

Control and Ownership of Assets Within Rural Ethiopian Households

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Abstract¹

This paper investigates how the control and devolution of productive assets are allocated among husband and wife. Theory predicts that bargaining power within marriage depends on the division of assets upon divorce (exit option) and on control over assets during marriage (non-cooperative marriage). In empirical applications, bargaining power is typically proxied by variables such as dowry payments, assets brought to marriage, and ownership of assets within marriage. Using detailed household data from rural Ethiopia, we show that assets brought to marriage, ownership of assets, control within marriage, and disposition upon death or divorce are only partly related. In rural Ethiopia, control over productive resources is centralized into the hands of the household head, be it a man or a woman, irrespective of ownership at or after marriage. Disposition upon death or divorce only loosely depends on individual ownership during marriage but control over assets is associated with larger claims over these assets upon divorce, a finding consistent with the presence of incentive problems. We also find that assets brought into marriage have little impact on disposition upon death, but matter in case of divorce.

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Recent years have witnessed renewed interest in the intrahousehold allocation of welfare (e.g., Haddad and Kanbur (1990), Chiappori (1988), Chiappori (1992), McElroy (1990)). Interest has been particularly strong among economists working on poor countries, where even slight differences in the intrahousehold allocation of scarce resources can have dramatic consequences on child and female nutrition, morbidity, and ultimately, mortality (e.g., Haddad and Bouis (1991), Haddad and Hoddinott (1994), Dercon and Krishnan (2000), Rose (1999)). The empirical evidence collected so far tends to reject the so-called unitary household hypothesis and to demonstrate that the allocation of consumption and leisure among household members varies systematically with their relative contributions to household total income (e.g., Thomas (1990), Alderman et al. (1995), Bourguignon, Browning and Chiappori (1995), Chiappori (1993)).² By themselves, however, these results provide no guidance as to which policy handles may affect intrahousehold outcomes.

Various theoretical efforts have sought to fill this lacunae by focusing on the determinants of intrahousehold resource allocation. Casting allocation among household members as a bargaining problem, Manser and Brown (1980) and McElroy and Horney (1981) have emphasized the influence that outside options are likely to have on spouses' bargaining power and hence on intrahousehold welfare. If this approach is correct, one may hope to affect intrahousehold welfare by improving the exit options of disadvantaged groups. To be successful, however, one must first identify the relevant exit options. Two main categories of outside options have been proposed by the literature, namely, non-cooperation within an existing household -- the so-called 'separate spheres hypothesis' of Lundberg and Pollack (1993) -- and separation from the household -- the exit option that forms the basis of the work of Manser and Brown (1980) and McElroy and Horney (1981).³

Support for the exit option hypothesis can be found in empirical work documenting the role that individual asset ownership and norms regarding the devolution of assets upon divorce and death plays in intrahousehold allocation (e.g., Hoddinott and Adam (1997), Dercon and Krishnan (2000), Quisumbing (1994), Agarwal (1997), Thomas, Contreras, and Frankenberg (1997), Otsuka and Quisumbing (1999), Kevane and Gray (1998)). Some empirical support for the 'separate sphere' hypothesis of Lundberg and Pollak (1993) has also been found. Control over assets during marriage, including the right to decide how to allocate one's own labor effort, has been shown to affect the individual income of African women (e.g., Jones (1986), Lilja et al. (1996), von Braun and Webb (1989)). Some success has also been achieved in demonstrating that the attribution of welfare funds to specific household members affects consumption patterns (e.g., Lundberg, Pollack and Wales (1997)).

Unfortunately, progress has been hampered by the lack of hard evidence on the non-cooperative options open to women and, *a fortiori*, other dependents in developing countries. Contrary to advanced economies where patrimonial laws regarding the control and ownership of assets within households are relatively uniform and well known, poor countries are characterized by a mix of state and customary legal systems which

² This view is not shared by all, however (e.g., Schultz (2000)). Empirical work is often plagued by omitted variable bias. There may also be a publication bias in the sense that regressions that show no effect of bargaining variables on intrahousehold allocation usually do not get reported.

³ Fafchamps (1999) argues that the two should be treated simultaneously. Indeed, the threat of non-cooperation need not be credible if the spouse can credibly retaliate by leaving the household.

singularly complicate analysis. This is particularly true of patrimonial law where legal principles inherited from colonial times or introduced by enlightened elites often conflict with traditional practices and customs. In the interest of social peace, many Third World governments tolerate the coexistence of state and customary patrimonial laws, especially in rural areas. The end result is a complex and opaque system in which the rules determining the ownership, control, and disposition of productive assets within households vary with location, ethnicity, and religion within the same country.

In their efforts to study intrahousehold allocation in poor rural areas of the Third World, economists have had, in the best of cases, to rely on anthropological accounts of patrimonial customs and, in the worst of cases, on vague generalities about marriage and divorce practices. In many instances, researchers have even imposed upon intrahousehold allocation legal principles that, even in developed societies, only affect relationships between households. For instance, assets brought into marriage are often regarded as individually owned and controlled and as inherited or taken back upon divorce. In practice, however, patrimonial law seldom if ever functions this way: in advanced economies, assets brought to marriage are often held in common, and the management of productive assets is dissociated from ownership.⁴ Rules regarding the disposition of household assets upon divorce or death often pursue multiple objectives, such as the preservation of viable economic units (e.g., primogeniture), the protection of underaged children (e.g., attribution of usufruct of assets to surviving spouse), and the protection of groups who traditionally specialize in home goods (e.g., alimony payment to non-working women). Little is known, however, of how customary patrimonial law handles these issues in poor rural areas of the Third World.

This paper seeks to redress this situation by documenting how the control, ownership, and disposition of productive assets within households is *de facto* organized in rural Ethiopia. To our knowledge, this is the first effort to document patrimonial customs using a large household survey and rigorous statistical analysis. It complements previous efforts by legal experts and anthropologists to describe customary rules regarding marriage and assets in rural Ethiopia (e.g., Bevan and Pankhurst (1996), Gopal and Salim (1999), The World Bank (1998)).

While the multiplicity of patrimonial laws and customs may complicate the job of lawyers and policy makers, it facilitates the study of the determinants of control and ownership of assets. Ethiopia constitutes the perfect place for our research because of the wide diversity of cultures and patrimonial traditions that characterize the country. Different religions, with widely divergent views regarding matrimonial issues in general, and the status of women in particular, are well represented and, in fact, tend to dominate different parts of the country -- the Orthodox church of Ethiopia in the north, Sunni Muslims in the east and west, recently converted Protestants in the south, and animist beliefs in parts of the south. Anthropological evidence seems to indicate that as one moves from north to south in Ethiopia, women's status, and therefore possibly their bargaining power, declines (e.g., Bevan and Pankhurst (1996), Gopal and Salim (1999)). Such generalizations should be viewed with caution, however, given that the ethnic and cultural makeup of the country is extremely varied and fragmented. Semitic traditions

⁴ In most 19th century Europe, for instance, the law gave husbands the right to manage their wife's assets, even when these assets were their spouse's exclusive property. The same principle continues to apply today to assets owned by minor children.

tend to dominate in the north, Cushitic traditions in the south and east, and Nilotic traditions in the west, but there is also a lot of ethnic and cultural variation within regions, especially in the South. Climatic and ecological variation is equally high, given the mountainous nature of the terrain and the fact that the country stretches from the dry Sahel to the humid equatorial zone. Finally, local traditions have remained relatively untouched given the lack of roads and the relative isolation of the countryside.⁵ The major exception is the distribution and control of land for which the Ethiopian state has played a dominant role throughout the centuries.

As we have seen, theory predicts that the bargaining power of household members depends on two things: expected utility upon divorce, which is determined by the devolution of assets; and expected utility in a non-cooperative marriage, which presumably depends on control over assets within marriage (e.g., Lundberg and Pollack (1993)). In their effort to identify these factors, empirical researchers have typically used a variety of measures such as dowry and brideprice, ownership of assets at and during marriage, control during marriage, and legal rules regarding the disposition upon dissolution due to divorce or death. Due to data limitations, these measures have typically been regarded as closely related.

