trend. All DHS waves; females above 22 years of age with only one union. Columns (2), (4), (6), (8): only individuals older than 18 in 1981.

Appendix Tables

Table A1: Summary Statistics, Education and Siblings Sample

	Total			Muslims			Non-Muslims		
	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.
Urban	13301	0.301	0.459	1054	0.479	0.500	12247	0.285	0.452
Birth year	13301	1984	13.450	1054	1985	13.591	12247	1984	13.438
Age	13301	18.597	13.450	1054	18.128	13.591	12247	18.637	13.438
Years of education	13301	4.732	4.581	1054	2.849	3.945	12247	4.895	4.596
Number of siblings	13301	3.481	3.722	1054	3.239	3.649	12247	3.502	3.728
Number of brothers	13301	1.762	2.108	1054	1.649	2.096	12247	1.772	2.109
Number of sisters	13301	1.719	2.077	1054	1.590	2.015	12247	1.730	2.082

DHS wave 4; females above 20 years of age.

Table A2: Summary Statistics, Decision Making, Attitudes and Domestic Violence Sample

		Total			Muslims			Non-Muslims		
		No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.	No. Obs.	Mean	Std. Dev.
Husband has final say on spending wife's earnings		4647	0.072	0.259	245	0.094	0.292	4402	0.071	0.257
Husband has final say on wife's health		4647	0.209	0.407	245	0.257	0.438	4402	0.206	0.405
Husband has final say on large purchases		4647	0.294	0.456	245	0.327	0.470	4402	0.292	0.455
Husband has final say on daily purchases		4647	0.124	0.329	245	0.224	0.418	4402	0.118	0.323
Husband has final say on visits to family members		4647	0.193	0.395	245	0.294	0.456	4402	0.188	0.390
Husband has final say on food to be prepared		4647	0.039	0.193	245	0.090	0.286	4402	0.036	0.186
Decision making: summary measure		4647	0.052	0.595	245	-0.114	0.769	4402	0.062	0.583
Respondent has ever experienced spousal violence	minor	6672	0.379	0.485	528	0.246	0.431	6144	0.390	0.488
	severe	6672	0.124	0.329	528	0.095	0.293	6144	0.126	0.332
	sexual	6672	0.144	0.351	528	0.085	0.279	6144	0.149	0.356
	with physical consequences	6672	0.131	0.338	528	0.098	0.298	6144	0.134	0.341
Respondent has ever been hurt by	father	6672	0.050	0.218	528	0.053	0.224	6144	0.050	0.218
	brother	6672	0.020	0.140	528	0.028	0.166	6144	0.019	0.138
	father in law	6672	0.001	0.027	528	0.004	0.061	6144	0.000	0.022
Spousal violence : summary measure		6672	0.094	0.802	528	-0.074	0.713	6144	0.108	-0.808
Domestic violence: summary measure		6672	0.046	0.518	528	-0.032	0.535	6144	0.052	-0.516
Attitude towards wife beating (*)	justified in some cases	9505	0.551	0.497	8784	0.547	0.498	721	0.596	0.491
	nr of reasons for which justified	9505	1.524	1.712	8784	1.499	1.699	721	1.825	1.839
Refusing sex with husband (*)	justified in some cases	4458	0.955	0.208	288	0.962	0.192	4170	0.954	0.209
	nr of reasons for which justified	4458	3.264	1.054	288	3.285	1.027	4170	3.263	1.056

DHS waves IV and V; females above 22 years of age with only one union. (*): only DHS wave V.

