

**The effects of men's labor migration on women's decision-making power in rural
Mozambique**

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Abstract

Labor migration leads to significant changes in origin areas. The separation of migrants from the family unit, whether it is nuclear or extended, has profound implications for family organization and for individual family members. We examine the relationship between men's labor migration and the decision-making autonomy of women who stay behind. Although previous studies have examined the association between men's labor migration and non-migrating women's autonomy, we go beyond prior research by testing multiple mechanisms by which men's migration may lead to higher decision-making autonomy of their wives: female employment outside the home, lower fertility, and residential independence from extended family members. The data for our analyses come from a 2006 survey of 1680 married women from 56 rural villages in southern Mozambique. We find that both men's cumulative migration history and current migration status are positively associated with women's autonomy.

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Introduction

The relationship between economic change and family change is one of the most studied topics in the social sciences. Scholars as early as Marx commented on the change brought about by changes in the mode of production, especially the changes in the family in the shift to capitalist modes of production. In describing the impact of the Industrial Revolution in the west, Kingsley Davis (1984) wrote that one of the biggest changes for sex roles resulted from the "shift of the locus of work from the home to somewhere else." As men, and later women, moved their productive activities from the home to the factory, they experienced more freedom in their daily lives, and less control by family.

Growing international labor migration, in both the developing and developed world, also leads to dramatic family changes, and the mechanisms of these changes show striking parallels to the changes discussed by Davis. Instead of men leaving the home for the workplace and returning each day, male labor migration, especially when it involves crossing international borders, often leads men to leave their wives, children, and extended families for long periods of time—months and even years. This reorganization of the family unit, whether it is nuclear or extended, has profound implications for how families are organized.

In this paper, we examine the relationship between Mozambican men's labor migration and the autonomy of women who stay behind. Although previous studies have

examined the associations between men's labor migration and non-migrating women's autonomy in diverse contexts, we go beyond prior research by testing multiple mechanisms by which men's migration leads to higher autonomy of their wives: female employment outside the home, lower fertility, and residential independence from extended family members. The data for our analyses come from a survey of 1680 married women conducted in 56 villages in southern Mozambique in 2006.

Setting

The study area comprises rural parts of four districts of Gaza province characterized by a patrilineal kinship system and a low-yield subsistence agricultural economy. Male labor migration from rural areas to the mines and other destinations in South Africa has been a defining feature of rural economy in Mozambique's south since the colonial times and (CEA/UEM 1997; Crush 2001; Crush et al. 1991; First 1983; de Vletter 1998; Harries 1994). The post-colonial era has also seen a rapid increase in labor migration to Mozambique's urban areas. Limited and controlled by the colonial regime, internal rural-urban migration, especially to Maputo, Mozambique's capital, increased with Mozambique's independence and the civil war that soon followed (Dow 1989; Jenkins 1993; Knauder 2000). After the war ended in 1992, the structural adjustment policies, which further undermined the already precarious traditional subsistence agriculture, magnified socioeconomic imbalances, and regional economic and political integration have amplified both international and domestic migration flows (Knauder 2000; Wenzel & Bannerman 1995). Importantly, the economic returns to both international and internal migration are becoming increasingly unpredictable as more

migrants have to content themselves with low-paying irregular and often illegal employment in an ever more hostile context of destination areas (De Vletter 2000). Yet as rural economies continue to stagnate, the migration flows continue strong.

Theoretical Perspectives

The issue of men's labor migration and the impact on their non-migrating wives has received a growing amount of research attention. This research literature comes from diverse settings, including Africa, Latin America, Europe, and Asia. It is notable, however, that, despite the geographic and cultural diversity, several common themes and findings emerge.

A repeated finding is a link between men's labor migration and women's autonomy. Women who remain in the sending community while their husbands are away report higher autonomy, independence, and decision-making authority. Abadan-Unat (1977), in a study of Turkish women, found that the women who remain behind have greater decision-making power in the home, especially when these women are living in nuclear families. As part of their expanded duties, women left behind start to interact with organizations and institutions that they might not have used before, such as banks and government agencies (Abadan-Unat 1977). In rural settings, women begin to take a primary role in important agricultural decisions (Gordon 1981; Boehm 2008). Results from studies in diverse settings, such as Mexico (De Snyder 1993), Morocco (Sadiqi and Ennaji 2004), Armenia and Guatemala (Menjívar and Agadjanian 2007), and Bangladesh (Hadi 2001), point to greater decision-making, management duties, and autonomy in women of male labor migrants.

The autonomy and greater decision-making created by male absence, however, may be buffered by the substitute authority of different male figures or of husbands' mothers and other older female relatives. In extended families, another family member may have considerable influence in the absence of the migrant husband (Abadan-Unat 1977; De Haan 1997; Desai and Banerji 2008). This is more likely to occur in cultures where women are not usually given much freedom or mobility (De Haan 1997). However, studies tend to agree that the potential substitute influence of husbands' male or female relatives is not fully equivalent to that of husbands'. Therefore, women typically see their autonomy increase when their husbands leave for migration.

