Intra-Household Resource Allocation in Rural Tanzania: Why Women Care about Disclosure

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ABSTRACT How resources from development or social programs are allocated within the household is important for household welfare. Intra-household resource allocation does not only depend on who receives and allocates the resources, but also on whether the resources are disclosed to other household members. In patrilineal societies in rural Tanzania, like the one we selected for this study, we expect disclosure of the available resources to have a stronger effect on women’s allocation decisions than on their husbands’. To test this, we use a choice experiment with 664 couples in rural Tanzania. Each spouse allocate a hypothetical sum of money between themselves, their spouse, and their children. We randomize whether they are told to assume that these resources are disclosed to their spouse. We find that women respond more strongly to disclosure than their husbands. Disclosure of the resources makes women increase the share allocated to their spouse and reduce the share kept to themselves but does not change the share allocated to their children. This disclosure effect is stronger among women with a controlling husband and women who receive transfers from their husband but gets weaker with higher spousal trust.

KEYWORDS: Intra-household resource allocation; choice experiment; Tanzania

JEL CLASSIFICATION: D13; D82; J12

1. Introduction

Most development or social programs transfer economic resources to households, and how these resources are allocated among household members has important implications for household welfare. For example, resources that are invested in household public goods, such as children’s education and health, increase household welfare (Duflo, 2001; Rosenzweig, 1990). An important focus in the academic and policy debate has been on who in the household should receive the transferred resources. Some studies concluded that children benefit more when women are in control of the resources (Armand, Attanasio, Carneiro, & Lechene, 2020; Duflo, 2003; Duflo & Udry, 2004; Haddad, Hoddinott, & Alderman, 1997; Hoddinott & Haddad, 1995; Lundberg, Pollak, & Wales, 1997; Thomas, 1990, 1993). Other have argued more
generally that tackling persistent gender inequality in access to resources could increase productivity (World Bank, 2012). This conclusion led many programs in the developing world to focus on aiming resources to women and mothers. A few examples are PROGRESA in Mexico (Attanasio, Meghir, & Santiago, 2012), Bolsa Familia in Brazil (Hall, 2008), Bono de Desarrollo Humano in Ecuador (Ponce & Bedi, 2010) and Familias en Accion in Colombia (Attanasio et al., 2010).

Such policy, however, is based on the assumption that women have complete freedom to decide how to spend the received resources. Given the large gender inequality in low-income countries (Jayachandran, 2015; World Bank, 2012), including in Tanzania (Akram-Lodhi & Komba, 2018) which is the setting for this study, this assumption is hardly realistic. Women's allocations are influenced by what other household members – in particular, their spouse – want and the more so if the latter has a stronger say in household decisions. Aiming resources at women might therefore be less effective than expected.

To investigate women’s autonomy to allocate the received resources, we look at the behavioral influence of the ‘disclosure’ of the resources to their spouses. The assumption would be that if women’s autonomy to allocate the resources is reduced by their spouse, this effect would be stronger if the transferred resources are disclosed to the spouse. More specifically, we investigate in this paper 1) whether disclosure has an influence on how wives allocate resources within their household, and whether that effect is stronger than for the husbands; 2) how the estimated disclosure effect interacts with the spousal relationship. We expect disclosure to have a stronger effect on wives who have controlling husbands, who receive transfers from their spouse, or among couples with lower spousal trust.

To test the behavioral influence of ‘disclosure’ on intra-household resource allocations we conduct a choice experiment with married or cohabiting couples from a patrilineal society in rural Tanzania. In the experiment, respondents allocate a hypothetical amount of resources among themselves, their spouse, and their children. These decisions are made in private and independently (without any influence from their spouse). To test the effect of disclosure we vary whether respondents are told to assume that the resources would be disclosed to their spouse. Complementing the choice data with data from a questionnaire, we investigate how the disclosure effect on wives’ allocation decisions interacts with whether they have a controlling husband, they receive transfers from their husband, and with spousal trust.

Our results can be summarized as follows. First, we find that women allocate more to their children and themselves, and less to their spouses than their husbands do. Second, women respond more strongly to disclosure than their husbands. Being told to assume that the resources would be disclosed to their spouse makes women increase the share allocated to their spouse and reduce the share kept to themselves but does not change the share allocated to their children. Third, the disclosure effect on women’s allocation decisions is stronger among women with a controlling husband and women who normally receive transfers from their husband but is weaker among women who have more trust in their husband.

Several studies are related to ours. There is evidence that people often prefer to keep resources hidden from relatives or household members. In Senegal, Boltz, Marazyan, and Villar (2019) elicited the willingness to pay to hide income. Participants were willing to forgo up to 14% of their resources to keep them private from other members in the experimental session. Using an experiment, Jakiela and Ozier (2016) reported that many women in Kenya chose to pay in order to keep their income private from their relatives. They only found a small willingness to pay from men in the sample. Dupas and Robinson (2013) showed that uptake of a non-interest savings account (with large withdrawal fees) was substantial among female entrepreneurs in Kenya but not among men. As the de facto savings rate is negative, this implies a positive willingness to pay to use the savings account.2

A few recent studies looked at hiding resources from spouses. In an experiment in India, Castilla (2019) found that when a spouse was able to hide income in a separate account, a
quarter chose to do so even though the joint account option would have led to more savings for the couple. This led to a 24% average decrease in potential earnings for the couples. Almås, Armand, Attanasio, and Carneiro (2018) matched data from a conditional cash transfer program in Macedonia with data from a lab experiment that elicited women’s willingness to pay to receive a transfer. In the transfer program, the recipient was randomized between the husband and wife in different municipalities. They showed that in the lab experiment women were willing to forgo some income in order to be the transfer recipient rather than their husbands and that their willingness to pay was higher if they were the recipient of the cash transfer program. They interpret this as the positive impact of the program on women’s empowerment.

The finding that people prefer to hide resources suggests that their preferences on how to allocate these resources differ from the preferences of the people they hide the resources from. This is supported by evidence that disclosure influences how resources are allocated. Castilla and Walker (2013) used a field experiment in Ghana in which half the winners of a lottery were rewarded in public and half in private. They reported that publicly awarded lottery winnings went toward more household items while privately awarded lottery winnings tended to be hidden. They also observed that men and women allocated their winnings differently. Women allocated private funds into cash gifts to their networks which were seen as an insurance measure because these gifts can be reciprocated at a later time when needed. In Malawi, Goldberg (2017) found that observability of a windfall income made the recipients spend their new income more quickly than those who received the same amount in private. Ashraf (2009) is the only study we are aware of that looked at the effect of disclosure on resource allocation within the household. Randomly varying information about a small cash transfer that was received by one of the spouses in an experiment in the Philippines, she found that the spouse without financial responsibility in the household tended to keep money in private when choices were not disclosed and put money for personal consumption when choices were public.