Very little empirical evidence, however, is available on the extent to which dowry, brideprice, and assets brought to marriage can be used to predict control during marriage and division of assets upon divorce or death -- the two processes thought to influence bargaining power. The purpose of this paper is to fill this lacuna using data from Ethiopia. We show that the above mentioned variables are only loosely correlated and that the intrahousehold allocation of productive assets follow more complex patterns. We first show that ownership and control are two different concepts. Our results suggest that Ethiopian rural households essentially operate farms as centralized units under the control of a single individual, irrespective of the intrahousehold division of asset ownership.⁶ This is consistent with Boserup's (1965) hypothesis that as households move from hoe to plow cultivation, farm management becomes centralized because of returns to scale in management and experience. The person identified by the surveys as the household head is the person who manages the farm. The head has exclusive control over most land and livestock and has a say in nearly all land and livestock decisions, even when control is not exclusive. If the household is formed around a married couple, the head is typically the husband, but sometimes it is the wife. Control over expenditures need not be in the hands of the household head, although it usually is. Control over one category of expenditures is strongly correlated with control over other categories. One possible interpretation is that centralizing expenditures makes it easier for the household to control its spending and thus to respect its own budget constraint.

Ownership of productive assets and disposition upon death or divorce are two different concepts. In many cases, livestock that are regarded as individual property of the husband or the wife do not go to their 'owner' upon dissolution. In particular, assets brought into marriage have little noticeable impact on disposition upon death, but matter in case of divorce. Rules regarding the devolution of property differ whether dissolution

⁵ This is not to say that local traditions have not changed at all -- they have, especially in areas influenced by urbanization and labor migrations.

⁶ Important exceptions include onset-growing areas where women seem to play a more central role in cultivation. It should be noted that, unlike cereal crops, onset cultivation does not rely on animal traction.

of the household occurs upon divorce or upon death. For example, livestock that is individually owned by one spouse may be shared among them in case of divorce but is typically inherited by the surviving spouse, irrespective of ownership status. Rules regarding divorce and inheritance also vary across locations, with more patriarchal rules prevalent in the Muslim and Protestant south and more egalitarian rules prevailing in the Orthodox north.

Control over productive resources within the household has a strong effect on disposition rules in the sense that the spouse with greater control over an asset gets a larger share of the asset upon divorce or death. This is true even after we control for assets brought to the marriage. This finding is important because it brings to light another way by which the bargaining power of women may be affected. It is also what one would expect if households wish to provide sufficient incentives for the farm manager to take good care of land and to invest in productive assets such as oxen and livestock. This issue deserves more investigation.

The paper is organized as follows. We begin in Section 1 with a brief description of the survey and survey area. We continue in Section 2 with a descriptive analysis of the relationship between marriage and assets in rural Ethiopia. We focus particularly on the transfer of assets upon marriage, the control and ownership of assets during marriage, and the rules regarding asset devolution upon divorce or death. Section 3 examines the determinants of control and management while section 4 examines the interaction between assets brought to marriage, control during marriage, and disposition upon dissolution of the marriage.

Section 1. The Survey Area

Ethiopia ranks as one of the poorest countries in the world, in part a reflection of its tumultuous recent history. Over the past decade it has seen drought, famine, civil war, and the demise of a military government leading to a number of policy reversals. As the third most populous country in Africa, the people of Ethiopia are characterized by substantial ethnic and religious diversity; there are over 85 ethnic groups and most major world religions are represented, as well as animist belief systems (Webb and von Braun 1994). This diversity extends beyond the people and culture of Ethiopia to their environment since the agro-ecological zones, and consequently, farming systems vary dramatically around the country.

The 1997 Ethiopian Rural Household Survey (ERHS) was undertaken by the Department of Economics of Addis Ababa University (AAU), in collaboration with the International Food Policy Research Institute (IFPRI) and the Center for the Study of African Economies (CSAE) of Oxford University.⁷ The 1997 ERHS covered approximately 1500 households in 15 villages all across Ethiopia, thus capturing much of the diversity described above. While sample households within villages were randomly selected, the choice of the villages themselves was purposive to ensure that the major farming systems were represented.⁸ Thus, although the 15 villages included in the sample

⁷ The 1997 survey built on an earlier IFPRI survey of 1989 and on three rounds of panel survey conducted by AAU and CSAE in 1994/95. These earlier rounds, however, are not used in the present analysis.

⁸ About 400 households in six sites were initially surveyed by IFPRI in 1989; these were selected from drought-prone areas for a famine study (Webb, von Braun and Yohannes 1992). Three more sites were added in 1994-1995 to include areas North of Debre Birhan that could not be surveyed in 1989 due to

may not be statistically representative of rural Ethiopia as a whole, they are quite representative of its agro-ecological, ethnic, and religious diversity.

The questionnaires for the first four rounds consist of a series of core modules on various issues such as consumption expenditures, wealth, income, and health, as well as some 9000 individual anthropometric measurements (Dercon and Krishnan 1996). Complementary to the surveys was a set of 15 village studies covering a broad range of topics elicited through rapid assessment techniques (Bevan and Pankhurst 1996). Because the early rounds were not designed to focus explicitly on intrahousehold resource allocation, detailed information on many individual outcomes is not matched by information on factors affecting allocation decisions within marriage.

The questionnaire used in the 1997 round includes the original core modules, supplemented with new modules specifically designed to address intrahousehold allocation issues. These modules were designed not only to be consistent with information gathered in the core modules, but also to complement individual-specific information. For instance, past survey rounds collected information on plots managed by the household, but did not include information on the identity of the plot manager. This information and many other individual-specific data were covered in the new modules. The modules were pretested in February/March 1997 in four non-survey sites with a level of ethnic and religious diversity similar to the sample itself. Data collection took place between May and December 1997. Questionnaires were administered in several separate visits by enumerators residing in the survey villages for several months. Careful data cleaning and reconciliation across rounds were undertaken in 1998 and 1999 by Bereket Kebede and IFPRI staff.

The new modules collect information on: the parental background and marriage histories of each spouse; the circumstances surrounding the marriage (e.g., type of marriage contract, involvement in the choice of a spouse); the pre-marital human and physical capital of each spouses (e.g., age, education, experience); indicators of predisposition to domestic violence (e.g., alcohol consumption, exposure to domestic violence among parents); simple numeracy questions; gender-specific information on control and ownership of land and livestock; expectations regarding the disposition of assets upon divorce and death; and individual agricultural labor and time use data. A variety of assets brought to the marriage were recorded, as well as all transfers made at the time of marriage. The analysis presented here focuses on the two most important assets in the rural Ethiopian economy, land and livestock.⁹

The geographical location of the surveyed villages is depicted in Figure 1. Most surveyed villages are placed along a North-South axis. This ensures a good coverage of the various agro-climatic zones that characterize the Ethiopian highlands where the bulk of the population lives. Arid lowlands and other regions that are particularly hard to reach, such as the western part of the country along the Sudanese border, were excluded from

military conflict. Six other sites were also added to represent the main agro-climatic zones and farming systems of the richer parts of the country. The selection of new sites is described in Bereket Kebede (1994).

⁹ This is done to minimize recall error surrounding minor assets, and because productive assets are likely to be better proxies for bargaining power than, say, food brought by the newlyweds to their new home. To permit comparison, the value of assets at the time of marriage is converted to current values using the consumer price index. Given the difficulties inherent in a long recall period and in the choice of an inflation correction factor suitable for all 15 villages, these values are likely to be measured with error.

the sample for cost reasons. The ethnic and religious composition of the sample is summarized in Table 1. Observations with incomplete or inconsistent data are dropped from the reported sample. Orthodox household heads represent 55% of the sample, followed by Muslims and Protestants. No less than 20 different ethnic groups are represented in the sample, which we have organized into five categories. The great majority of couples share the same ethnicity and religion, but 8.5% of couples are inter-ethnic and in 3% of them husband and wife have a different religion.

Section 2. Marriage and Assets in Rural Ethiopia

The sample is varied in its household composition (see Table 2). 62% of the sample is comprised of monogamous couples living together,¹⁰ the overwhelming majority of whom are headed by a man. Single men or women living outside of marriage are the next most important category -- 22% of the sample. These tend to be older individuals who have been married before, i.e., widows and divorced women principally. Polygamous households (or parts thereof) constitute 8% of the sample. Three quarters of the polygamous households recorded in the survey live together; the rest live in separate compounds and were regarded as distinct households for the purpose of data collection. Men or women living separately from their spouse count for another 8% of the sample. There are sharp differences in household typology across ethnic and religious groupings. The proportion of single women is highest among the Tigray, a possible reflection of the high male mortality associated with the civil war that raged in and around Tigray from 1977 until 1991. Polygamous households are virtually absent among the Tigray and Amharas; polygamy is also more frequent among non-Christians.