While greater autonomy for women is overall a beneficial outcome, there have also been documented several negative impacts of men's labor migration on the women who remain behind (Yay and Nangia 2005; Gordon 1981). In the absence of men, women are responsible for both their own and their husbands' tasks, duties, and roles (Khaled 1995; Boehm 2008; Grawert 1992). In a study of male labor migration in Lesotho, some women who remained behind reported higher strain and stress due to increased management responsibilities (Gordon 1981). Strain was greatest for women whose husbands who had been away the longest. In some cases, these strains were so great that Gordon (p. 72) writes, "It is difficult, therefore, to see the assumption of increased responsibility as being a positive force in these women's' lives." Economic difficulties may also rise when husbands are away. Labor migration, when successful, is an economic benefit to families, but families can experience greater economic hardship if migrant men cannot secure good employment (Sadiqi and Ennaji 2004). Even if labor migration is successful, women still have increased dependence on remittances that

may be irregular and limited (Kothari 2003). Other negative effects of labor migration on the origin family left behind include higher probability of divorce (Sadiqi and Ennaji 2004), family disintegration and lowered ability to monitor children (De Snyder 1993), more physical labor (Engel 1986), loneliness (Zachariah, Mathew, and Irudaya Rajan 2001), decreased social support and networks (Roy and Nangia 2005; Kothari 2003), and higher reproductive morbidity for women (Roy and Nangia 2005). Menjivar and Agadjanian (2007) in their comparative analysis of the effect of men's labor migration on women left behind in Armenia and Guatemala conclude that in both settings such migration tends to reinforce gender inequality within the household.

Yet despite the potential negative consequences, women and families usually view male labor migration as an overall benefit. In many settings, male labor migration is a purposeful family strategy (De Haan 1997; Gordon 1981). For these areas, migration is customary and normative, and men who migrate or who have plans to migrate are preferred as mates (Engel 1986). In settings like rural Mozambique, male labor migration is frequent, customary, and desirable (Agadjanian, Yabiku, and Cau 2008).

While the rise of women's autonomy following their husbands' migration has been widely documented, the mechanisms linking male labor migration and increased women's autonomy have not received as much attention. The examination of possible pathways through which husband's migration affects wife's autonomy and empirical tests of these pathways is the main focus and contribution of our paper. In addition to a residual impact of husband's absence, we hypothesize three mechanisms through which labor migration may lead to more women's autonomy: female employment

outside the home, lower fertility, and residential independence from extended family members.

Female employment outside the home. Women's employment outside the home has been shown to be associated with more egalitarianism, independence, and autonomy. Some prior research suggests that male labor migration leads to more female employment. Khaled (1995) compared the labor force participation rates across wives of migrants and wives of non-migrants in Jordan. Women of migrants had higher labor force participation than non-migrant wives, even after controlling for education. Khaled (1995) reported that these women took outside employment out of financial need due to insufficient remittances, rather than out of aspirations for employment. Other work, however, does not find links between labor migration and women's employment. Agadjanian, Sevoyan, and Menjivar (2007) did not observe difference in employment between women who were married to migrant and non-migrant men in Armenia. In sum, there is mixed evidence on the role of female employment as a mediator between male labor migration and increases in women's autonomy. This pathway is likely to be context specific. It could be that male labor migration may lead to female employment only when such employment activities are available, when women have skills to meet these opportunities, as well as when women's employment is normative or tolerated.

Lower fertility. Childbearing can result in a decrease in women's autonomy and independence (McDonald 1997; Steinberg 1996). Infants and young children require large amounts of care within the home. Because of the gendered division of labor, this care is usually given by mothers, and thus their mobility is decreased and they become

more tied to the home and housework (Sanchez and Thomson 1997). Labor migration of males, however, leads to a decrease in fertility because male absence greatly reduces the frequency of sexual intercourse within marriage—a key proximate determinant of fertility (Bongaarts, Frank, and Lesthaeghe 1984; Lindstrom and Giorguli Saucedo 2002; Menken 1979; Bongaarts and Potter 1979; Timaeus and Graham 1989). In a setting such as rural Mozambique, where the total fertility rate is estimated to be about 6.1 births per woman (National Statistical Institute 2005: 53), even a slight decrease in childbearing could lead to significant changes in women's daily lives. Specifically, less childbearing and reduced responsibility for young child-centered activities and duties may result in increases in women's independence and autonomy.

Residential independence from extended family members. Prior literature shows that, in some settings, extended family members may have greater control over resident wives upon their husbands' migration (Abadan-Unat 1977; De Haan 1997). This control may be exercised by other males or a mother-in-law (Brink 1991; Desai and Banerji 2008). In the long term, however, male labor migration may lead to residential independence from these extended family members, and thus greater autonomy and freedom for the wife. The financial benefits of labor migration, if such benefits do materialize, can lead to big improvements in families' lives, especially with regard to housing (Gulati 1986). A husband's successful labor migration may allow his family a greater chance of residential independence by establishing a household separate from in-laws and relatives. Although non-resident in-laws may still hold considerable sway, women generally have more autonomy when they live separately from their in-laws.