Focusing specifically on evidence from Tanzania, there are a few studies that give insight into intra-household resource allocation decisions. Mwaseba and Kaarhus (2015) reported that women in patrilineal societies in Tanzania have less control over productive or financial resources compared to women in matrilineal societies. Nsenga and Mwaseba (2021) documented that while both spouses tend to be involved in household resource allocation decisions, the husband tends to have the final say. Galiè, Farnworth, Njiru, and Alonso (2021) observed that couples in Tanzania associated decision-making power of resource allocation with the spouse that earns income, which is more often the husband. A study by Anderson, Reynolds, and Gugerty (2017), similar to ours interviewed spouses separately and found that responses about who makes household decisions greatly depend on who was asked. Overall, intra-household resource allocation in Tanzania appears to favor decision-making power over men. This highlights the importance of studying the effect of disclosure on the decisions of women in Tanzania.

2. Research design

In this section, we present the choice experiment and how it was implemented, develop a conceptual framework with hypotheses, and describe the sample.

2.1. Choice experiment

To study resource allocation decisions we used a choice experiment with a sample of married or cohabiting couples. The choice experiment was implemented as part of a survey in which we collected information on socio-demographic characteristics of each couple (age, education, number of children, religion, etc.) as well as aspects that characterize intra-couple interaction, such as transfers, husband’s controlling behavior, etc. To guarantee privacy, both spouses of each couple in the sample were interviewed individually and in private. The interviews were
conducted simultaneously by separate enumerators so that no communication was possible between the spouses about the choice experiment. They were also not made aware that both spouses participated in the same choice experiment. We used same-sex enumerator-interviewee pairs to maximize the rapport between enumerator and respondent.

In the experiment, each spouse was asked to divide a hypothetical amount of 200,000 TZS (which is approximately 90 USD) between their children, their spouse and themselves. We randomly varied whether they were told to assume that these resources would be disclosed to their spouse. This allows us to test how much if at all, the allocation decisions depend on whether the resources are disclosed to the spouse.

To implement this choice experiment, we used the following procedures. To represent the money we used 20 counters, each representing 10,000 TZS. These were given to the respondent at the start of the exercise. The enumerator put three sheets in front of the respondent, each representing one of the three categories: their children, their spouse and themselves. Thereafter, the respondent was asked, “If you were given a sum of money of 200,000 TZS which you could freely spend, how would you spend the resources?” The respondent divided the 20 counters between the three options according to their preference, by putting them on the respective sheets. Before they were asked to make their choice, respondents were given the opportunity to ask questions for clarification.

Each participant made this decision twice, in two different treatments. In one treatment respondents were told to distribute the money as if their spouse knew of the money, while in the other treatment they were told to distribute the money as if their spouse did not know about the money. The order of the treatments was randomized. This design allows us to conduct both between-subject and within-subject analyses.

Specifically, as each respondent did the treatments in random order, the comparison of the first decision made by each respondent can be used in a between-subject treatment comparison. The randomization ensures that observable and unobservable characteristics of the respondents are the same between treatments. Any differences in allocation decisions can then be attributed to the difference in disclosure between both treatments. As all respondents took a decision in both treatments, we can also conduct a within-subject analysis. Such an approach comes with higher statistical power as twice as many observations are used, and, it increases the salience of the treatments as the participants get to know the difference between both treatments. However, there is a risk of ‘demand effects’ and ‘order effects’. We will therefore use the between-subject analysis as our main approach, and use the within-subject analysis to test the robustness of the results.

2.2. Conceptual framework

To guide the analysis, we develop a conceptual framework that allows us to develop hypotheses on the effect of disclosure on resource allocation, and how it interacts with the gender of the decision-maker. We start by describing how intra-household decisions are commonly made in rural Tanzanian households, as documented by existing studies. Tanzania is made up of numerous ethnicities that can be categorized into patrilineal and matrilineal (Omari, 1991). Mwaseba and Kaarhus (2015) described how women in patrilineal societies (like our study site) tend to have less control over productive or financial resources compared to women in matrilineal societies. Galiè et al. (2021) found that men and women in Tanzania associated decision-making power with the spouse that earns income and that men are perceived as the ‘breadwinners’ of the household.

Following the large gender imbalance in decision-making power in patrilineal societies in rural Tanzania, we develop hypotheses about 1) the effect of disclosure on intra-household decisions, and whether that effect is stronger for women than for their husbands; 2) how such disclosure effect women’s allocation decisions interacts with their spousal relationship, as proxied
by whether they have a ‘controlling’ husband, whether they receive transfers from their husband and whether there is spousal trust. To develop these hypotheses, we also make the following assumptions. First, we assume that each spouse cares about the utility their partner and their child(ren) derive from receiving a share of the resources and that they care more if they have more spousal trust. Second, following Browning, Chiappori, and Weiss (2009), we assume that a person does not weigh the utility of their spouse and child(ren) more than their own. Lastly, we assume that both spouses have complete information on each other’s utility functions. Using these assumptions, we look at the optimal resource allocation from the perspective of the spouse who shares the resources, and how it differs between both treatments.

2.2.1. Case 1 (disclosure treatment). In this treatment, both spouses are informed about the existence of the resources. As a result, both spouses can exert an influence on how the resources are allocated. We assume that the resources are allocated in such a way that the weight given to the respondent’s preferences increases with the respondent’s relative bargaining power in the household.6

2.2.2. Case 2 (non-disclosure treatment). In this treatment, only one spouse will know about the existence of the resources.7 This makes it so that only the utility of the recipient will influence the allocation decision. Comparing both treatments, we develop the following hypotheses:

**Hypothesis 1:** Disclosure has a stronger effect on women’s decisions than on their husband’s.

As explained above, we assume that when resources are undisclosed the decision-maker has full autonomy over their allocations. However, once resources are disclosed, autonomy is reduced. Given that our area of study is characterized by large gender inequality (as illustrated by seeing Mwaseba and Kaarhus (2015) and Badstue, Farnworth, Umantseva, Kamanzi, and Roeven (2021)), we assume that women have lower autonomy than their husbands in the disclosure treatment. As a result, the change in decision-making autonomy between both treatments is greater for women than for men, so women’s allocation decisions are more influenced by disclosure than men’s decisions. The hypothesized larger effect of disclosure on women would also be in line with women’s larger inclination to hide resources, as found in Kenya by Jakiela and Ozier (2016) and Dupas and Robinson (2013).

**Hypothesis 2:** Disclosure has a stronger effect on the decisions of women with a controlling husband.

In an extension of Hypothesis 1, we expect that women with a controlling husband will be more influenced by disclosure. As women maintain full autonomy over decisions when the resources are undisclosed irrespective of women’s decision-making autonomy outside the experiment, women with a controlling husband will have a larger decrease in their autonomy when the resources are disclosed than those who do not have a controlling husband. This will lead to a larger change in their allocations. In rural Tanzania, the main income earner tends to take control of household decisions (Galié et al., 2021). While this is mostly the husband, in line with local norms (Badstue et al., 2021), recent evidence in northern Tanzania shows that women’s involvement in household decisions also increases with women’s income (Westeneng & D’Exelle, 2015). In sum, we expect considerable variation in the husband’s control, which moderates the disclosure effect on women’s allocation decisions.