Most marriages recorded in the sample are celebrated traditionally. Only less than 10% of all rural marriages are celebrated in the church or municipality. Unions are formalized using a variety of customary contracts, which can be written or oral in nature (Table 3). There does not appear to be a strong difference in the type of marriage contract between male and female headed households. Marriage contracts vary systematically with ethnicity and religion, with nevertheless a lot of variation around the norm. We revisit the issue of marriage contracts in greater detail below.

Arranged marriages are the norm in rural Ethiopia. In half of marriages, the choice of a spouse is left to the head's or the spouse's parents. 30% of husbands and 56% of wives were neither consulted nor directly involved in the choice of a spouse; in 22% of couples, neither spouse was consulted. Two thirds of respondents had never spoken to their spouse before marrying them.

We find that 10% of marriages are described as 'kidnappings' by respondents. The term, however, seems to take different meanings depending on the context. In two thirds of the reported kidnappings, the bride was not consulted or involved in the choice of spouse. These cases are likely to be associated with the kind of violent scenario that were uncovered during pretesting.¹¹ The other cases, in which the bride was consulted or

¹⁰ Irrespective of whether they are 'legally' married or not.

¹¹ One pretest respondent described how the parents of his bride-to-be refused to relinquish the bride on the marriage day, arguing that some agreed upon gifts had not been made. Out of frustration, the groom's relatives took upon themselves to kidnap a teenage girl on their way back from the bride's village. Their excuse: they did not want food prepared for the wedding to go to waste. In spite of having broken an arm fighting her abductors, the girl was married by force to the groom that very same day. Interestingly enough, in Ethiopia neither rape nor abduction are punishable by law if the victim "freely" contracts a valid marriage with the abductor (Gopal and Salim 1999, p. 15).

involved, are more likely to be a form of 'elopement' whereby the bride and groom seek to bypass their families' disapproval.

A large proportion of respondents were previously married. Of individuals living together in monogamous marriages, 35% of husbands and 22% of wives were involved in previous marriages. One third of these previous unions ended due to the spouse's death; the rest ended in divorce or separation. Involvement in the choice of a spouse is not higher among previously married individuals. It therefore does not appear that individuals become more involved in the choice of a mate after they have escaped the direct authority of their parents.

Since marriage typically marks the beginning of a new farm production unit, the bride and groom bring with them start-up capital in the form of land, oxen, livestock, household utensils, and grain stocks. The survey recorded all transfers to and from the bride, the groom, and their respective parents, together with all assets brought to marriage. The available information is summarized in Table 4. By far the most valuable asset brought to marriage is land, followed by oxen and livestock. Contrary to expectations, ritual gifts -- e.g., dowry or brideprice -- only account for a small proportion of the transfers of ownership that take place at the time of marriage. On average, the groom's family spends three times as much as the bride's family in gifts to the bride's family or the bride and groom. But the amounts involved are quite small on average and the median is always zero.

The great majority of the new couple's assets are brought by the newlyweds themselves, with grooms bringing more than 10 times as much start-up capital as brides. Assets brought to marriage vary dramatically among couples, however, with a median of zero for most asset categories except livestock and jewelry/clothing/linen. Contrary to the preconception that marriage is the time at which parents endow their offspring with farm land, most of the land brought in by grooms was already theirs prior to marriage. This finding may be specific to Ethiopia, given that the state nominally owns all land (e.g., Gavian and Ehui (1998), Gavian and Teklu (1996)). Use rights over land are supposed to be allocated by Peasant Associations (PA), the local administrative unit in rural areas, although many regions of the country have not experienced land reallocations in recent years. Many young men may wait until the PA allocates them land before deciding to marry.

Inheritance patterns display a similar gap between assets coming from the husband's and wife's lineage. Land and livestock that are inherited after marriage come primarily from the husband's family. Daughters hardly ever inherit anything from their parents. Looking at it from a different angle, we see that, of the land user rights held by the household, two third actually come directly from the PA (Table 5).¹² Family is thus not the dominant source of land for surveyed households. Of the land that comes from the family, however, most ultimately comes from the husband's parents. The same is true for female headed households, who sometimes gain access to land from their husband or

¹² From a strict legal point of view, all land belongs to the state and user rights are ultimately controlled by the PA. This implies that transfers of land following marriage, divorce, or death must be implicitly or explicitly supported by the PA. Our data seem to indicate that, in practice, the PA often abstains from intervening, except when it is directly solicited by villagers -- e.g., if newlyweds did not receive sufficient land from their parents. Our analysis should thus be construed as depicting the perceptions or mindset of rural Ethiopians at a time when PA's, in some regions at least, appear reluctant to pursue periodic reallocations of land.

husband family, but hardly ever from their own lineage. Women do, however, occasionally receive land from the PA, thereby suggesting a political willingness to depart from rural norms in the allocation of land to women (Gopal and Salim 1999).¹³

After marriage, control over finances and productive assets becomes centralized while disposition upon divorce or death generally follows equal division, except for land. Tables 5 and 6 summarize how decisions about crop production and animal husbandry are made within rural households. Decisions on what to grow are essentially the purview of the household head, be it a man or a woman. Other household members are associated with the decision process in only one quarter of the cases. This finding, however, is partly an artifact. The land reform instructs the PA to allocate land only to people who farm, whether male or female. Household members who have been allocated land are regarded as household head by the PA and, as such, have the right to participate in PA deliberations. Headship thus has a precise administrative definition that is closely associated with actual involvement in crop production. By extension, decisions to rent out land or to give it away, for instance to children, are also predominantly taken by household heads. Some respondents, however, feel that they do not have the right to alienate land, either because they only rent it or because land allocation is thought to be the exclusive responsibility of the PA.

The picture regarding livestock management is more complex, although once again the role of headship is paramount (Table 6). Most livestock is held by the husband and wife jointly and individually held livestock nearly always belongs to the head. Even though animals are owned jointly, the right to sell livestock and to keep the proceed of the sale predominantly fall in the hands of the household head. This decoupling between ownership and control is reminiscent of the Napoleon Code of Law which similarly stipulated that husbands manage all household assets, even those that belong exclusively to their wife. The main difference is that, in rural Ethiopia today, the household head sometimes is a woman. Centralized control over land and livestock in the hands of the head could be interpreted as a desire to manage resources efficiently in a farming system that closely integrates crop and livestock production. The only exception is the right to keep money generated from the sale of dairy products such as milk, butter, cheese, and eggs, a right that more often than not goes to women. A likely explanation for this discrepancy is that most dairy products are sold in processed form and most processing is performed by women, who need to be given adequate incentives for their work.

Control over expenditures is also centralized in the hands of the household head (Table 7). Unlike in the coastal areas of West Africa (e.g., Otsuka and Quisumbing (1999), Goldstein (2000)), only a quarter of all households hold separate finances. All aspects of control over expenditures are closely correlated, with little or no specialization across household members. In more than half of the surveyed households, the head alone administers all household finances and incurs all consumption expenditures, including food, clothes, school fees, and medical expenses. One possible interpretation is that centralized control over expenditures makes it easier for the household to control its

¹³ It should be noted, however, that some traditional land tenure systems in Ethiopia did recognize women a right to inherit from their parents. In the case of the *rist* land tenure system, which was prevalent in the Northern part of the country, sons and daughters had an equal right to inherit land. Children of both sexes were allowed to trace their lineage through their father as well as their mother to claim land (cognatic descent). In practice, however, women's right to land were often ignored or implicitly traded in exchange for family support.

spending and thus to respect its own budget constraint. As we show in the next section, centralized control does not imply that dependents are ignored in the distribution of assets upon dissolution of the household.