Residual Impact of Husband's Absence. Lastly, one of the simplest explanations

is that the relationship between male labor migration and women's autonomy is directly due to male absence. Husbands exercise their authority over their wives in the small yet numerous of daily decisions and activities: spending money, visiting friends, visiting parents, going shopping. Any single one of these daily events is perhaps inconsequential, but when amassed together, having to ask a husband's permission to do them could impact wife's autonomy. Thus, in contrast to the previously described mechanisms, which represent substantial shifts in social organization of the household (e.g., work outside the home, childbearing, and residential independence), this residual influence is infused into the tiny events that as a whole compose the flow of daily life. Unfortunately, we cannot test this mechanism directly, because we do not have the retrospective in-depth, qualitative, microinteractional data needed for such a test. Yet if other mechanisms do not mediate the relationship between labor migration and autonomy, it may be suggestive of a residual impact of spouses' separation.

Permanency of increased autonomy. In addition to the exploration of mechanisms through which husband's migration may increase wives' autonomy, another issue that needs investigation is the permanency of women's increased autonomy due to male labor migration. Although it is well-established that women's autonomy increases upon her husband's absence, what happens upon his return has not been extensively investigated. Some studies suggest that this greater independence is most likely temporary (Hadi 2001; Brink 1991). Other research argues that labor migration, on the contrary, results in lasting changes in family and gender relations. In the case of Mexican migration, Boehm (2008) reports that after men migrate to the US from Mexico, they may feel disempowered due to their lower status in the US and loss

of autonomy in their work. Their wives in sending communities, however, may experience profound changes in their broadened exposure to new institutions, roles, and responsibilities—changes that are not easily undone once men return (Boehm 2008). Although a very different setting, some parallels can be seen in the rise of women’s employment in the US during World War II, which occurred due to a shortage of men. Some scholars argue that many women who had entered employment during the war years did not want to give up these new roles after the war ended (Goldin 1991; O’Blood 1965). In sum, it is likely that events and processes that reorganize and restructure the family, such as male labor migration, can have long-lasting effects, even if the duration of these events and processes is short or temporary.

Data and Methods

We use data from a survey conducted in southern Mozambique in 2006. The sample for the individual survey was drawn from the population of married women aged 18-40 residing in 56 villages of four districts in southern Mozambique. In each district, 14 villages were selected with the probability proportional to size. In each selected village (or in a randomly picked section thereof if a village was big), all households with at least one married woman were canvassed and separated into two lists: those with at least one woman married to migrant and those with no such women. These two lists were used as sampling frames: from each of them 15 households were randomly selected. In each selected household a woman was interviewed (in household classified as migrant, a woman married to a migrant was interviewed). The procedure resulted in a total sample of 1680 women (420 per district, 30 per village), more or less evenly split

between women married to migrants and women married to non-migrants. The survey collected detailed demographic and socioeconomic information, including pregnancy histories, husband's migration history (starting in 2000, the year of particularly devastating floods in southern Mozambique), and household material status, as well as information on HIV/AIDS awareness and prevention, women's social networks, and their gender attitudes.

Dependent variable: Women's Autonomy. Women's autonomy is a complex notion, and compromises must be made when attempting to measure it with a structured survey instrument. Women's autonomy is context-specific and is multidimensional. Our measurement is derived from a series of seven questions answered with a 3 point Likert scale. The questions were prefaced with the following: "Now I would like to ask you about things that you sometimes may want or need to do. About every one of these things tell me whether you would (1) need to ask your husband's or his family's permission to do them, (2) would just need to inform them, or (3) whether even informing them would not be necessary." The seven questions were:

1. To visit your parents or other relatives who live outside of this community.
2. To visit a friend or neighbor who lives in this community.
3. To go to the city or a district capital to buy or sell something or to take care of some other business.
4. To spend money on family needs (such as food, school materials, clothes for children).
5. To spend money on your personal needs (such as *capulanas* [clothing fabric], clothes, shoes, or earrings for you).

6. To get a job or to engage in commerce.

7. To do an HIV test.

While this is admittedly crude measurement of a nuanced concept, it does represent multiple dimensions of independence across different domains: mobility, consumption, production, and health. Furthermore, to the degree that this measurement is crude and imprecise, this shortcoming is likely to introduce measurement error. This makes it harder to find statistical associations between variables, causing our hypothesis tests of significance to be conservative.

The scale of women's autonomy is the sum of the answers to these seven questions, each of which is measured from 0 (low autonomy—have to ask permission) to 1 (medium autonomy—have to inform) to 2 (high autonomy—do not even have to inform). Our scale therefore varies from a minimum of 0 to a maximum of 14, with higher values representing greater autonomy.