**Hypothesis 3:** Disclosure has a stronger effect on the decisions of women who receive transfers from the husband.

Transfers are common between spouses, mostly from the highest income earner to the lowest income earner. As in the society of our study men tend to have a higher income than women, and transfers from husbands are very common. As a result, men with a higher income not only
have more direct control over the household decisions, as we described above, but they may also influence the decision-making of their wives via the transfers they make. Specifically, we expect that women who receive transfers from their husbands (outside of the experiment) will respond more strongly to disclosure, through one of the following mechanisms. First, household members are expected to contribute their fair share to the household. Therefore, if an additional source of income is found (such as the windfall income in the choice experiment), a husband who has contributed in the past (via transfers to his wife) would expect to receive a higher share than a husband who has not made such contributions. Second, the husband can exploit the transfers as a source of power to claim a higher share of the woman’s new income, by threatening to withdraw the transfers in the future.

**Hypothesis 4:** Disclosure has a weaker effect on the decisions of women who have higher spousal trust.

We expect that women with higher spousal trust will be less responsive to disclosure when allocating household resources. Spousal trust tends to be low in Tanzania (Badstue et al., 2021). Low trust is often the result of an arranged marriage, particularly early on in the marriage (Baland & Ziparo, 2017), when spouses still need to get to know each other and may be hesitant to reveal their preferences. Women with higher spousal trust will assign a higher weight to the utility of their spouse, which makes their allocations more in line with their spouse’s preferences even without disclosure. As a result, the disclosure will have a weaker effect on their allocation decisions.

2.3. Sample

As our study region, we chose the Misungwi district in the Mwanza region of northern Tanzania. This district is located 47 km south of Mwanza city. Based on the most recent census data, the Misungwi district has a population of 351,607. Ninety percent live in rural settlements (Tanzania National Bureau of Statistics, 2015). Agriculture is the main economic activity, followed by livestock keeping, small-scale mining and petty trade of agricultural and livestock products (Tanzania National Bureau of Statistics, 2016). It is ethnically very homogeneous with most households belonging to the Sukuma tribe, which is patrilineal. To select the respondents we used a multi-stage sampling approach. Our final sample includes 664 married or cohabiting couples. Data collection took place between May and September 2017.

From Table 1 we see that the women in our sample are on average six years younger than the men in our sample. Men and women have similar education levels. Men reported earning over double the amount women reported earning in the 12 months prior to the survey. Most of the subjects in our sample farm crops and poultry. More men than women grow crops. About a third of both men and women report farming cattle, both large and small. About two-thirds of both men and women report farming poultry. We also see that 52% of men report working for someone else, as captured by the ‘employment’ variable, while only 36% of women in our sample report this.

86% of men say that they sometimes give transfers to their wives and 61% of women say that they sometimes receive transfers from their husbands. This reporting difference between men and women may be due to recall bias, i.e. recall differences between the donating and receiving agents. Note that these answers are self-reported and transfers were not verified. Transfers from wives to husbands are substantially less common.

Looking at the household level characteristics, we see that couples in our sample have, on average, about 3 children under the age of 12. We also created a household wealth index with multiple correspondence analysis using a list of assets. The assets included in the index are: the number of rooms in the house, having an iron roof, having a cement floor, solar-powered lighting, the number of bicycles, and the number of plots of land owned by the household.
Lastly, to measure the husband’s controlling behavior, we use the following five different behaviors experienced in the six months before the interview, as reported by the wife: the husband refused to give money for household items (reported by 28% of the women), took money from what the wife had earned (9%), forbid the wife from seeing friends or family (10%), reprimanded the wife for speaking to another man (29%) and accused the wife of being unfaithful (11%). 53% of the women in our sample reported that their husbands did not take any of these actions, while 24% reported only having experienced one such behavior. The remaining 23% of our sample reported having experienced two to five of these behaviors. Given this distribution, we decided that a binary variable equal to one if a woman has experienced at least one of these behaviors would be best to capture the variation in these data. Following this definition, 47% of women in our sample reported experiencing controlling behavior from their husbands.

For a better understanding of intra-household dynamics within this region, we also conducted in-depth interviews with 10 female survey participants. We also held informal meetings with three local experts working for different NGOs. The in-depth interviews included seven open-ended questions about how the respondent and her husband make decisions about family planning, how money is spent on their children, how disagreements on how to spend money are handled and how friends can help when there are spousal disagreements. The participants were randomly selected from the sample used for the choice experiment, and interviews took place after the choice experiment, in a second visit. Only the enumerator was present and the responses were audio-recorded (participants were asked permission for this) due to the open-ended nature of the questions. The responses were then transcribed and translated into a text

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Table 1. Individual socio-economic characteristics.

|                           | Husbands | Wives |
|---------------------------|----------|-------|
|                           | N | Mean/Percent | N | Mean/Percent | p-value |
| Age (years)               | 664 | 36.8 (10.7) | 664 | 30.4 (9.1) | 0.000*** |
| Education (years)         | 660 | 5.3 (3.0) | 664 | 5.0 (3.1) | 0.055* |
| Income (TZS)              | 664 | 654,170 (1,376,1216) | 664 | 315,638 (794,52) | 0.000*** |

Income sources

|                      | Husbands | Wives |
|----------------------|----------|-------|
|                      | N | Mean/Percent | N | Mean/Percent | p-value |
| Crops                | 664 | 92% | 664 | 77% | 0.000*** |
| Cattle               | 664 | 32% | 664 | 32% | 0.859 |
| Small animals        | 664 | 33% | 664 | 31% | 0.346 |
| Poultry              | 664 | 69% | 664 | 56% | 0.129 |
| Employment           | 664 | 52% | 664 | 36% | 0.000*** |

Intra-household transfers

|                       | Husbands | Wives |
|-----------------------|----------|-------|
|                       | N | Mean/Percent | N | Mean/Percent | p-value |
| % Give transfer       | 664 | 86% | 664 | 17% | 0.000*** |
| Amount given (TZS)    | 574 | 66,172 (75,563) | 116 | 46,810 (85,931) |
| % Receive transfer    | 664 | 21% | 664 | 61% | 0.000*** |
| Amount received (TZS) | 138 | 26,912 (43,007) | 407 | 148,956 (226,593) |

Notes: Standard deviations are reported in parentheses. Two-sided p-values reported from an unpaired t-test between spouses for continuous variables, and a proportion test for binary variables. Income and amount of transfers refer to the 12 months before the interview.
document. While responses were open-ended, they tended to be brief. Therefore no formal analysis of these responses was done, only a review by the authors in which common responses were found. The conversations with local experts from NGOs were more informal and the questions asked depend on the expertise of the participant.

We learned that in the Sukuma tribe men usually control the household finances and provide women with money when needed. We also learned that men tend to make most household decisions. One local expert told us of a woman who was not able to go to the doctor until her husband returned home because she could not make that decision alone. We also learned that within this culture, men prefer that their private matters, such as money or disagreements, are kept between spouses and forbid their wives from talking about these issues with friends. One struggle faced by women in this tribe is the possibility of their husband taking another wife because polygamy is allowed in the Sukuma tribe. We learned that if men are not happy with their wives, they may start looking for another wife. This could be used as a threat to the first wife. When men have more than one wife, usually the ‘new’ wife receives more resources and the first wife receives minimal resources if any. Another struggle faced by women in this tribe is that if they start earning their own money and the husband becomes aware of it, then he stops giving her an allowance.