Section 3. The Determinants of Asset Disposition

The literature on women in Africa is replete with tales of widows who face destitution and of women who lose their home and land upon separation from their husband (e.g., Adams (1991), Gladwin and McMillan (1989), Jiggins (1989)). The welfare of widows and divorcees thus appears closely linked to what happens to productive assets upon divorce or death of the husband. Moreover, it is widely believed (e.g., McElroy and Horney (1981), Manser and Brown (1980), Lundberg and Pollack (1994)) that legal and customary dispositions regulating the disposition of assets upon divorce affect the gender distribution of welfare not only after but also during marriage. The reason is that the bargaining power of married women is thought to depend on their exit option from marriage because it shapes their threat point within marriage (e.g., Fafchamps (1999)). A proper analysis of the determinants of asset disposition upon divorce or death of a spouse is thus essential to our understanding of intrahousehold welfare.

Respondents were asked how they expect various assets to be allocated in case of divorce.¹⁴ Table 8 depicts the distribution of assets and child custody that married households expect to happen, should a no-fault divorce take place. The table distinguishes between monogamous and polygamous households. In two third of the cases, respondents expect the wife to receive custody over young children. Older children, in contrast, are expected either to follow their father or to choose which spouse they wish to live with. Half of the surveyed monogamous households expect the land and house to go to the husband upon divorce; another 40% expect them to be divided equally between husband and wife. Regarding livestock, equal division between husband and wife is the rule, irrespective of whether the livestock is owned jointly or individually by the husband and the wife. Individually owned livestock, however, is more likely to be attributed to its owner upon divorce. Household utensils are principally divided between spouses, although one third of respondents expect them to go exclusively to the husband. The situation in polygamous households is more male dominated in the sense that the husband is much more likely to be given all assets upon divorce. Even there, however, jointly owned livestock is expected to be divided equally in most cases.¹⁵

About a quarter of all respondents make a distinction between no-fault and fault-based divorce. The concept of fault-based divorce is more prevalent in the South-Central region, especially among Protestants and Catholics. Commonly cited grounds for fault-based divorce are listed in Table 9. Drunkenness, wife-beating, adultery, and failure to support one's wife are most cited as husband faults that justify divorce, while adultery, involvement in crime, disrespect, and disposition of assets without consultation are the

¹⁴ Divorced respondents were asked instead how assets were actually divided when they divorced their previous spouse. No statistical difference was found between the realized asset division of divorcees and the anticipated asset division of married people. All answers are combined here.

¹⁵ Based upon interviews conducted during the pretest, it appears that polygamous households in rural Ethiopia keep separate finances for each union. For example, a polygamous husband typically owns some livestock jointly with his first wife, some other livestock jointly with his second wife, etc. Equal distribution thus refers to the portion of the polygamous household's assets that belong to the union being dissolved.

most commonly cited faults for wives. The allocation of assets upon fault-based divorce varies considerably depending on who is at fault. If it is the husband, the wife is slightly more likely to be granted land and livestock (Table 10). If it is the wife who is at fault, asset distribution is dramatically changed in favor of the husband. Even her own livestock is likely to go to her husband. Fault-based divorce thus encompasses an element of punishment, which is particularly harsh for wives. It is somewhat ironic that customs penalizing adulterous and disrespectful wives are found primarily among rural populations recently converted to western-style religions. So much for social progress and western ideals.

Disposition of assets upon death is summarized in Tables 11 and 12. Upon the death of the household head, assets are most likely to go to the surviving spouse, together with child custody. This is even more true in case of the spouse's death. It is interesting to note that the devolution of livestock to the surviving spouse is essentially unaffected by who owns it. Children inherit in less than half the cases, and when they do, it is usually together with their mother. A similar pattern is observed among polygamous households. The inheritance system is thus primarily designed to enable the surviving spouse to continue operating the farm and taking care of the children.

There are, however, sharp differences in customs across locations, ethnic groups, and religions. These differences are illustrated in Table 13 with the help of regression analysis. The Table focuses on the disposition of the two main productive assets, land and jointly owned livestock, upon no-fault divorce. Results show that much of the variation in rules of disposition is due to location, with northern locations in general more generous towards women. There is also systematic variation across ethnic or religious groups, as the Amhara are better disposed toward women than other groups while Muslim households are less willing to grant productive assets to women, even after controlling for location and ethnicity. The single best predictor of expected disposition of assets is the average disposition rule for household of the same religious group residing in the same location. This is consistent with the idea that the disposition of assets is primarily governed by location and religious specific norms.

Norms are not everything, however. Part of the variation in rules of disposition can also be attributed to differences in marriage contracts. Results suggest that the presence of a marriage contract in general protects women, although the effect is not strong once we control for location, ethnicity, and religion. We also investigate whether expected rules of disposition upon divorce vary systematically with assets brought into marriage, inherited assets, and individual ownership of assets at the time of the survey. To the extent that pre-marital assets and individually owned assets are earmarked to a particular spouse, we would expect this to be reflected in the disposition of assets upon divorce. This is important because, if spouses recover their pre-marital and inherited assets when they leave each other, exit options and thus threat points are largely determined in the marriage market. In this case, the position of women during marriage is likely to be weakened by the fact that, as we have seen, they are disadvantaged in the attribution of pre-marital assets. In contrast, if pre-marital assets are merged into the community, women should fare better on average.

To test this hypothesis, we regress disposition of land and livestock on various categories of assets brought into marriage, land inherited after marriage, and land user rights and livestock ownership at the time of the survey.¹⁶ Results show that land

¹⁶ Strictly speaking, surveyed households do not 'own' land since all agricultural land is legally owned

inherited or brought into marriage by one of the spouses affects the disposition of land and livestock upon divorce. Women expect to receive more land and commonly held livestock upon divorce if they brought in some land. Conversely, they expect to get less if their husband brought a lot of land into the marriage. Ownership of productive assets at the time of the survey also affects rules of disposition. Women who individually own more livestock and hold user rights on a larger share of the household's land expect to receive more upon divorce. Since individual ownership of productive assets during marriage is closely related to control and management of these assets, and thus to female headship of married couples, we find that female heads of household expect to receive significantly more productive assets upon divorce than women in male headed households.

We also examine the determinants of inheritance. Since the surviving spouse nearly always inherits part or all of the land and livestock acquired during marriage, we focus on whether wives inherit all land and livestock or have to share with other heirs, principally children. Results are less conclusive than for divorce but they nevertheless show large differences across locations and between various ethnic and religious groups, although these differences are not always significant (Table 14). Women in the south, principally among the various south-central ethnic groups, are less likely to inherit all land and livestock. This is partly compensated by the fact that non-Orthodox women are more likely to have exclusive inheritance rights to land and livestock.

The presence of children from previous marriages has a strong effect on inheritance expectations: women with children of their own are more likely to inherit all land and livestock while those whose husband has children of his own are less likely to inherit. Ownership of assets at the time of interview seems to have little effect on inheritance expectations, except that women are less likely to inherit all household land if their husband owns more of the household livestock. Surprisingly, the presence of a marriage contract is correlated with weaker inheritance rights for women. One possible interpretation is that the presence of a marriage contract signals an intention to create a stable marriage and to have children, and is thus related with the expectation that a surviving wife will share household assets with children upon the death of her husband. This is consistent with the tendency for wives to outlive their husbands due to younger age at marriage and to the longer life expectancy of women relative to men.

Section 4. The Determinants of Control and Management

We have seen that the control and management of assets and finances is typically centralized into the hands of the household head. We also found that control over assets has an effect on asset disposition upon divorce that is distinct from asset ownership *per se*. In particular, we found that female heads of household expect to get more of the household land and livestock upon divorce. The fate of women after marriage therefore depends on the control they have over assets during marriage. For this reason, it is important to examine the determinants of control and management over productive assets.

We investigate two important dimensions of control and management: individual ownership of livestock or user rights over land; and female headship in married couples. User rights to land are given by the PA to a particular individual who is typically the head of household. There nevertheless exist more complicated cases in which a woman

by the state. We sometimes disregard this distinction in the text to ease the flow of the presentation.

either retains land from a previous marriage, or receives land separately from her husband after marriage. We construct a variable that represents the share of household land that was 'brought in' by the wife, either from the PA or through inheritance. Around 12% of married women hold user rights on some or all of the household land. We construct similar variables for individually owned livestock of the husband and the wife. 25% and 6% of livestock are owned by the husband and the wife, respectively. The rest is owned jointly. Given that all land is ultimately obtained from the PA, there is no concept of jointly held land, so that user rights not held by the wife are by definition held by the husband.