Male labor migration. Because we are interested in the potential permanency of the impact of male absence, we measure both the woman's cumulative and current experience with male labor migration. Cumulative male labor migration is the number of years, in the period from 2000-2006 (the six years prior to the survey), that the man has been away for employment. This measure varies from a minimum of 0 to a maximum of 6. In addition, we transform this variable with a log function. The impact of male migration is likely to be non-linear, in which increases at the low end (from 0 to 1 years, for example) are more important than increases at the higher end (from 5 to 6 years, for example). Current male labor migration is a dichotomous variable that is coded 1 if the woman's husband is currently a labor migrant, and 0 otherwise. Note that some

husbands may not currently be labor migrants, but may have had prior experience working away in the past 6 years

We are also interested in investigating how women's autonomy is related to the "success" of male labor migration. We define successful male labor migrants from the standpoint of benefits from migration to their household but do in two alternative ways—objective and subjective. First, successful migrants are defined as those who sent or brought remittances in the past 12 months (objective definition). Those who did not send or bring any remittances are defined as unsuccessful. The second variation is based on wife's perceptions of outcomes of husband's migration (subjective definition), regardless of remittances. The wives were asked, "In your opinion, since your husband went to work there, did the living conditions in your household improve, worsen, or remain the same?" Successful migrants were defined as those whose wives said their lives improved. All other migrants were defined as unsuccessful. Each of these two different measures of success is therefore a dichotomous variable (1 if successful, 0 if not). This measurement is limited to only to those husbands who are currently away, and we cannot examine the cumulative effect of successful or unsuccessful male labor migration. Nevertheless, these measures may provide insight into questions regarding the benefits of increased women's autonomy after men's labor migration. If women's autonomy increases as the result of successful male migration, this may indicate a desirable outcome in which women have both greater freedom and financial security. On the other hand, if women's autonomy increases as the result of unsuccessful male labor migration, thus could suggest that women's autonomy comes in the form of unwelcomed increased decision making and responsibilities within a context of greater

financial strain.

Resident wives' employment. Greater employment by wives is one of the hypothesized mechanisms through which male labor migration increases women's autonomy. We calculate the numbers of years, from 2000-2006, that the woman was involved in autonomous nonfamily employment, such as commerce, crafts, or salaried work.

Fertility. A suspension of childbearing is another mechanism that could explain the link between men's migration and women's autonomy. As we discussed earlier, spousal absence decreases coital frequency, which is one of the proximate determinants of fertility. Lower fertility would then result in less childcare for young children, subsequently less gender-bound roles and activities, and potentially greater autonomy for women. The measure of fertility is the number of births the woman had from 2000 to 2006 (the six years prior to the survey).

Coresident in-laws. Successful male migration is financially rewarding, so husbands' labor migration could be associated with less coresidence with in-laws and thus giving wives greater freedom from supervision by the husband's family. Coresident in-laws is coded 1 if the women currently lives with parents or siblings from her husband's family, and 0 otherwise.

Controls. To reduce the chance of spurious associations and to properly specify the model, we include several relevant control variables: husband's and wife's age and education, whether or not the woman is the husband's only or first wife (versus a second or higher order wife), and the age the wife started living with the husband (which is usually synonymous with age at marriage). We control for the wife's religious

affiliation in three groups: none, mainline religion (mostly Catholics and Mainline Protestant), other (primarily Evangelicals and Pentecostals). Another important control is the whether the wife had a say in the decision to marry her current husband. It is derived from the following question: "When your husband came to ask for you to be his wife, who mainly made the decision: your parents, other relatives, or you?" We treat this as a simple 1 to 3 scale, with higher values representing greater say in marital decision. This variable is important because it partially controls for the woman's autonomy at a time that is causally prior to marriage and her husband's migration. For example, an alternative hypothesis could be that men are more likely to engage in labor migration if they have autonomous wives who they trust to maintain a functioning household in the absence. Our control for women's early autonomy partially addresses this endogeneity concern.

In our models, we treat the women's autonomy scores as a scale and predict this scale using regression. Because the sampling design is clustered, standard OLS measures will not yield unbiased estimates due to the non-independence of women in the same village. We use multilevel modeling techniques (mixed models with random intercepts) to model this non-independence and generate proper significance tests. We use the MIXED procedure in SAS 9.1. Although our outcome varies from 0 to 14, the autonomy scale is not strictly continuous. While sometimes used for ordinal outcomes, we do not use ordered logistic regression for two reasons. First, the number of categories in our outcome is too many for reliable estimation with ordered logistic regression. Across so many adjacent cumulative points, the proportional odds assumption would not hold. Second, because the scale has so many unique categories,

the distribution of the variable approaches normal. The diagnostic statistics for skewness (.20) and kurtosis (.23) of the outcome variable are well within the bounds of -1.0 to +1.0 that analysts often recommend for using linear regression techniques (Peat and Barton 2005)

Another concern is missing data. Although listwise deletion of missing cases is often used, it may lead to biased samples if the missing is not random. As an alternative, we use multiple imputation. In this approach, multiple (in our case, five) datasets are created with imputed values, but the values slightly differ because they are random draws from a distribution of likely values. The five datasets are analyzed separately and the results are combined into a single estimate that recognizes the uncertainty in the imputed values. The critical assumption for multiple imputation is that the values are missing at random, conditional on the non-missing information. Although this assumption cannot be tested, it is strengthened by including in the imputation model the variables that are likely to be related to the missingness mechanism.

Our modeling strategy has several steps. We first examine the relationship between women's autonomy and husband's cumulative and current labor migration. We then investigate several factors that are hypothesized to mediate these relationships: female employment outside the home, lower fertility, residential independence from in-laws. Finally, we examine the success of husband's current labor migration (whether it is successful or not) and how it is related to women's autonomy.