3. Results

We first present the results from a descriptive analysis of the respondents’ resource allocations and explore these by gender and the disclosure treatment. We then take the analysis further with regression analysis to test each of the hypotheses.

3.1. Disclosure and gender: descriptive analysis

In this analysis, we only use the first decision of the respondent and exploit the random assignment to treatment to make causal inferences. To verify whether the randomization is done successfully, we test whether the between-subject treatments are balanced in our sample. Table A1 in Section A of the Appendix shows that there are no significant differences in observable characteristics between those who made disclosed allocations and those who made undisclosed allocations. Also, household characteristics are not statistically different between both treatments.

To begin our analysis, we look at the resource allocation choices by gender. In Figure 1, we compare the allocation decisions between husbands and wives. Using a two-sample t-test, we find that

![Figure 1. Allocation by gender.](image)

Notes: N = 664. 95% confidence intervals are shown. P-values were reported on a two-sample t-test. ***, **, * indicate significance levels at 1, 5, and 10%, respectively.
the differences in allocations between men and women are statistically significant for all three choices. Women allocate more to the children and themselves compared to men, 37.0% and 39.6% compared to 28.6% and 35.2% respectively. Men spend more on their spouses than women do, 36.2% versus 23.4%.

Figure 2 disaggregates the allocations by treatment, separately for men and women. We do not find any statistically significant difference between the men who made undisclosed allocations and the men who made disclosed allocations across all three groups. However, for women, we do observe that allocations tend to be higher for the spouse and lower for themselves in the 'Disclosed' treatment compared to the 'Undisclosed' treatment. The amounts allocated to children, however, are not different between the treatments. This simple comparison already shows us a gender difference in the influence of disclosure. Women are more likely to make different choices if they know that the resources will be disclosed to their spouse, as we stated in Hypothesis 1.

3.2. Disclosure and gender: regressions

We continue our analysis with regressions to test the robustness of the disclosure effect and its interaction with the gender of the respondent. We will start with the regression specification presented in equation 1.

\[ y_{r,i} = \beta_0 + \beta_1(F\ Dis)_i + \beta_2(F\ Undis)_i + \beta_3(M\ Dis)_i + \beta_4 C_i + \xi_r + h_r + \epsilon_{r,i} \] (1)

Figure 2. Disclosure effect by gender.
Notes: \( N = 664 \). 95% confidence intervals are shown. \( P \)-values were reported on a two-sample \( t \)-test. ***, **, * indicate significance levels at 1, 5, and 10%, respectively.
We also find that the negative coefficients of the disclosure treatment in Models 3–4, we observe that women tend to allocate less to their spouse than men in the undisclosed treatment. Based on a Wald test, the coefficients of ‘F Dis’ and ‘F Undis’ are statistically different, which indicates that disclosure makes women give more to their spouses. We also find that the negative coefficient of ‘F Dis’ is significantly different from the coefficient of ‘M Dis’. This tells us that also in the disclosure treatment women allocate less to their spouse than men do. Men are not influenced by disclosure, as demonstrated by the statistically insignificant coefficient of ‘M Dis’.

Finally, analyzing the amounts allocated to themselves in Models 5–6, we observe that women tend to keep more for themselves than men. The coefficients of ‘F Dis’ and ‘F Undis’
are positive and statistically significant in Model 5 but only ‘F Undis’ is statistically significant in Model 6. The size of the coefficient of ‘F Undis’ in Model 6 confirms that women keep around 1.3 counters more for themselves than men in the undisclosed treatment. Based on a Wald test we find that the coefficients of ‘F Dis’ and ‘F Undis’ are significantly different in both models, which indicates that women keep less for themselves in the disclosure treatment. We also find that the difference in the coefficients ‘F Dis’ and ‘M Dis’ is significant in Model 5, but is not robust to the use of controls (Model 6). Men are not influenced by disclosure, as the coefficient of ‘M Dis’ is not statistically significant.

In sum, these results coincide with what we found in Figures 1 and 2. First, disclosure makes women allocate more to their spouse and less to themselves, but does not influence their allocation to their children. Second, disclosure does not influence men’s allocations.

3.3. Disclosure and spousal relationship

In the analysis so far, we have shown that women tend to make different allocation decisions than men. We also found a significant difference in the effect of disclosure between men and women, which supports Hypothesis 1. In the next step, we investigate whether and how the spousal relationship changes the impact of disclosure. Specifically, we test Hypotheses 2, 3 and 4, which focus on potential interactions with the husband’s controlling behavior, and transfers from the husband and spousal trust, respectively. These hypotheses focus only on the decisions of women, as we assumed that disclosure would mainly influence the decisions of women. Our finding that disclosure does not have an effect on men’s choices supports this assumption. Equation 2 shows the regression model that we will use for these analyses.\(^{15}\)

\[
X_{r,i} = \beta_0^r + \beta_1^r D_i + \beta_2^r P_i + \beta_3^r P_i \times D_i + \beta_4 C_i + \tilde{\varepsilon}_r + \eta_r + \epsilon_{r,i} \tag{2}
\]

In this regression \(D_i\) is a dummy variable equal to one for the disclosure treatment. \(P_i\) is a variable that measures husband’s control, husband’s transfers or spousal trust, with \(P_i \times D_i\) used to estimate heterogeneity in the disclosure treatment along \(P_i\). The other variables are the same as in Equation 1.

3.3.1. Husband’s control. We first look at the husband’s control. According to Hypothesis 2, the disclosure effect is stronger for women who have controlling husbands. To measure the husband’s control we use women’s reports on their husband’s controlling behavior in the six months before the interview. As described in Table 1, 47% of women in our sample reported experiencing controlling behavior from their husbands. The use of interaction between disclosure and this variable in the regression allows us to test Hypothesis 2. Table 3 presents the results. We observe that the coefficient of ‘Disclosed’ is not statistically different from zero in any of the models, which indicates that women who do not have controlling husbands do not change their allocation choices with disclosure. We also observe that the coefficient for ‘Controlling Husband’ is significant in Models 3, 4, and 6. The sign and size of the coefficients show that in the non-disclosure treatment women with a controlling husband allocate around 1 counter less to their spouse and around 0.6 counters more to themselves (when additional control variables are included). This suggests that women who have a controlling husband would make more use of windfall income to increase their access to economic resources. The coefficient we are most interested in is the interaction of ‘Disclosed’ and ‘Controlling Husband’. This coefficient is significant in Models 3–6. The sign and size of the coefficient indicate that women with a controlling husband allocate more to their husbands and keep less for themselves when the resources are disclosed. These results confirm Hypothesis 2.
Next, we look at the interactions between the disclosure effect and the transfers women receive from their spouses. As documented in Table 1, transfers are common in our sample. In our analysis, we use the women’s report about the transfers received, as we focus on women’s allocation decisions.16 We divide the amounts of the transfers into different categories. For a breakdown of these categories see Table B2 in Appendix B.