Regression analysis indicates that individual ownership of livestock and land depend critically on assets brought into marriage either at the time of marriage, or later through inheritance (Table 15). The effect is strong and significant. Gifts made by the groom's family to the bride or the bride family also decrease assets individually held by the wife during marriage, casting doubt on conventional interpretations that brides with larger dowries have greater bargaining power within their households. The reverse is not true for livestock individually owned by husbands.

We also examine female headship in married couples (Table 16). There are some 9% of female heads among all married households. In 70% of those, the husband is absent. Absentee headship is not observed in the sample: all married households from which the husband is absent have a female head. This suggests that the 'land to the tiller' philosophy embedded in the Ethiopian land reform is understood to sanction absentee husbands as much as absentee landlords. Regression analysis shows that, conditional upon marriage, a married couple is more likely to be headed by a woman if the wife brought more assets into the household, was married before, and already had children from a previous marriage. The opposite is true when it is the husband who brought in more assets or had children from a former union. The picture that emerges from these results is one by which married women are more likely to be recognized as head of household if they bring more assets to the household, assets that they possibly obtained through previous unions. The form in which assets are brought into marriage does not seem to matter.

Conclusion

Using household level data, we have examined the distribution of control and ownership of productive assets among husband and wife in rural Ethiopia. Contrary to what is often assumed in empirical work on intrahousehold issues, we have shown that ownership of assets, control within marriage, and disposition upon death or divorce only partially overlap. Rules regarding divorce and inheritance vary dramatically between different locations in the same country. Disposition upon death or divorce only loosely depends on individual ownership during marriage while assets brought into marriage have little impact on disposition upon death, but matter in case of divorce. Control over productive resources tends to be centralized into the hands of the household head, be it a man or a woman, irrespective of ownership at or after marriage. Control over assets is associated with larger claims over these assets upon divorce, a finding consistent with the presence of incentive problems.

Although it would be dangerous to infer policy recommendations from the work reported here, our analysis indicate that policy can matter. Findings suggests that, in their land allocation function, local administrations have been willing to grant user rights to women, albeit reluctantly perhaps (e.g., Gopal and Salim (1999), The World Bank

(1998)). This is so even though in local customs women hardly ever inherit land from their lineage.¹⁷ The government's 'land to the tiller' policy thus allowed -- or may even have facilitated -- the attribution of user rights over land to women. This attribution, however, nearly always results from conditions internal to the household, such as separation or death of the husband; in most cases, women's access to land remains conditional upon the absence of a suitable male head of household.¹⁸

Another indication that external intervention may have an impact on local customs is the observed link between the concept of fault-based divorce and conversion to non-orthodox christian faith. The spread of Catholicism and Protestantism to rural Ethiopia is indeed fairly recent, particularly in the South. Yet it seems to be correlated with a fault-based concept of divorce -- or more precisely with the perception that fault plays an important role in financial settlement upon divorce.¹⁹ Since the patrimonial penalties associated with fault-based divorce are the most stringent for women, they are the main victims of the concept. Besides, even on an ethical point of view, the development of fault-based divorce hardly appears appropriate in a setup in which most marriages are arranged by parents, women have little or no say in the choice of a spouse, and wife kidnapping remains practiced in parts of the country. These issues deserve more investigation.

What we have not done in this paper is ascertain whether control over assets and expectations regarding devolution of assets upon divorce have an effect on the intra-household distribution of welfare. The analysis presented here also takes couples as given, without raising the question of how they came to get married to each other. Both these issues are the object of future research.

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¹⁷ As pointed out earlier, this is true even though some traditional land tenure systems stipulate that sons and daughters have an equal right to inherit the land of their parents. In practice, however, this principle is often ignored, except inasmuch as it enables men to claim land, as when a husband seeks to access land by invoking his wife's inheritance rights.

¹⁸ Discussions with Ethiopians suggest that female headed households in which women control land may have existed even before the land reform of 1975. Although it is unclear how prevalent the phenomenon was, it is seen as an oddity.

¹⁹ The idea that one of the spouses may be primarily responsible for the failure of a relationship is probably not specific to any region or culture. What is important here is that certain respondents emphasize fault and expect it to carry financial penalties.

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Table 1. Ethnic and Religious Composition of the Sample

	Tigray	Amhara	Oromo	South-Central (3)	Other	Total
Ethiopian orthodox	146	403	75	115	29	768
Muslim	6	3	232	16	56	313
Other christian (1)	7	6	13	255	4	285
Other religion (2)	0	0	0	40	0	40
Total	159	412	320	426	89	1406

Note: based on the ethnicity and religion of the household head. (1) primarily protestants.
(2) primarily animists. (3) a variety of ethnic groups residing in the South-Central highlands.

Table 2. Typology of Households in the Sample

	Number	% of sample
Monogamous households living together		
Husband and wife living together; male head	853	60.1%
Husband and wife living together, female head	24	1.7%
Monogamous households living separately		
Husband	51	3.6%
Wife	69	4.9%
Polygamous households		
Husband and wife living together	85	6.0%
Husband living separately	21	1.5%
Wife living separately	6	0.4%
Singles		
Men	72	5.1%
Women	239	16.8%
Number of observations	1420	

Table 3. Marriage Contracts
(currently married couples only).

	Male head	Female head	All households
No contract	11.9%	8.8%	11.7%
Samanya (always written)	38.9%	38.5%	38.9%
Nika (written or verbal)	20.9%	30.8%	21.7%
Cheb (written or verbal)	5.8%	6.6%	5.9%
Kalkidan (verbal)	13.6%	5.5%	13.0%
Other contract (written or verbal)	8.8%	9.9%	8.9%
Total	997	91	1088

Table 4. Asset Brought to Marriage

(measured in Ethiopian Birr, actualized to the time of the survey; currently married couples only).

	of the groom		of the bride	
	Mean	Median	Mean	Median
1. Pre-Marriage Assets				
Value of land received at marriage	500	0	29	0
Value of land already owned	1983	0	66	0
Value of oxen and livestock already owned	1140	215	281	0
Value of jewelry/cloth	268	124	14	0
Value of household utensils	140	0	14	0
Value of grain stocks	401	0	3	0
Total	4433	1779	407	0
2. Gifts at the time of marriage	Mean	Median		
From groom family to groom	33	0		
From bride family to bride	27	0		
From bride/bride family to groom	18	0		
From groom/groom family to bride	96	0		
From bride/bride family to groom family	1	0		
From groom/groom family to bride family	92	0		
From groom/groom family to bride and groom	13	0		
From bride/bride family to bride and groom	32	0		
3. Inheritance after the marriage				
			to the husband	to the wife
Value of inherited land	967	0	Mean	Median
			96	0

Table 5. Land ownership and management
(currently married households only)

	All households	Male head	Female head	t-test	p-value
1. Access to land:					
Land with full user rights	3.39	3.54	1.82	0.7309	0.4650
Source of land:					
Peasant Association	60.7%	60.5%	65.2%		
Husband's parents	26.3%	26.9%	13.5%		
Wife's parents	1.4%	1.3%	3.8%		
Husband or wife	1.0%	0.4%	12.3%		
Relative	3.6%	3.7%	2.4%		
Non-relative	7.0%	7.2%	2.8%		
Rented in	0.39	0.42	0.03	0.7279	0.4669
Rented out	0.35	0.37	0.18	0.2170	0.8282
Number of observations:	1027	935	92		
2. Management:					
In share of land for which:	All households	Male head	Female head	t-test	p-value
<i>a. choose what to grow:</i>					
Husband alone	70.4%	76.4%	1.3%	17.2331	0.0000
Husband alone or with other hhold members	88.4%	94.3%	20.1%	29.3352	0.0000
Wife alone	5.0%	0.1%	62.5%	-41.4053	0.0000
Wife alone or with other hhold members	20.4%	15.0%	83.2%	-17.0607	0.0000
<i>b. give away land:</i>					
Husband alone	48.3%	52.3%	2.1%	9.3660	0.0000
Husband alone or with other hhold members	63.3%	66.7%	23.8%	8.3044	0.0000
Wife alone	3.6%	0.0%	45.2%	-28.4655	0.0000
Wife alone or with other hhold members	17.5%	12.9%	71.0%	-14.7511	0.0000
<i>c. rent out land:</i>					
Husband alone	60.2%	65.4%	0.0%	13.2818	0.0000
Husband alone or with other hhold members	79.7%	84.4%	25.3%	15.8542	0.0000
Wife alone	4.7%	0.0%	58.7%	-37.9901	0.0000
Wife alone or with other hhold members	23.5%	17.9%	88.8%	-16.6350	0.0000
Number of observations:	994	915	79		