Results

Descriptive statistics are displayed in Table 1. The measure of women's

autonomy has a mean of 5.6, which is near the middle of the range of 0-14. This suggests that the sample as a whole has a moderate level of autonomy, as defined by the items used to construct the autonomy scale. By design, husband's migration is a common experience in the sample: about half the sample was married to a labor migrant at the time of the survey. Regardless of the husband's current migration status, the average years spent away in labor migration from 2000-2006 was 2.9 years. Conversely, wives had little experience with non-family employment in 2000-2006, averaging less than 1 year of outside-the-home work. The respondents averaged 1.6 births over that time period, and in 2006 about half lived coresidentially with in-laws. Means and standard deviations for control variables are also presented in Table 1, but we do not discuss them in detail.

(Table 1 about here)

Table 2 presents the multivariate analyses. These are regression coefficients from multilevel models with random intercepts to adjust for clustering of respondent at the village level. Positive coefficients mean that the variables are associated with greater women's autonomy, while negative coefficients means that the variables are associated with less autonomy. The models in Table 2 first examine the impact of cumulative (model 1) and current male (model 2) labor migration, followed by the simultaneous consideration of both cumulative and current migration (model 3). Model 1 shows a significant relationship between women's autonomy and the number of years, during 2000-2006, a husband spent away in labor migration. Model 2 also shows a

significant association: if a husband is currently away due to labor migration in 2006, his wife's autonomy in 2006 is significantly higher than that of women whose husbands are present. Models 1 and 2 therefore confirm prior findings from diverse settings that male labor migration and women's autonomy are linked.

(Table 2 about here)

Model 3 estimates the relationship between women's autonomy and both cumulative and current male labor migration. Both measures--cumulative and current--have statistically significant associations with women's autonomy. The coefficients of the two measures in model 3 are reduced in magnitude compared to their size when estimated individually in models 1 and 2, yet they both remain significantly different from 0. The fact that both are significant is noteworthy, as this is consistent with the interpretation that impacts of male labor migration persist even after a husband returns home.

Model 4 investigates potential mechanisms linking male labor migration to women's autonomy. We include measures for three intervening mechanisms: wife's employment, fertility, and coresidential living. Wife's cumulative years of work is significantly associated with autonomy in the expected direction: women who worked more in the 2000-2006 time period have significantly greater autonomy. Coresidential status also shares an expected associating with autonomy. Wives who are coresident with in-laws have significantly lower autonomy. Fertility in the period 2000-2006 is not associated with autonomy. Despite the significant coefficients for wife's employment and

in-law coresidence, however, these measures fail to mediate the overall association between male labor migration and women's autonomy. The coefficients for husband's cumulative years away and current migration status are virtually unchanged in model 4 compared to model 3.

The last issue we investigate is how autonomy is related to the economic outcomes of husbands' labor migration. We test if increases in women's autonomy differ depending on the level of "success" of male labor migration. In the analyses presented in Table 3, we subdivide the current male labor migrations (the "currently away" category in Table 2) into successful and unsuccessful migrants as described in the Data and Methods section. In model 1, successful male labor migrants are those who sent remittances to the wife at least once in the past 12 months. All other male labor migrants are characterized as unsuccessful. Model 1 shows that both successful and unsuccessful male labor migration is associated with significantly higher women's autonomy. The coefficient for unsuccessful migration is greater than the coefficient for successful migration, but these two coefficients are not significantly different from each other.

Table 3 about here

In model 2, the success of male labor migrants is based on the perceptions of the wife. This subjective definition of success of male labor migration has similar results as in model 1, but it produces a sharper difference between the two categories. In model 2, both successful and unsuccessful migration is associated with greater women's

autonomy. The coefficient for unsuccessful migration (1.550), however, is significantly greater ($p < .01$, test not shown) than the coefficient for unsuccessful migration (.911). With structured survey data, it is not possible to fully understand the processes behind these differing coefficients, but this difference is suggestive of an explanation in which the greatest increases in women's autonomy happen as the result of failed male labor migration and potential economic strain.

Discussion

Although it has been well established in the research literature that male labor migration is associated with higher autonomy for women, most of this research has been cross-sectional and has not considered the impact of the cumulative history of labor migration. In addition, prior research has not investigated potential mechanisms behind these relationships. Our research contributes to the literature on both these points.

We find that both current and prior cumulative history of male labor migration have significant, independent relationships with women's autonomy. This suggests that the impact of male labor migration on women's autonomy may not be temporary but rather may persist even after the man comes back. Although we can only speculate with our structured survey data, it may be that patterns of increased autonomy that women develop in husbands' absence are not easily changed once husbands return.

As hypothesized, we find that women's work in autonomous employment is significantly and positively associated with autonomy while coresidence with in-laws is significantly and negatively associated with autonomy. These two factors, however, do

not mediate the relationship between male labor migration and women's autonomy. Fertility was not associated with autonomy. Because none of these variables were identified as mechanisms through which migration might affect autonomy, our results are consistent with the interpretation that male labor migration has a residual effect on women's autonomy. As we argued, it may be that husband's absence from the household impacts the structuring, organization, and very nature of women's lives in ways that are too diffuse to be captured easily in survey data, yet are so permeating that they influence almost every facet of their daily life. This interpretation, however, must remain tentative, as we have no direct measurement or test of this explanation. More specialized data, including those obtained in-depth interviews, would be needed to fully understand the processes and circumstances of that influence.