Table 4 shows the results. The absence of transfers is used as the reference category. Looking at the coefficients of the interaction terms, we observe that women who receive a transfer give themselves significantly less in the disclosure treatment (Models 5 and 6). The size of both interactions is of similar size, indicating that the size of the transfer is not relevant. These results provide support for Hypothesis 3.

### Table 3. Wives’ allocations, by controlling husband.

| Resources allocated to… |  |  |  |  |  |
|-------------------------|---|---|---|---|---|
|                         | (1) | (2) | (3) | (4) | (5) | (6) |
| Disclosed               | -0.195 | -0.276 | 0.369 | 0.379 | -0.175 | -0.103 |
| (0.328) | (0.325) | (0.309) | (0.311) | (0.360) | (0.355) |
| Controlling husband     | 0.412 | 0.314 | -1.000*** | -0.998*** | 0.588 | 0.684* |
| (0.340) | (0.339) | (0.342) | (0.344) | (0.381) | (0.374) |
| Disclosed × Controlling husband | 0.194 | 0.368 | 1.089** | 1.058** | -1.282** | -1.425*** |
| (0.483) | (0.478) | (0.474) | (0.475) | (0.525) | (0.520) |
| Constant                | 8.555*** | 7.382*** | 4.106*** | 4.633*** | 7.339*** | 7.985*** |
| (0.658) | (0.957) | (0.643) | (0.933) | (0.781) | (1.133) |
| Controls                | No | Yes | No | Yes | No | Yes |

Notes: N = 664. OLS regressions with fixed effects at the hamlet level. We estimate the equations simultaneously (Models 1, 3 and 5 together and models 2, 4 and 6 together), using one of them as reference. Standard errors are clustered at the hamlet level. ***, **, * indicate two-sided significance levels at 1, 5, and 10%, respectively. The controls used in Models 2, 4, and 6 are age, education, income, household wealth, and total number of children under 12 years.

### Table 4. Wives’ allocations, by transfers.

| Resources allocated to… |  |  |  |  |  |
|-------------------------|---|---|---|---|---|
|                         | (1) | (2) | (3) | (4) | (5) | (6) |
| Disclosed               | -0.690* | -0.652 | 0.608* | 0.503 | 0.126 | 0.148 |
| (0.415) | (0.415) | (0.368) | (0.371) | (0.417) | (0.424) |
| Transfer 1              | -0.680 | -0.466 | -0.146 | -0.625 | 1.087** | 1.092** |
| (0.437) | (0.432) | (0.403) | (0.404) | (0.489) | (0.448) |
| Transfer 2              | -0.019 | 0.141 | -0.467 | -0.353 | 1.018** | 0.213 |
| (0.406) | (0.398) | (0.465) | (0.438) | (0.507) | (0.444) |
| Disclosed × Transfer 1  | 1.046* | 0.966 | 0.243 | 0.540 | -1.377** | -1.506** |
| (0.604) | (0.591) | (0.539) | (0.541) | (0.617) | (0.615) |
| Disclosed × Transfer 2  | 0.891 | 0.852 | 0.456 | 0.638 | -1.373** | -1.491** |
| (0.569) | (0.565) | (0.533) | (0.558) | (0.575) | (0.608) |
| Constant                | 8.889*** | 7.727*** | 3.245*** | 4.362*** | 8.425*** | 7.911*** |
| (0.646) | (0.944) | (0.749) | (0.949) | (0.961) | (1.118) |
| Controls                | No | Yes | No | Yes | No | Yes |

Notes: N = 664. OLS regressions with fixed effects at the hamlet level. We estimate the equations simultaneously (Models 1, 3 and 5 together and models 2, 4 and 6 together), using one of them as reference. Standard errors are clustered at the hamlet level. ***, **, * indicate two-sided significance levels at 1, 5, and 10%, respectively. The controls used in Models 2, 4, and 6 are age, education, income, household wealth, and total number of children under 12 years. Transfer 1 refers to transfers between 2,000 and 50,000 TZS. Transfer 2 refers to transfers between 50,001 and 240,000 TZS.

### 3.3.2. Husband’s transfers.

Next, we look at the interactions between the disclosure effect and the transfers women receive from their spouses. As documented in Table 1, transfers are common in our sample. In our analysis, we use the women’s report about the transfers received, as we focus on women’s allocation decisions.16 We divide the amounts of the transfers into different categories. For a breakdown of these categories see Table B2 in Appendix B.

Table 4 shows the results. The absence of transfers is used as the reference category. Looking at the coefficients of the interaction terms, we observe that women who receive a transfer give themselves significantly less in the disclosure treatment (Models 5 and 6). The size of both interactions is of similar size, indicating that the size of the transfer is not relevant. These results provide support for Hypothesis 3.
3.3.3. Spousal trust. Last, we look at spousal trust. According to Hypothesis 4, the disclosure effect is weaker for women with more spousal trust. From the survey data, we create a measure of spousal trust. We asked each respondent whether they believed that their spouse would tell them if they were given 200,000 TZS. We assume that one has more spousal trust if one believes that their spouse would share information about the windfall income. As we focus in this analysis on the wife’s resource allocation decisions, we use a measure of the wife’s trust. Specifically, we use a binary variable that takes the value of 1 if the wife believes that her spouse would disclose the 200,000 TZS, zero otherwise. 50% of the women in our sample believe that their spouse would disclose the 200,000 TZS.17

Table 5 presents the results. The coefficient of ‘Spousal Trust’ is statistically significant in all models, and indicates that women who have spousal trust share on average around 0.8 counters less with their children, share around 1.6 counters more with their spouse and keep around 0.8 counters less for themselves when the resources are not disclosed.

The main effect of interest is the interaction with the disclosure treatment. The coefficient of ‘Disclosed x Spousal Trust’ is negative and statistically significant in Models 3 and 4. This together with the positive and significant coefficient of ‘Disclosed’, indicates that the positive effect of disclosure is weaker among women who have higher spousal trust. This provides support for Hypothesis 4. Women in trusting relationships assign a higher weight to the utility of their spouse so that they allocate more to their spouse in the non-disclosure treatment, and disclosure has a weaker effect on their allocation decisions.18

3.4. Within-subject analysis

As all spouses made a choice in both treatments, the order of which was randomized, we can also do a within-subject analysis, which has certain advantages. First, it has more statistical power as twice as many observations are used, and, second, it increases the salience of the treatments as the participants get to know the difference between both treatments. This analysis can be found in Supplementary Materials Section B Within-Subject Analysis Appendix B.

We find that disclosure has again a positive effect on the share women allocate to their spouse and a negative effect on their personal share. We also find that there are important order effects, as the disclosure effect is stronger if the disclosure treatment comes first. When we use the men’s sample, we now find that disclosure has a statistically significant effect on
their allocations and that the effects go in the same direction as with the women’s sample. Lastly, we find that the order effects on the share allocated to the spouse go in opposite directions with the men’s and women’s samples. The disclosure effect is stronger for men when disclosure comes second, while for women it is stronger when disclosure comes first.

In Supplementary Materials Section B Within-Subject Analysis Appendix B, we discuss possible explanations for these results. We further argue that the stronger effects are due to the larger salience of the treatments, which might reduce potential hypothetical bias. However, the within-comparison might also increase the risk of demand effects, so in conclusion, we expect that the ‘true’ gender difference in the disclosure effect would lie somewhere between what we identified with the between-comparison and the within-comparison.