Table 6. Livestock ownership and management
(Livestock aggregated by value)

	All	Male head	Female head	t-test	p-value
1. Ownership of livestock:					
Total livestock	2287	2324	1914	1.4511	0.1470
of which:					
Owned jointly by husband and wife	1631	1727	646		
Owned by head alone	436	402	793		
Owned by spouse alone	66	54	188		
Owned by head jointly with others	72	65	144		
Owned by others	82	76	143		
Number of observations:	1105	1007	98		
2. Management:					
In shares of animals for which:	All	Male head	Female head	t-test	p-value
<i>a. Sell animals</i>	households				
Husband alone	37.7%	41.0%	2.2%	7.3389	0.0000
Husband alone or with other hhold members	86.4%	92.2%	23.9%	23.4313	0.0000
Wife alone	6.3%	1.5%	58.9%	-30.2222	0.0000
Wife alone or with other hhold members	54.9%	52.2%	85.4%	-6.0913	0.0000
Nber. obs.	941	862	79		
<i>b. Own offspring</i>					
Husband alone	32.0%	34.9%	1.4%	6.4685	0.0000
Husband alone or with other hhold members	83.3%	88.8%	24.4%	18.9295	0.0000
Wife alone	6.9%	2.3%	55.8%	-25.0546	0.0000
Wife alone or with other hhold members	58.1%	55.7%	83.6%	-5.1484	0.0000
Nber. obs.	908	830	78		
<i>c. Keep sales proceeds</i>					
Husband alone	44.0%	47.7%	2.2%	8.3471	0.0000
Husband alone or with other hhold members	84.8%	90.3%	22.9%	20.8272	0.0000
Wife alone	7.5%	3.1%	57.0%	-22.9420	0.0000
Wife alone or with other hhold members	48.3%	45.2%	82.6%	-6.7308	0.0000
Nber. obs.	935	858	77		
<i>d. Keep dairy money</i>					
Husband alone	10.4%	11.2%	0.5%	2.5799	0.0101
Husband alone or with other hhold members	50.0%	52.2%	23.9%	4.1705	0.0000
Wife alone	36.2%	34.9%	52.5%	-2.7362	0.0064
Wife alone or with other hhold members	75.8%	75.5%	79.2%	-0.6600	0.5095
Nber. obs.	704	650	54		

Table 7. Control Over Household Finances

(currently married households only)

	All	Male	Female
	households	head	head
A. Joint or separate finances:			
Joint finances	69.8%	69.7%	71.1%
Separate finances	30.2%	30.3%	28.9%
Number of observations	1106	1009	97
B. Control Over Finances			
Head alone	51.1%	50.7%	55.9%
Head and spouse separately	15.5%	15.9%	11.8%
Head and spouse jointly	28.2%	29.8%	11.8%
Spouse(s) alone	0.8%	0.6%	3.2%
Head with children	3.9%	3.0%	14.0%
Children alone	0.4%	0.1%	3.2%
Number of observations	1101	1008	93

Table 8. Disposition upon No-Fault Divorce
(based on currently married households only)

	Young children	Old children	Land	House	Livestock of: husband	wife	both	Household Utensils
1. Monogamous couples								
Husband	21.8%	49.4%	52.6%	57.3%	44.3%	11.1%	23.7%	33.3%
Wife	64.0%	6.9%	2.2%	2.7%	1.7%	32.8%	2.4%	6.3%
Divided half/half	6.5%	7.4%	41.9%	38.2%	45.1%	50.0%	68.0%	57.7%
Children choose	6.3%	32.4%	0.2%	0.1%	3.4%	0.0%	0.2%	0.3%
Other	1.5%	3.9%	3.1%	1.8%	5.5%	6.1%	5.7%	2.4%
Number of valid observ.	878	815	959	967	759	594	877	965
2. Polygamous couples								
Husband	24.3%	67.3%	68.4%	69.6%	58.5%	19.7%	36.3%	46.5%
Wife	68.2%	3.7%	0.0%	3.5%	0.0%	34.2%	3.5%	8.8%
Divided half/half	3.7%	2.8%	28.1%	24.3%	31.9%	35.5%	54.9%	40.4%
Children choose	1.9%	21.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other	1.9%	4.7%	3.5%	2.6%	9.6%	10.5%	5.3%	4.4%
Number of valid observ.	107	107	114	115	94	76	113	114

Table 9. Grounds for Fault-Based Divorce

(Percent of respondents citing following reasons)

	Husband	Wife
A. Sex		
Adultery	58.6%	72.3%
Infertility	0.6%	1.2%
B. Money		
Failure to support spouse	35.1%	15.3%
Disposition of assets without consultation	6.9%	37.1%
Profligacy/spends too much	16.3%	6.9%
C. Work		
Laziness	15.7%	21.2%
Failure to perform household chores	7.8%	14.3%
D. Attitude		
Drunkenness	69.6%	30.8%
Spouse-beating	55.8%	6.5%
Disrespect/nagging	32.3%	37.4%
Involvement in crime	24.5%	56.4%
E. Other reason	39.2%	30.5%
Number of valid answers	319	321

Note: Other respondents do not consider that divorce settlement depends on fault.

Table 10. Disposition Upon Fault-Based Divorce

	Young children	Old children	Land	House	Livestock of husband	Livestock of wife	both	Household Utensils
1. Husband at fault								
Husband	18.8%	43.0%	41.2%	45.2%	34.1%	0.8%	9.3%	14.5%
Wife	65.8%	19.6%	16.5%	29.3%	16.2%	57.6%	16.9%	31.3%
Divided half/half	5.0%	3.8%	31.9%	17.8%	36.8%	25.0%	62.9%	44.5%
Children choose	8.3%	27.2%	1.5%	0.4%	0.5%	0.8%	0.4%	0.8%
Other	2.1%	6.4%	8.8%	7.3%	12.4%	15.9%	10.5%	9.0%
Number of valid observ.	240	235	260	259	185	132	248	256
2. Wife at fault								
Husband	33.8%	61.9%	78.6%	84.8%	71.9%	34.8%	59.4%	66.0%
Wife	52.1%	4.8%	0.0%	0.8%	2.7%	34.8%	0.0%	4.7%
Divided half/half	3.8%	2.6%	11.7%	6.3%	14.1%	13.0%	30.5%	20.3%
Children choose	7.5%	25.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other	2.9%	5.6%	9.7%	8.2%	11.4%	17.4%	10.0%	9.0%
Number of valid observ.	240	231	257	256	185	138	249	256

Note: Results based upon monogamous couples only.

Table 11. Disposition upon Death of Head of Household

	Young children	Old children	Land	House	husband	Livestock of wife	both	Household Utensils
1. Monogamous couples								
Surviving spouse(s)	86.0%	80.3%	53.3%	58.5%	57.9%	66.6%	59.5%	63.4%
Head's relatives	5.6%	6.8%	3.2%	3.2%	2.6%	2.7%	2.2%	3.3%
Children	1.4%	2.5%	10.3%	6.3%	8.5%	4.0%	5.3%	4.9%
Spouse and children	6.7%	7.8%	32.3%	31.4%	28.9%	24.9%	32.4%	28.0%
Other	0.3%	2.8%	0.8%	0.5%	2.1%	1.8%	0.6%	0.3%
Number of valid observ.	871	800	959	965	729	595	861	970
2. Polygamous couples								
Surviving spouse(s)	86.8%	83.5%	40.7%	48.2%	47.8%	63.8%	48.6%	56.6%
Head's relatives	7.5%	6.8%	4.4%	2.6%	3.3%	2.9%	2.8%	3.5%
Children	0.9%	3.9%	15.0%	5.3%	8.7%	4.3%	3.7%	3.5%
Spouse and children	3.8%	3.9%	36.3%	40.4%	34.8%	29.0%	39.3%	31.0%
Other	0.9%	1.9%	3.5%	3.5%	5.4%	0.0%	5.6%	5.3%
Number of valid observ.	106	103	113	114	92	69	107	113