Finally, we explored how increases in autonomy were related to different economic outcomes of husband's migration: successful and unsuccessful migration. It appears that the greatest increases in autonomy occur to women whose husbands are not successful labor migrants. This could mean that the increased autonomy that these women experience might be forced upon them, with greater responsibilities and duties as a result of their husbands' failed labor migration.

Several aspects of the data limited our ability to make stronger conclusions. First, the autonomy scale used in this survey is not able to capture the fine distinctions as well as breadth involved in the concept of women's autonomy. There may be additional aspects of women's autonomy that are relevant in this context, but are not included in the scale; or, it may be that the 7 different items of autonomy used in this survey should be given differential importance, rather than being weighted equally. On the other hand,

our research has the strength of a large sample that is able to document these trends with a representative approach. Second, as with almost all observational social science research, we are hampered by the potential endogeneity of male labor migration. It remains possible that unmeasured factors are influencing both husbands' decisions to migrate and women's autonomy. Our control for pre-marital women's autonomy (the woman's participation in the marriage decision) partially addresses this concern, but there may be other characteristics of the wife and the union that drive the migration decision and are associated with women's autonomy.

Overall, our findings serve as a point of departure for additional research. Further study of these research questions will benefit from longitudinal data and analyses that can fully examine the dynamic nature of both men's labor migration and women's shifting levels of autonomy. In addition, more study is needed on the intriguing finding that unsuccessful male labor migration leads to the biggest increases in women's autonomy. With the current data, we are unable to examine these associations in more depth. It is likely, however, that the relationship between migration and autonomy has additional contingencies, in which increased autonomy may be accompanied by more stress and financial strain under some circumstances. Investigating these broader impacts will provide a fuller picture of the consequences of male labor migration.

References

- Abadan-Unat N. 1977. "Implications of migration on emancipation and pseudo-emancipation of Turkish women" *The International Migration Review* 11(1): 31.
- Adepoju, A. 2003. "Continuity and changing configurations of migration to and from the Republic of South Africa" *International Migration* 41(1): 3.
- Agadjanian, V., Menjivar C. and Sevoyan, A. 2007. "Reshaping the post-Soviet periphery: the impact of men's labor migration on women's lives and aspirations in rural Armenia" Presented at the 2007 Annual meeting of Population Association of America, March 29-31.
- Agadjanian, V., Yabiku, S. and Cau, B. 2008. "Men's migration and women's fertility in rural Mozambique" Presented at the 2008 Annual meeting of Population Association of America, April 17-19.
- Blood, R.O. 1965. "Long-range causes and consequences of the employment of married women" *Journal Of Marriage And Family* 27(1):43.
- Boehm, D.A. 2008 "' Now I am a man and a woman!": Gendered moves and migrations in a transnational Mexican community" *Latin American Perspectives* 35 (1):16.
- Bongaarts, J., and R.G. Potter.1979. "Fertility Effect of Seasonal Migration and Seasonal Variation in Fecundability: Test of A Useful Approximation Under More General Conditions." *Demography* 16(3): 475-9.
- Bongaarts, J., O. Frank, and R. Lesthaeghe. 1984. "The proximate determinants of fertility in sub-Saharan Africa" *Population and Development Review* 10 (3): 511-537.
- Brink, J.H. 1991. "The effect of emigration of husbands on the status of their wives: an Egyptian case" *International Journal of Middle East Studies* 23(2): 201-211.
- CEA/UEM. 1997. *The Mozambican miner: A study of the export of labor*. Maputo, Mozambique: Center for African Studies (CEA), Eduardo Mondlane University (in Portuguese).
- Crush J. 1997 *Covert operations: Clandestine migration, temporary work and immigration policy in South Africa*. Cape Town, Idasa.
- Crush, J. 2001. "Introduction to special issue: Evaluating South African immigration policy after apartheid" *Africa Today* 48(3): 1.
- Crush, J., A. Jeeves, and D. Yudelman. 1991. *South Africa's labor empire: a history of*