4. Discussion and conclusion

How economic resources from social or development programs are allocated within the household is important for household welfare. Intra-household resource allocation does not only depend on who receives and allocates the resources, but also on whether the resources are disclosed to other household members, and in particular the spouse. To test this, we use data from a choice experiment with a sample of couples from a patrilineal society in northern rural Tanzania. In the experiment, each member of a married or cohabiting couple divided a hypothetical amount of resources between themselves, their children, and their spouse. We identify the effect of disclosure by experimentally varying whether they are told to assume that these resources would be disclosed to their spouse.

Our results can be summarized as follows. First, we find that men and women allocate resources differently. Women tend to give more to their children and keep more for themselves and give less to their spouses than men do. Second, in line with our hypotheses, women are more influenced by the disclosure of external resources than men. They tend to keep less for themselves and share more with their husband if the resources are disclosed but do not change the amount allocated to their children. Third, this disclosure effect is stronger among women who have a controlling husband and women who receive transfers from their husbands but is weaker among women with more spousal trust.

A within-subject analysis confirms the disclosure effect among women and suggests that also men could be influenced by disclosure. While the within-analysis makes the treatments more salient and reduces potential hypothetical bias, it might also increase the risk of demand effects.

Other studies have found evidence of a ‘disclosure effect’ similar to ours (even if they did not use that phrasing) in the sense that spouses were willing to pay to have resources kept private from their spouses or family members (Almås et al., 2018; Boltz et al., 2019; Dupas & Robinson, 2013; Jakiela & Ozier, 2016). What we contribute to this area of research is a deeper look at the behavioral influence of disclosure and how it interacts with the spousal relationship.

It should be noted that inferences about the disclosure effect in our choice experiment rely on the assumption that in the non-disclosure treatment the spouse would not find out the allocation decisions. One might argue that this is a strong assumption given a large number of resources the respondents are asked to allocate in the experiment. If this assumption does not hold, the identified disclosure effect is most likely underestimated. Disclosure would most likely have a stronger effect if a smaller amount was used. In other words, our results should be interpreted as a lower bound for the disclosure effect.

There are two more reflections that can be made from our analysis. First, one might wonder what would happen if the allocation decisions were made jointly by the spouses instead of individually. At the risk of being somewhat speculative – as this was not tested in the experiment – we expect that women’s allocation decisions made in the disclosure treatment are closer to the joint decision scenario than women’s decisions without disclosure. This is supported by our finding that women are strongly influenced by disclosure, while husbands are not. Women have
lower autonomy when the resources are disclosed, so their decisions are more likely to be aligned with their husband’s preferences, while the husband’s autonomy is little influenced.

Second, the absence of a disclosure effect on the share allocated to the children is important to emphasize. The spouses may be more in line with one another regarding how much to spend on their children. This result contrasts with studies that found that children’s outcomes may improve when women are in control of resources (Armand et al., 2020; Hoddinott & Haddad, 1995; Thomas, 1990, 1993). However, recent work, also from Tanzania, found that women’s control alone does not necessarily matter for children’s outcomes. Ringdal and Sjursen (2021) found that time preferences rather than decision-making power matter for resources allocated to children’s education. Our finding that disclosure only matters for the allocation of resources to the spouse and oneself but not the children, suggests that women prioritize their children if they receive windfall income. Therefore, women will first allocate the required share to their children before allocating the remaining part between themselves and their husbands. Another plausible reason may be that women have differing levels of autonomy in various decision-making domains and that most women have maximum autonomy over how to allocate resources to their children.19

A final note is required on the insights that our results provide for policy. As our study uses data from one district in rural Tanzania, caution is needed when one wants to extrapolate the insights to other areas or countries. The evidence generated could be useful for policy reflections around cash transfer programs in patrilineal societies, in rural areas similar to our study area. As described in our literature review of studies in Tanzania, a defining feature is the large power of men in patrilineal societies when decisions are made about how household resources are allocated within the household (Galiè et al., 2021; Mwaseba & Kaarhus, 2015). This explains why disclosure has a stronger effect on women compared to men.

Two elements that policy makers can influence are 1) who in the household receives the resources and 2) whether these resources are given in private. Our results suggest that when resources are given to women, how these are allocated is influenced by whether the husband is informed about these resources. This is even more important for women who have low decision-making autonomy in their households. For women with more spousal trust, this is less important. In sum, where women could benefit more from external resources – i.e. where they have low decision-making autonomy and they have less spousal trust – it is important that resources are not disclosed, for women to decide freely on how the resources are allocated within their household. We do not advocate for the hiding of resources as a long-term development policy as it could lead to potential backlash if it is discovered by the husband and therefore damage spousal trust. However, there are a number of papers in addition to ours (for example, Almås et al. (2018); Boltz et al. (2019); Jakiela and Ozier (2016)) that show that hiding resources is common and preferred by women. Therefore allowing women to decide whether they disclose and how much they disclose to their spouse when they receive external resources provides them with more autonomy.

Policy-makers might also be interested in the optimal frequency of transfers, whether the owner of the distributed assets should be joint or individual, and whether cash transfers should be conditional or unconditional. These elements – which were not studied by our research – are interesting areas for future research.

Notes
1. Using randomized control trials of cash transfer programs, some more recent studies, however, did not find support for such gender effect (Akresh, De Walque, & Kazia, 2016; Benhassine, Devoto, Dufo, Dupas, & Pouliquen, 2015; Haushofer & Shapiro, 2016).
2. There is also a large literature that uses lab experiments to study gender differences in resource sharing outside the household. Some studies with university students found that women tend to be more generous than men (see, e.g. Bolton & Katok, 1995; Cox & Deck, 2007; Eckel & Grossman, 1996, 1998; Konow, Sajo, & Akai,
An alternative approach is to use principal component analysis (PCA) for this but is meant to be used with continuous variables and not categorical variables. Booysen, van der Berg, Burger, von Maltitz, and Du Rand (2008) and Traissac and Martin-Prevel (2012) both conclude that multiple correspondence analysis (MCA) is more appropriate than PCA for low-income countries. MCA is also useful as it gives more weight to those indicators that are less common, which is useful in measuring assets (Ezzrari & Verme, 2013). For example, most people have a bicycle but fewer have solar power and those with solar power will likely have higher household wealth. MCA can result in positive and negative values, but for ease of interpretation, we re-scaled the index such that the least wealthy household equals zero and the index is always greater or equal to zero.

5. For an elaborate discussion of the advantages and limitations of both approaches see Charness, Gneezy, and Kuhn (2012).

6. This is in line with the collective model by Chiappori (1992). Even though decisions are made individually in the choice experiment, we assume that in the disclosure treatment the allocation decision made by the recipient is influenced by the utility function of the other spouse. This is the case, as we assume that spouses know each other’s preferences, and given that the resources are disclosed the recipient anticipates potential (dis)agreement with the other spouse about the allocation of the resources.

7. Note that while both spouses participated in the choice experiment, they were not told this. Also, the decisions made by each spouse were made in private, so that the other spouse would not find out about their decision.