Table 12. Disposition upon Death of Spouse

	Young children	Old children	Land	House	Livestock of husband	wife	both	Household Utensils
1. Monogamous couples								
Surviving spouse(s)	89.0%	88.3%	76.1%	78.4%	74.7%	69.4%	72.9%	76.8%
Head's relatives	6.0%	3.2%	1.8%	1.3%	1.9%	2.3%	1.5%	1.4%
Children	0.2%	1.7%	2.0%	1.7%	2.8%	6.3%	3.0%	3.0%
Spouse and children	4.6%	5.7%	20.0%	18.5%	19.1%	19.8%	22.1%	18.6%
Other	0.2%	1.1%	0.2%	0.1%	1.5%	2.1%	0.5%	0.2%
Number of valid observ.	872	811	961	969	723	605	864	968
2. Polygamous couples								
Surviving spouse(s)	87.5%	92.3%	76.6%	75.7%	78.4%	67.6%	65.7%	69.4%
Head's relatives	5.8%	1.0%	1.8%	0.9%	1.1%	1.4%	1.9%	1.8%
Children	1.0%	1.0%	1.8%	3.6%	2.3%	7.0%	5.7%	7.2%
Spouse and children	1.9%	2.9%	18.9%	18.9%	18.2%	22.5%	25.7%	19.8%
Other	3.8%	2.9%	0.9%	0.9%	0.0%	1.4%	1.0%	1.8%
Number of valid observ.	104	104	111	111	88	71	105	111

Table 13. Regression Analysis of Disposition of Assets Upon Divorce

(currently married households only; estimator is two-limit tobit)

		Share of jointly owned livestock going to wife				Share of land going to wife			
		Coef.	t stat.	Coef.	t stat.	Coef.	t stat.	Coef.	t stat.
1. Assets brought to the marriage									
Pre-marriage land of husband	log(value+1)			-0.007	-2.343			-0.018	-3.966
Pre-marriage livestock of husband	log(value+1)			0.001	0.241			0.006	1.095
Other assets brought to marriage by husband	log(value+1)			-0.005	-1.317			-0.005	-0.852
Inherited land of husband	log(value+1)			0.000	0.133			0.001	0.256
Pre-marriage land of wife	log(value+1)			0.025	3.745			0.050	5.235
Pre-marriage livestock of wife	log(value+1)			0.001	0.286			0.002	0.287
Other assets brought to marriage by wife	log(value+1)			0.000	0.040			-0.019	-1.613
Inherited land of wife	log(value+1)			0.013	2.520			0.002	0.308
2. Asset ownership during marriage									
Share of land user rights of wife	share			0.012	0.250			0.187	2.839
Share of livestock owned by husband alone	share			-0.069	-2.307			-0.173	-3.391
Share of livestock owned by wife alone	share			0.128	2.469			0.159	2.065
3. Marriage contract									
Samanya (always written)	dummy	0.086	2.272	0.104	2.124	0.225	3.476	0.074	0.914
Nika (written or verbal)	dummy	0.098	2.672	0.042	0.547	0.227	3.434	-0.082	-0.634
Cheb (written or verbal)	dummy	0.099	1.950	0.014	0.194	0.054	0.509	0.122	0.817
Kalkida (verbal)	dummy	0.072	1.704	0.098	2.001	0.177	2.428	0.209	2.369
Other contract (written or verbal)	dummy	0.058	1.341	0.086	1.663	0.150	1.993	0.114	1.231
4. Social norm									
Location and religion specific average	share	1.374	16.673			1.828	16.224		
5. Location									
Geblen village dummy	dummy			0.125	1.963			0.147	1.752
Dinki village dummy	dummy			-0.091	-1.062			-0.045	-0.380
Yetmen village dummy	dummy			-0.041	-0.462			0.219	1.788
Shumshaha village dummy	dummy			-0.081	-0.962			0.103	0.884
Sirbana Godeti village dummy	dummy			0.005	0.068			0.011	0.099
Adele Keke village dummy	dummy			-0.248	-2.931			-0.395	-2.887
Korodega village dummy	dummy			0.041	0.513			0.055	0.481
Trirufe Kechema village dummy	dummy			0.029	0.427			0.110	1.168
Imdibir village dummy	dummy			0.188	1.693			-0.616	-2.715
Aze Deboa village dummy	dummy			0.082	0.845			-0.596	-3.553
Adado village dummy	dummy			-0.426	-4.102			-0.426	-2.688
Gara Godo village dummy	dummy			-0.415	-4.281			-0.714	-4.130
Doma village dummy	dummy			0.048	0.508			-2.321	
Debre Birhan village dummy	dummy			-0.029	-0.320			0.112	0.895
6. Ethnicity									
Amhara	dummy			0.110	1.677			-0.024	-0.268
Oromo	dummy			0.094	1.552			-0.024	-0.290
South-Central ethnic groups	dummy			-0.023	-0.298			-0.053	-0.432
Other ethnicity	dummy			-0.061	-0.804			0.020	0.181
7. Religion									
Muslim	dummy			-0.158	-2.277			-0.180	-1.659
Catholic and protestants	dummy			-0.026	-0.638			-0.099	-1.272
Other religion	dummy			0.033	0.393			-0.099	-0.587
Intercept		-0.269	-6.849	0.362	5.926	-0.618	-9.373	0.279	2.897
Selection-term		0.257		0.245		0.360		0.318	
Number of observations		919		769		1020		798	
of which are 0			246		210		574		450
of which are between 0 and 1			648		540		426		333
of which are 1			25		19		20		15
Pseudo-R square		0.468		0.547		0.450		0.559	

Note: Harresaw is omitted village; Tigray is omitted ethnicity; Orthodox is omitted religion; no marriage contract is omitted contract category.

Table 14. Regression Analysis of Disposition of Assets Upon Death of Husband
(currently married households only; estimator is logit; coefficients are reported as odds ratios.)

		Wife inherits all jointly owned livestock		Wife inherits all land	
		Odds	t stat.	Odds	t stat.
1. Children					
Children from current marriage	Number	1.024	0.759	0.983	-0.518
Husband's children from previous union	Number	0.904	-3.051	0.901	-2.952
Wife's children from previous union	Number	1.344	3.532	1.307	3.192
2. Asset ownership during marriage					
Share of land user rights of wife	share	1.033	0.072	0.778	-0.545
Share of livestock owned by husband alone	share	0.697	-1.435	0.572	-2.179
Share of livestock owned by wife alone	share	0.634	-0.825	0.824	-0.339
3. Marriage contract					
Samanya (always written)	dummy	0.977	-0.052	0.781	-0.536
Nika (written or verbal)	dummy	0.550	-0.896	0.751	-0.418
Cheb (written or verbal)	dummy	0.170	-3.097	0.517	-1.150
Kalkida (verbal)	dummy	0.737	-0.794	0.486	-1.790
Other contract (written or verbal)	dummy	0.719	-0.746	0.791	-0.526
4. Location					
Geblen village dummy	dummy	0.943	-0.101	0.746	-0.489
Dinki village dummy	dummy	0.447	-0.951	0.340	-1.280
Yetmen village dummy	dummy	0.095	-2.564	0.125	-2.307
Shumshaha village dummy	dummy	1.170	0.179	1.319	0.318
Sirbana Godeti village dummy	dummy	2.698	1.235	3.222	1.437
Adele Keke village dummy	dummy	1.126	0.147	0.200	-1.925
Korodega village dummy	dummy	1.098	0.119	0.727	-0.410
Trirufe Kechema village dummy	dummy	1.720	0.775	1.272	0.352
Imdibir village dummy	dummy	4.123	1.380	0.880	-0.124
Aze Deboa village dummy	dummy	3.561	1.356	3.522	1.322
Adado village dummy	dummy	1.958	0.720	0.580	-0.572
Gara Godo village dummy	dummy	8.722	2.341	3.921	1.491
Doma village dummy	dummy	0.679	-0.424	0.095	-2.272
Debre Birhan village dummy	dummy	0.859	-0.171	0.983	-0.020
6. Ethnicity					
Amhara	dummy	1.208	0.264	0.997	-0.004
Oromo	dummy	0.440	-1.297	0.371	-1.571
South-Central ethnic groups	dummy	0.166	-2.357	0.149	-2.481
Other ethnicity	dummy	0.430	-1.243	0.356	-1.496
7. Religion					
Muslim	dummy	1.116	0.176	1.039	0.058
Catholic and protestants	dummy	1.482	1.093	2.477	2.229
Other religion	dummy	1.454	0.597	2.555	1.302
Number of observations		708		730	
Pseudo-R square		0.1409		0.2244	

Note: Harresaw is omitted village; Tigray is omitted ethnicity; Orthodox is omitted religion; no marriage contract is omitted contract category. Virtually identical results are obtained using conditional logit. The advantage of the conditional logit estimator is that it avoids estimating a logit regression with fixed effects.