Table A3: Decision Making

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Husband alone has the final say						
	spending wife's earnings	wife's health	large purchases	daily purchases	visits to family members	food	Decision making: summary measure
marriageable age post 1 * non-Muslim	-0.109***	-0.268***	-0.259**	-0.279***	-0.191***	-0.104***	0.542***
	(0.036)	(0.055)	(0.114)	(0.066)	(0.056)	(0.035)	(0.110)
marriageable age post 2 * non-Muslim	-0.087*	-0.321***	-0.300**	-0.324***	-0.143*	-0.121**	0.577***
	(0.048)	(0.077)	(0.122)	(0.079)	(0.077)	(0.048)	(0.135)
non-Muslim	0.087***	0.295***	0.286***	0.278***	0.218***	0.084***	-0.546***
	(0.030)	(0.051)	(0.110)	(0.062)	(0.052)	(0.032)	(0.103)
urban	-0.027***	-0.086***	-0.099***	-0.051***	-0.069***	-0.018**	0.150***
	(0.010)	(0.016)	(0.018)	(0.013)	(0.016)	(0.008)	(0.024)
Observations	4,647	4,647	4,647	4,647	4,647	4,647	4,647
R-squared	0.026	0.093	0.079	0.062	0.096	0.034	0.109

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. DHS waves IV and V; females above 22 years of age with only one union. Column (7): summary measure a la Kling, Liebman and Katz (2007).

Table A4 : Domestic Violence (1)

	(1)	(2)	(3)	(4)	(5)
	Ever experienced spousal violence				
	minor	severe	sexual	with physical consequences	Spousal violence: summary measure
marriageable age post 1 * non-Muslim	0.159	-0.057	-0.087**	0.061	0.016
	(0.151)	(0.038)	(0.044)	(0.133)	(0.186)
marriageable age post 2 * non-Muslim	0.202	-0.031	-0.096*	0.082	0.068
	(0.155)	(0.043)	(0.050)	(0.137)	(0.196)
non-Muslim	-0.110	0.062*	0.112**	-0.063	0.035
	(0.150)	(0.037)	(0.044)	(0.135)	(0.187)
urban	-0.049***	-0.011	-0.012	-0.021*	-0.062**
	(0.017)	(0.011)	(0.012)	(0.012)	(0.027)
Observations	6,672	6,672	6,672	6,672	6,672
R-squared	0.081	0.054	0.032	0.038	0.066

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. DHS waves IV and V; females above 22 years of age with only one union. Column (5): summary a la Kling, Liebman and Katz (2007).

Table A5 : Domestic Violence (2)

	(1)	(2)	(3)	(4)
	Ever hurt by			
	father	brother	father in law	Domestic violence: summary measure
marriageable age post 1 * non-Muslim	-0.070**	-0.026	-0.005	0.076
	(0.029)	(0.017)	(0.003)	(0.113)
marriageable age post 2 * non-Muslim	-0.060*	0.003	-0.000	-0.002
	(0.034)	(0.017)	(0.004)	(0.118)
non-Muslim	0.052*	0.010	0.002	-0.071
	(0.029)	(0.016)	(0.005)	(0.113)
urban	0.006	-0.001	-0.000	0.034*
	(0.008)	(0.005)	(0.001)	(0.017)
Observations	6,672	6,672	6,672	6,672
R-squared	0.029	0.018	0.010	0.065

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. DHS waves IV and V; females above 22 years of age with only one union. Column (4): summary measure a la Kling, Liebman and Katz (2007).

Table A6: Women's Attitudes

	(1)	(2)	(3)	(4)
	Wife beating		Refusing sex with husband	
	justified in some cases	nr of reasons for which it is justified	justified in some cases	nr of reasons for which it is justified
marriageable age post 1 * non-Muslim	0.051	0.107	0.037**	0.336*
	(0.091)	(0.418)	(0.018)	(0.196)
marriageable age post 2 * non-Muslim	0.123	0.420	0.033	0.197
	(0.094)	(0.431)	(0.039)	(0.261)
non-Muslim	-0.096	-0.272	-0.023	-0.172
	(0.090)	(0.415)	(0.016)	(0.199)
urban	-0.153***	-0.552***	0.005	0.081*
	(0.014)	(0.048)	(0.010)	(0.048)
Observations	9,505	9,505	4,458	4,458
R-squared	0.151	0.154	0.110	0.075

Standard errors clustered at the household level. *** p<0.01, ** p<0.05, * p<0.1. Additional controls: age, age squared; ethnicity, DHS wave, province, and birth year fixed effects; province * time trend, ASAL * time trend. Columns (1) and (2): DHS waves IV and V. Columns (3) and (4): DHS wave V. Females above 22 years of age with only one union.