8. From all rural wards in this district, we randomly selected eight. From each selected ward two villages were randomly selected, and finally two hamlets (sub-villages) per selected village. In each of the 32 selected hamlets, we selected a random sample of 40 married or cohabiting couples who have at least one child and in which the wife is 40 years old or younger. We used the latter selection criteria to ensure that the experiment was equally relevant to all participants. For example, an experiment in which respondents are asked to allocate resources to their children would be little relevant to couples who do not have children. If less than 40 couples were available in a hamlet, we selected all of them. 2 hamlets were used for piloting and not included in the final sample.

9. Income is calculated as the total money earned from farm activities that the respondent is involved in plus income from a salaried job or own business. We recognize that the farm income reported by spouses may overlap which is why we do not calculate total household income as we cannot accurately do so.

10. The questions in the survey read: “Do you sometimes receive any monetary payment from your spouse?” If yes, “How much have you received from your spouse in the last 12 months?” and “Do you sometimes give any monetary payment to your spouse?” If yes, “How much have you given to your spouse in the last 12 months?”.

11. Principal component analysis (PCA) is commonly used for this but is meant to be used with continuous variables and not categorical variables. Booysen, van der Berg, Burger, von Maltitz, and Du Rand (2008) and Traissac and Martin-Prevel (2012) both conclude that multiple correspondence analysis (MCA) is more appropriate than PCA for low-income countries. MCA is also useful as it gives more weight to those indicators that are less common, which is useful in measuring assets (Ezzrari & Verme, 2013). For example, most people have a bicycle but fewer have solar power and those with solar power will likely have higher household wealth. MCA can result in positive and negative values, but for ease of interpretation, we re-scaled the index such that the least wealthy household equals zero and the index is always greater or equal to zero.

12. All assets were household level and reported by the husband except the number of plots owned which are individually owned and were reported by each spouse.

13. An alternative approach is to use “Gender,” “Disclosure” and “Gender × Disclosure.” While this generates the same results, it requires additional calculations to estimate the disclosure effect for men and women separately.

14. We use these control variables to deal with omitted variable bias. The omission of variables that correlate with both gender and decision-making might bias the estimates. Although disclosure is randomized in our analysis, gender is not. The variables we chose correlate with both gender and decision-making, as suggested by e.g. Anderson et al. (2017) and Galië et al. (2021). We also chose control variables similar to Jakiela (2011) whose study relates to ours.

15. For completeness Table A1 Husbands’ Allocations, Husband Believes Wife Will Disclosetable.caption.9 in Supplementary Materials Section A Male Responses to Disclosure Appendix A conducts the heterogeneity analysis on the male sample. None of the effects are statistically significant.

16. Table B1 in the Appendix presents the differences in transfers reported between spouses. We find high variability within the couples which is why we only use the responses of the women.

17. See Figure B1 in Appendix Section B for more details.

18. Within our sample, 66 men reported that they had at least one other wife in addition to the wife included in our sample. The main results are robust to excluding these couples from the analyses (see Supplementary Materials Section C Monogamous Couples Appendix C).

19. To further analyze the absence of a disclosure effect on the allocations to children, we tested whether the disclosure effect depends on the number of children and their sex, as well as the age and education of the
woman. These results can be found in the Supplementary Materials Section D Additional Interaction Tables section.6. We find that disclosure lowers the share allocated to children but less so with more children (Table D.1 Number of Children and Disclosure Interactionstable). In contrast to Javed and Mughal (2019), we do not find clear gender differences (Table D.2 Number of Boys and Girls and Disclosure Interactionstable). As for the characteristics of the wife, in Tables D.3 Allocations and Disclosure Interaction with Age and D.4 Allocations and Disclosure Interaction with Education table, we find that the size of the disclosure effect decreases with the age of the woman and we find no effect of education on the amount allocated to children.

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## Appendix A. Balance Test

### Table A1. Disclosure balance test

|                   | Husbands             | Wives                |
|-------------------|----------------------|----------------------|
|                   | Disclosed Mean/Percent | Undisclosed Mean/Percent | Disclosed Mean/Percent | Undisclosed Mean/Percent |
| **N**             |                      |                      |                      |                      |
| **Mean/Percent**  |                      |                      |                      |                      |
| **p-value**       |                      |                      |                      |                      |
| Age (years)       | 341 36.4 323 37.2    | 0.40                 | 341 30.2 323 30.6    | 0.62                 |
| From village      | 341 74% 323 71%      | 0.49                 | 341 29% 323 27%      | 0.67                 |
| Education (Years) | 338 5.4 322 5.2      | 0.44                 | 341 5.0 323 5.0      | 0.70                 |
| Income (TZS)      | 341 684,665 323 621,977 | 0.55            | 341 346,041 323 283,541 | 0.31            |
| **Intra-household transfers** |                      |                      |                      |                      |
| % Give transfer   | 341 86% 323 87%      | 0.53                 | 341 18% 323 17%      | 0.77                 |
| Average amount given (TZS) | 292 68,250 282 64,802 | 0.50             | 61 35,573 55 59,273  | 0.14                 |
| % Receive transfer| 341 19% 323 22%      | 0.35                 | 341 62% 323 60%      | 0.53                 |
| Average amount (TZS) | 66 22,863 72 30,623 | 0.29             | 213 142,601 194 155,933 | 0.55            |
| **HOUSEHOLD LEVEL** |                      |                      |                      |                      |
| **N**             |                      |                      |                      |                      |
| **Mean/Percent**  |                      |                      |                      |                      |
| **p-value**       |                      |                      |                      |                      |
| Number of children under 12 | 341 3.1 323 3.0 | 0.56             |                      |                      |
| Household wealth  | 341 0.03 323 -0.05  | 0.31                  |                      |                      |
| Wife reports controlling behavior by husband | 341 48% 323 45% | 0.45             |                      |                      |
| Women with spousal trust | 341 50% 323 50% | 0.82             |                      |                      |

*Note: P-values refer to an unpaired t-test for continuous variables and a proportions test for binary variables.*
B. Additional tables

**Table B1.** Real intra-household transfer differences between spouses.

|                          | Mean diff. in transfer amount reported (TZS) |
|--------------------------|---------------------------------------------|
| Diff. in transfers to wife | 34,099 (200,410)                            |
| Diff. in transfers to husband | -2,584 (45,260)                             |

*Notes: N = 664. The mean difference in transfer amount to wife is the mean difference in what the husband reported giving to his wife subtracted from what the wife reported receiving from her husband. The mean difference in transfer amount to the husband is the mean difference in what the wife reported giving to her husband subtracted from what the husband reported receiving from his wife. The standard deviations of the mean transfer amounts are reported in parentheses.*

**Figure B1.** Tell spouse about additional resources.

*Notes: N = 664. Test of proportions. ***, **, * indicate significance levels at 1, 5, and 10%, respectively.*

**Table B2.** Real intra-household transfer categories.

| Transfer categories                  | %   |
|--------------------------------------|-----|
| Category 0: Receive no transfer      | 39% |
| Category 1: 2,000–50,000 TZS         | 31% |
| Category 2: 50,001–240,000 TZS       | 30% |