- black migrancy to the gold mines*. Boulder, CO: Westview.
- Davis, K. 1984. "Wives and work: The sex role revolution and its consequences." *Population And Development Review* 10.3:397.
- De Haan, A. 1997. "Rural-urban migration and poverty: the case of India." *IDS Bulletin*, 28(2):35-47.
- De Snyder, V. 1993. "Family life across the border: Mexican wives left behind" *Hispanic Journal Of Behavioral Sciences* 15(3):391.
- De Vletter, F. 1998. *Sons of Mozambique: Mozambican miners and post-apartheid South Africa*. Cape Town, South Africa: South African Migration Project.
- De Vletter, F. 2000 "Labour migration to South Africa: The lifeblood for southern Mozambique". In *On Borders. Perspectives on International Migration in Southern Africa*, edited by David A. McDonald, pp.46-70. Southern African Migration Project and St Martin's Press.
- Desai, S. and Banerji, M. 2008. Negotiated identities: Male migration and left behind wives in India. Paper presented at the Population Association of America annual meeting, New Orleans, LA, April 17-19.
- Dow, S. 1989. *Urban settlement strategies in Mozambique—A case study of Maputo*. School of Social Sciences, Flinders University of South Australia.
- Engel, B.A. 1986. "The woman's side: Male out-migration and the family economy in Kostroma province" *Slavic Review* 45(2):257.
- Ennaji, M. and Sadiqi, F. 2004. "The impact of male migration from Marocco to Europe on women: a gender approach" *Finisterra: Revista Portuguesa De Geografia* 39(77): 59-76.
- Goldin, C. 1991. "The role of World War II in the rise of women's employment" *The American Economic Review* 81(4):741.
- Gordon E. 1981. "An analysis of the impact of labor migration on the lives of women in Lesotho" *Journal of Development Studies* 17(3): 59-76.
- Grawert, E. 1992. "Impacts of Male Outmigration on Women: a Case Study of Kutum / Northern Darfur / Sudan." *The Ahfad Journal* 9:37-60.
- Gulati, L. 1986. "The impact on the family of male migration to the Middle East: some evidence from Kerala, India" In *Asian labor migration: pipeline to the Middle East*, edited by Fred Arnold and Nasra M. Shah. Boulder, Colorado, Westview Press, pp. 194-212. Westview Special Studies in International Migration.

- Hadi, A. 2001. "International migration and the change of women's position among the left-behind in rural Bangladesh" *International Journal of Population Geography* 7: 53-61.
- Jenkins, P. 1993. *Urban development and housing in Mozambique: A current analysis and bibliography*. Research Paper No.50 Edinburgh College of Art, Harriot Watt University, Centre for Environment and Human Settlement.
- Khaled L. 1995. "Migration and women's status: the Jordan case" *International Migration* 33(2): 235-50.
- Knauder, S. 2000. *Globalization, urban progress, urban problems, rural disadvantages: Evidence from Mozambique*. Sydney: Ashgate.
- Kothari, U. 2003. "Policy Arena: Migration, Staying Put and Livelihoods" *Journal Of International Development* 15(5).
- McDonald, P. 1997. "Gender equity, social institutions and the future of fertility" In *Women and Families: Evolution of the Status of Women as Factor and Consequence of Changes in Family Dynamics*, Maria Eugenia Cosio-Zavala (ed), pp. 13-33. Paris, CICRED.
- Lindstrom, D. P., and S. Giorguli Saucedo. 2002. "Short-and Long-Term Effects of US Migration Experience on Mexican Women's Fertility." *Social Forces* 80(4):1341-68.
- Menjívar, C. and Agadjanian, V. 2007. "Men's migration and women's lives: Views from rural Armenia and Guatemala." *Social Science Quarterly* 88(5): 1243-1262
- Menken, J. 1979. "Seasonal Migration and Seasonal Variation in Fecundability: Effects on Birth Rates and Birth Intervals." *Demography* 16(1):103-19.
- National Statistical Institute. 2005. Mozambique 2003 Demographic and Health Survey, Final Report. National Statistical Institute, Ministry of Health, and Measure DHS+/ORC Macro: Maputo, Mozambique (in Portuguese)
- Peat, J., & Barton, B. 2005. *Medical Statistics: A Guide to Data Analysis and Critical Appraisal*. Wiley.
- Roy, Archana and Parveen Nangia. 2005. "Impact of Male Out-migration on Health Status of Left behind Wives--A Study of Bihar, India." Paper presented at the meeting of the International Union for the Scientific Study of Population.
- Sanchez, L. and Thomson, E. 1997. "Becoming mothers and fathers: Parenthood, gender, and the division of labor" *Gender and Society* 11(6): 747-772.

Steinberg, S. 1996. "Childbearing research: A transcultural review" *Social Science & Medicine* 43(12):1765.

Timaeus, I. and W. Graham. 1989. "Labor circulation, marriage and fertility in Southern Africa." Pp. 365-400 in *Reproduction and Social Organization in Sub-Saharan Africa*, edited by Ron J. L. Berkeley, California: University of California.

Wenzel, H., and J. Bannerman. 1995. *Manica province, Mozambique: Population structures and migration: Modern development trends*. Osnabruck, Germany: GTZ Report – Integrated Rural Development Strategy Plan.

Zachariah, K.C., Mathew, E.T. and Irudaya Rajan, S. 2001. "Social, economic and demographic consequences of migration on Kerala" *International Migration* 39(2): 43-67.