Table 15. Regression Analysis of Ownership of Assets During Marriage

(currently married households only; estimator is two-limit tobit)

		Share of land owned' by wife		Share of livestock owned by:					
		Coef.	t stat.	wife	husband	Coef.	t stat.	Coef.	t stat.
1. Assets brought to the marriage									
Pre-marriage land of husband	log(value+1)	-0.087	-2.445	-0.011	-0.470	0.034	1.237		
Pre-marriage livestock of husband	log(value+1)	-0.000	-0.011	0.001	0.049	0.041	1.282		
Other assets brought to marriage by husband	log(value+1)	-0.008	-0.186	-0.025	-0.825	0.040	1.064		
Inherited land of husband	log(value+1)	-0.085	-2.144	-0.106	-3.572	0.065	2.123		
Pre-marriage land of wife	log(value+1)	0.352	5.206	0.076	1.736	0.024	0.355		
Pre-marriage livestock of wife	log(value+1)	-0.000	-0.002	-0.006	-0.151	-0.010	-0.202		
Other assets brought to marriage by wife	log(value+1)	0.452	5.221	0.234	5.269	-0.039	-0.623		
Inherited land of wife	log(value+1)	0.172	3.307	0.085	2.304	-0.008	-0.162		
2. Gifts at the time of marriage									
From groom family to groom	log(value+1)	-0.078	-0.906	-0.020	-0.363	-0.037	-0.590		
From groom family to bride	log(value+1)	-0.109	-1.910	-0.032	-0.830	-0.034	-0.803		
From groom family to bride family	log(value+1)	-0.253	-2.760	-0.073	-1.759	0.053	1.100		
From groom family to bride and groom	log(value+1)	-0.533	-1.988	-0.138	-1.516	0.061	0.782		
From bride family to groom	log(value+1)	0.034	0.406	-0.115	-1.302	0.054	0.610		
From bride family to bride	log(value+1)	0.007	0.097	0.040	0.791	0.036	0.576		
From bride family to bride and groom	log(value+1)	-0.227	-2.004	0.004	0.082	-0.025	-0.389		
3. Location									
Geblen village dummy	dummy	-0.495	-0.843	0.764	1.315	0.445	0.481		
Dinki village dummy	dummy	-2.744	-2.126	0.881	1.639	3.474	3.281		
Yetmen village dummy	dummy	-1.313	-1.192	-0.279	-0.394	1.631	1.502		
Shumshaha village dummy	dummy	-0.939	-0.933	0.415	0.801	0.006	0.006		
Sirbana Godeti village dummy	dummy	-0.991	-1.076	0.181	0.327	1.912	1.999		
Adele Keke village dummy	dummy	1.108	1.155	2.253	4.000	2.792	2.874		
Korodega village dummy	dummy	-1.548	-1.715	1.610	3.083	1.992	2.143		
Trirufe Kechema village dummy	dummy	-2.142	-2.492	0.467	0.897	1.409	1.559		
Imdibir village dummy	dummy	-3.313	-2.239	0.390	0.613	4.618	3.808		
Aze Deboa village dummy	dummy	-1.693	-1.113	0.241	0.329	4.329	3.556		
Adado village dummy	dummy	-2.242	-1.723	0.769	1.303	5.326	4.307		
Gara Godo village dummy	dummy	-1.798	-1.508	1.188	2.176	3.979	3.484		
Doma village dummy	dummy	-4.330	-2.889	0.062	0.096	1.652	1.430		
Debre Birhan village dummy	dummy	-0.311	-0.303	-0.461	-0.808	0.161	0.151		
4. Ethnicity									
Amhara	dummy	-0.591	-0.666	(*)		-0.369	-0.503		
Oromo	dummy	-0.416	-0.508	(*)		-0.016	-0.025		
South-Central ethnic groups	dummy	0.039	0.037	(*)		0.032	0.038		
Other ethnicity	dummy	-0.356	-0.401	(*)		0.301	0.363		
5. Religion									
Muslim	dummy	-0.494	-0.672	(*)		0.375	0.781		
Catholic and protestants	dummy	0.500	0.964	(*)		-0.095	-0.267		
Other religion	dummy	2.179	2.494	(*)		-1.243	-1.752		
Intercept		-0.250	-0.599	-2.000	-3.826	-4.045	-5.178		
Selection-term		1.671		1.245		1.958			
Number of observations		988		943		940			
of which are 0		874		838		639			
of which are between 0 and 1		54		68		104			
of which are 1		60		37		197			
Pseudo-R square		0.334		0.238		0.255			
Joint hypothesis tests:									
Assets brought to marriage by husband		F stat.	p value	F stat.	p value	F stat.	p value		
Assets brought to marriage by wife		2.89	0.0216	3.48	0.0079	3.01	0.0176		
Gifts at the time of marriage		11.19	0.0000	8.76	0.0000	0.13	0.9713		
		3.04	0.0036	1.27	0.2596	0.47	0.8568		

Note: Harresaw is omitted village; Tigray is omitted ethnicity; Orthodox is omitted religion; no marriage contract is omitted contract category. (*) Variable omitted from the regression.

Table 16. Regression Analysis of the Determinants of Female Headship
(currently married households only; estimator is logit.)

		Coef.	t stat.
1. Previous unions and children			
Previous unions of husband	Number	0.208	0.939
Previous unions of wife	Number	0.552	2.285
Husband's children from previous union	Number	-0.258	-2.741
Wife's children from previous union	Number	0.313	1.851
2. Assets brought to the marriage			
Pre-marriage land of husband	log(value)	-0.092	-1.278
Pre-marriage livestock of husband	log(value)	-0.159	-2.003
Other assets brought to marriage by husband	log(value)	-0.178	-2.127
Inherited land of husband	log(value)	-0.096	-1.088
Pre-marriage land of wife	log(value)	0.070	0.594
Pre-marriage livestock of wife	log(value)	-0.138	-1.223
Other assets brought to marriage by wife	log(value)	1.038	7.733
Inherited land of wife	log(value)	0.121	1.118
3. Location			
Geblen village dummy	dummy	-16.728	(*)
Dinki village dummy	dummy	-15.301	(*)
Yetmen village dummy	dummy	0.092	0.045
Shumshaha village dummy	dummy	1.230	0.683
Sirbana Godeti village dummy	dummy	3.204	2.232
Adele Keke village dummy	dummy	0.859	0.531
Korodega village dummy	dummy	1.060	0.655
Trirufe Kechema village dummy	dummy	-3.240	-1.820
Imdibir village dummy	dummy	-2.190	-0.544
Aze Deboa village dummy	dummy	-15.927	(*)
Adado village dummy	dummy	-2.067	-0.520
Gara Godo village dummy	dummy	-2.267	-0.576
Doma village dummy	dummy	-1.051	-0.264
Debre Birhan village dummy	dummy	2.109	1.218
4. Ethnicity			
Amhara	dummy	-1.520	-1.098
Oromo	dummy	-2.334	-1.946
South-Central ethnic groups	dummy	1.103	0.298
Other ethnicity	dummy	-2.707	-1.041
5. Religion			
Muslim	dummy	1.178	0.932
Catholic and protestants	dummy	-1.462	-1.252
Other religion	dummy	1.393	1.031
Intercept		-2.179	-2.432
Number of observations			
Pseudo-R square			
Joint hypothesis test:		Chi-sq.	p value
Assets brought to marriage by husband		19.620	0.001
Assets brought to marriage by wife		60.490	0.000
Previous unions and children		17.580	0.002

Note: Harresaw is omitted village; Tigray is omitted ethnicity; Orthodox is omitted religion; no marriage contract is omitted contract category. (*) Variable predicts no female head perfectly.