*Notes: N = 664. We used the women's reports about the transfers received. To create the categories we used the following logic: while Category 0 is a natural category, we distributed the rest of the sample equally between two additional categories.*
Table B3. Gender and disclosure: extended.

| Resources allocated to ... | Children (1) | Spouse (2) | Personal (3) |
|---------------------------|--------------|-----------|-------------|
| F Dis                     | 1.538***     | −2.032*** | 0.494       |
|                           | (0.266)      | (0.275)   | (0.308)     |
| F Undis                   | 1.625***     | −2.936*** | 1.312***    |
|                           | (0.268)      | (0.283)   | (0.318)     |
| M Dis                     | −0.303       | 0.223     | 0.079       |
|                           | (0.257)      | (0.294)   | (0.315)     |
| Income                    | −0.027***    | 0.007     | 0.021***    |
|                           | (0.009)      | (0.009)   | (0.007)     |
| Age                       | 0.011        | 0.001     | −0.012      |
|                           | (0.010)      | (0.010)   | (0.011)     |
| Education                 | 0.026        | 0.041     | −0.067**    |
|                           | (0.029)      | (0.029)   | (0.034)     |
| Asset index               | 0.016        | −0.129    | 0.113       |
|                           | (0.098)      | (0.094)   | (0.112)     |
| Num children under 12 yr  | 0.157***     | −0.093    | −0.064      |
|                           | (0.059)      | (0.064)   | (0.067)     |
| Constant                  | 5.794***     | 6.156***  | 8.051***    |
|                           | (0.835)      | (0.703)   | (1.021)     |

Notes: N = 1372. OLS regressions with fixed effects at the hamlet level. We estimate the equations simultaneously, using one of them as a reference. ***, **, * indicate two-sided significance levels at 1, 5, and 10%, respectively.

Table B4. Wives’ allocations, by controlling husband: extended.

| Resources allocated to ... | Children (1) | Spouse (2) | Personal (3) |
|---------------------------|--------------|-----------|-------------|
| Income women              | −0.045***    | 0.002     | 0.043**     |
|                           | (0.011)      | (0.019)   | (0.018)     |
| F Age                     | 0.014        | −0.009    | −0.005      |
|                           | (0.018)      | (0.015)   | (0.017)     |
| F Education               | −0.020       | 0.018     | 0.002       |
|                           | (0.041)      | (0.037)   | (0.042)     |
| Asset index               | 0.227*       | 0.092     | −0.318**    |
|                           | (0.133)      | (0.118)   | (0.138)     |
| Num children under 12 yr  | 0.289***     | −0.090    | −0.199**    |
|                           | (0.084)      | (0.080)   | (0.084)     |
| Disclosed                 | −0.276       | 0.379     | −0.103      |
|                           | (0.325)      | (0.311)   | (0.355)     |
| Controlling husband       | 0.314        | −0.998*** | 0.684*      |
|                           | (0.339)      | (0.344)   | (0.374)     |
| Disclosed × Controlling husband | 0.368        | 1.058**   | −1.425***   |
|                           | (0.478)      | (0.475)   | (0.520)     |
| Constant                  | 7.382***     | 4.633***  | 7.985***    |
|                           | (0.957)      | (0.933)   | (1.133)     |

Notes: N = 664. OLS regressions with fixed effects at the hamlet level. We estimate the equations simultaneously, using one of them as a reference. ***, **, * indicate two-sided significance levels at 1, 5, and 10%, respectively.
### Table B5. Wives’ allocations, by transfers: extended.

| Resources allocated to … | Children (1) | Spouse (2) | Personal (3) |
|--------------------------|--------------|------------|--------------|
| Income women             | -0.051***    | 0.004      | 0.046**      |
|                          | (0.010)      | (0.020)    | (0.020)      |
| F Age                    | 0.014        | -0.008     | -0.006       |
|                          | (0.018)      | (0.015)    | (0.017)      |
| F Education              | -0.028       | 0.027      | 0.001        |
|                          | (0.040)      | (0.037)    | (0.041)      |
| Asset index              | 0.223*       | 0.070      | -0.294**     |
|                          | (0.132)      | (0.121)    | (0.138)      |
| Num children under 12 yr| 0.269***     | -0.111     | -0.157*      |
|                          | (0.083)      | (0.079)    | (0.084)      |
| Disclosed                | -0.652       | 0.503      | 0.148        |
|                          | (0.415)      | (0.371)    | (0.424)      |
| Transfer 1               | -0.466       | -0.625     | 1.092**      |
|                          | (0.432)      | (0.404)    | (0.448)      |
| Transfer 2               | 0.141        | -0.353     | 0.213        |
|                          | (0.398)      | (0.438)    | (0.444)      |
| Disclosed × Transfer 1   | 0.966        | 0.540      | -1.506**     |
|                          | (0.591)      | (0.541)    | (0.615)      |
| Disclosed × Transfer 2   | 0.852        | 0.638      | -1.491**     |
|                          | (0.565)      | (0.558)    | (0.608)      |
| Constant                 | 7.727***     | 4.362***   | 7.911***     |
|                          | (0.944)      | (0.949)    | (1.118)      |
| Controls                 | Yes          | Yes        | Yes          |

**Notes:** N = 664. OLS regressions with fixed effects at the hamlet level. We estimate the equations simultaneously, using one of them as a reference. ***, **, * indicate two-sided significance levels at 1, 5, and 10%, respectively. Transfers are measured in TZS.

### Table B6. Wives’ allocations, spousal trust: extended.

| Resources allocated to … | Children (1) | Spouse (2) | Personal (3) |
|--------------------------|--------------|------------|--------------|
| Income women             | -0.044***    | -0.003     | 0.047**      |
|                          | (0.010)      | (0.017)    | (0.018)      |
| F Age                    | 0.013        | -0.012     | -0.001       |
|                          | (0.018)      | (0.014)    | (0.017)      |
| F Education              | -0.023       | 0.011      | 0.012        |
|                          | (0.041)      | (0.036)    | (0.041)      |
| Asset index              | 0.234*       | 0.079      | -0.313**     |
|                          | (0.135)      | (0.120)    | (0.142)      |
| Num children under 12 yr| 0.276***     | -0.081     | -0.195**     |
|                          | (0.083)      | (0.077)    | (0.083)      |
| Disclosed                | -0.250       | 1.373***   | -1.122***    |
|                          | (0.350)      | (0.316)    | (0.383)      |
| Spousal trust            | -0.570       | 2.057***   | -1.486***    |
|                          | (0.351)      | (0.338)    | (0.379)      |
| Disclosed × Spousal trust| 0.312        | -1.011**   | 0.699        |
|                          | (0.478)      | (0.445)    | (0.522)      |
| Constant                 | 7.925***     | 2.816***   | 9.259***     |
|                          | (1.000)      | (0.885)    | (1.090)      |
| Controls                 | Yes          | Yes        | Yes          |

**Notes:** N = 664. OLS regressions with fixed effects at the hamlet level. We estimate the equations simultaneously, using one of them as a reference. ***, **, * indicate two-sided significance levels at 1, 5, and 10%, respectively.