Table 1: Descriptive Statistics

	Mean	Std. Dev.
Woman's Autonomy (0-14 scale)	5.61	2.82
Husband's Migration		
Cumulative Years Away between 2000-2006	2.92	2.87
Currently Away (ref=non-migrant)	.51	.50
Wife's Activities		
Wife's Cumulative Years Work between 2000-2006	.66	1.72
Wife's Children Born between 2000-2006	1.64	1.01
Wife lives coresidential with in-laws	.48	.50
Controls		
Wife's Age	27.10	6.05
Wife's Education		
Wife has 0 years education	.26	.44
Wife has 1-4 years education	.46	.50
Wife has 5+ years education	.28	.45
Wife is husband's only or first spouse	.88	.33
Wife's marital autonomy at time of marriage	2.16	.89
Age wife started living with husband	19.30	3.73
Wife's Religion		
No Religion	.14	.35
Mainline religion	.27	.45
Other religion	.59	.49
Husband's Age	33.66	9.31
Husband's Education		
Husband has 0 years education	.17	.38
Husband has 1-4 years education	.44	.50
Husband has 5+ years education	.39	.49

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Table 2: Husband's Migration and Wife's Autonomy

	1	2	3	4
Husband's Migration				
Cumulative Years Away (log)	0.764*** (9.834)		0.264* (2.322)	0.272* (2.390)
Currently Away (ref=non-migrant)		1.520*** (11.354)	1.181*** (5.979)	1.247*** (6.281)
Wife's Activities				
Wife's Cumulative Years Work (log)				0.228* (1.977)
Wife's Children Born				0.031 (0.472)
Wife lives coresidential with in-laws				-0.582*** (-4.121)
Controls				
Wife's Age	0.081*** (4.348)	0.102*** (5.446)	0.096*** (5.105)	0.082*** (4.322)
Wife has 1-4 years education (ref=no education)	-0.161 (-0.982)	-0.152 (-0.933)	-0.175 (-1.078)	-0.158 (-0.973)
Wife has 5+ years education (ref=no education)	-0.147 (-0.716)	-0.212 (-1.043)	-0.229 (-1.130)	-0.215 (-1.061)
Wife is husband's only or first spouse	-0.320 (-1.369)	-0.381 (-1.631)	-0.377 (-1.623)	-0.348 (-1.505)
Wife's marital autonomy at time of marriage	0.108 (1.372)	0.093 (1.199)	0.098 (1.263)	0.093 (1.199)
Age wife started living with husband	-0.002 (-0.101)	-0.028 (-1.355)	-0.019 (-0.859)	-0.015 (-0.663)
Mainline religion (ref=no religion)	0.265 (1.131)	0.238 (1.023)	0.233 (1.002)	0.257 (1.109)
Other religion (ref=no religion)	0.423* (2.105)	0.417* (2.098)	0.415* (2.086)	0.428* (2.155)
Husband's Age	-0.011 (-0.802)	-0.012 (-0.869)	-0.011 (-0.797)	-0.014 (-1.025)
Husband has 1-4 years education (ref=no education)	-0.109 (-0.498)	-0.114 (-0.531)	-0.123 (-0.572)	-0.087 (-0.405)
Husband has 5+ years education (ref=no education)	-0.053 (-0.244)	-0.124 (-0.566)	-0.114 (-0.524)	-0.045 (-0.206)
Intercept	2.965*** (4.857)	3.072*** (5.083)	2.920*** (4.819)	3.378*** (5.370)
R-Squared	.09	.10	.10	.11
N	1678	1678	1678	1678

*p<.05, **p<.01, ***p<.001, two tailed tests

Numbers in parentheses are significance statistics (z-ratios)

Table 3: Husband's Migration and Wife's Autonomy: Examining the success of husband's migration

	1	2
Husband's Migration		
Cumulative Years Away (log)	0.282* (2.466)	0.288* (2.538)
Current Migration Status based on remittances		
Successful Migrant (ref=non-migrant)	1.180*** (5.455)	
Unsuccessful Migrant (ref=non-migrant)	1.327*** (5.903)	
Current Migration Status based on wife's perception		
Successful Migrant (ref=non-migrant)		0.911*** (3.917)
Unsuccessful Migrant (ref=non-migrant)		1.550*** (7.030)
Wife's Activities		
Wife's Cumulative Years Work (log)	0.223+ (1.935)	0.216+ (1.875)
Wife's Children Born	0.031 (0.474)	0.034 (0.515)
Wife lives coresidential with in-laws	-0.582*** (-4.114)	-0.568*** (-4.041)
Controls		
Wife's Age	0.082*** (4.349)	0.083*** (4.436)
Wife has 1-4 years education (ref=no education)	-0.152 (-0.940)	-0.122 (-0.752)
Wife has 5+ years education (ref=no education)	-0.206 (-1.018)	-0.158 (-0.781)
Wife is husband's only or first spouse	-0.342 (-1.476)	-0.325 (-1.412)
Wife's marital autonomy at time of marriage	0.090 (1.163)	0.083 (1.077)
Age wife started living with husband	-0.014 (-0.639)	-0.016 (-0.747)
Mainline religion (ref=no religion)	0.251 (1.083)	0.238 (1.026)
Other religion (ref=no religion)	0.425* (2.141)	0.413* (2.069)
Husband's Age	-0.014 (-1.010)	-0.014 (-1.018)
Husband has 1-4 years education (ref=no education)	-0.080 (-0.370)	-0.055 (-0.259)
Husband has 5+ years education (ref=no education)	-0.033 (-0.152)	-0.009 (-0.042)
Intercept	3.339*** (5.286)	3.305*** (5.256)
R-Squared	.11	.12
N	1678	1678

*p<.05, **p<.01, ***p<.001, two tailed tests

Numbers in parentheses are significance statistics (z-ratios)

