

Care Work as a Determinant of Women's Non-Migration

Los cuidados como determinante de la no migración de las mujeres

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ABSTRACT

International migration offers benefits for women. However, the feminization of care work, driven by gender social norms, acts as a barrier to their mobility. The paper analyzes how caregiving responsibilities in households with male migration in Mexico limit women's ability to migrate. Using a quantitative approach, it applies a probit model with instrumental variable regression and data from ENADID 2023 to assess the impact of caregiving on female mobility. Factors such as marital status, age, ethnicity, income, access to health services, and working conditions are considered. The results show that feminization of care work, deeply rooted in gender norms, restricts women's probability of migration. This study contributes to the literature on "women who are left behind" in international migration from a care perspective.

Keywords: 1. migration, 2. women and development, 3. family environment, 4. gender division of labor, 5. Mexico.

RESUMEN

La migración internacional tiene beneficios para las mujeres. Sin embargo, la feminización de los trabajos de cuidados, ligada a normas sociales de género, es un obstáculo para que se concrete. El documento analiza cómo las responsabilidades de cuidado en los hogares con migración masculina en México limitan la posibilidad de que las mujeres emigren. Mediante un enfoque cuantitativo, se utiliza un modelo probit con regresión de variables instrumentales y datos de la ENADID 2023 para evaluar el impacto de los cuidados en la movilidad femenina. Se consideran factores como el estado civil, edad, etnicidad, ingresos, acceso a servicios de salud y condiciones laborales. Los resultados muestran que la feminización del trabajo de cuidados, arraigada en normas de género, limita la probabilidad de migración de las mujeres. El documento contribuye a la literatura sobre las "mujeres que se quedan atrás" en la migración internacional desde una perspectiva de cuidados.

Palabras clave: 1. migración, 2. mujeres y desarrollo, 3. entorno familiar, 4. división de género del trabajo, 5. México.

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INTRODUCTION

According to migration theory, from an aspirational perspective, migrating is better than staying (Aslany et al., 2021). Despite difficulties, costs, and limitations, international migration represents new opportunities for women, such as financial independence and an improved status in households and communities. For Thorsen (2010), in the imagination of certain social contexts, migration is part of the transition from girlhood to womanhood, and so aspirational views on it are developed, which promote human development (the goal of achieving valued lives).

For women, migrating can also mean an escape from domestic violence and social restrictions (Smith & Floro, 2020), and from forced early marriages (Belloni, 2019). Thus, migration conveys aspirations for alternative forms of adult femininity by providing an opportunity to pursue a different life in terms of education, income, and culture, which can provide support, financial and otherwise, to the family back home (Aslany et al., 2021).

However, aspirations and capabilities in terms of migration differ among individuals and are distributed socially among groups and personal networks. Specifically, the personal and professional aspirations of women, who shoulder the majority of care work, are key to their migration decisions, especially in middle-income countries (Kofman & Raghuram, 2012). In fact, Van Mol et al. (2018) highlight that these aspirations are crucial to understanding female migration behavior.

Although (individual and familial) female migration has increased, male migration still prevails. For Ferrant and Tuccio (2015), in countries like Mexico, this trend is attributed to social gender norms that favor male mobility, and to economic and political structures related to employment and income (Setrana & Kleist, 2022).

At the same time, the ability to migrate depends on several factors, including economic resources, migration networks, age, marital status, household size, original locality, educational level, employment status, health, and gender norms. Limitations to this ability can be political or legal (immigration controls; Massey et al., 1999), economic (lack of financial capital; Van Hear, 2014), social (human or social capital deficits; Kothari, 2003), or physical (detention centers; Turner, 2007).

Moreover, women's effective ability to migrate is conditioned by the care needs at home, as they perform most of these tasks unpaid. Women shoulder the burden of caring for dependents, in addition to household chores and other tasks with low or fluctuating pay, which restricts the time available for other paid activities.

The feminization of care work, linked to gender-based social norms, often hinders the migration aspirations of women in households with care needs (embodied by children, people over 65, and people with disabilities or chronic illnesses). While providing care fosters family well-being and the decision to migrate is the result of family arrangements, this situation limits the opportunities for development and economic autonomy of the women who stay.

The prevalence of migration aspirations and capabilities among men can thus be explained by gender norms that favor male paid work outside the home (Smith & Floro, 2020). As such, Hoffman and Buckley (2013) point out how these social norms limit women's migration opportunities. In the traditional model of male migration, the “woman who stays” not only lacks direct access to the benefits of migration but also assumes family responsibilities in the absence of her partner. As set forth by Cortes (2016), a woman staying in her country of origin after her husband's migration leads to her “immobilization” in the personal, familial, and social spheres. In fact, Bodvarsson and Van den Berg (2013) argue that while the migration of a family member (partner) may improve the well-being of some of them, it often diminishes that of others (the “left-behind” wife or another female member of the extended family who is left in charge).

Thus, the objective of this paper is to demonstrate that household care needs associated with male migration limit female emigration (aspirations to migrate are not realized) in Mexico, thus limiting opportunities for economic development. We hypothesize that if care needs exist in the household with male migration, then women's likelihood of migrating (of realizing their aspirations to “leave”) decreases.

Given that the dependent variable is binary, the impact of a set of factors, including care work, on women's probability of migrating is modeled, also given that the male partner in that household has emigrated. An IV-probit specification is used, taking into account the potential endogeneity arising from the inclusion of covariates. National-level data from the 2023 National Survey of Demographic Dynamics (ENADID, acronym in Spanish for *Encuesta Nacional de la Dinámica Demográfica*) (INEGI, 2024) with household-level information is made use of.

While the literature analyzes the role of women in places of origin, quantitative studies with a care work perspective on “women left behind” in South-North international migration are still few (e.g., Anastasiadou et al., 2024; Kofman & Raghuram, 2012; Kuzminac, 2021). This paper seeks to address this gap.

This paper reviews the literature on female migration, the economic and social determinants of mobility, and the role of care work in women's permanence in their households of origin. The data and methodology section describes the use made of the ENADID 2023 and the application of an IV-probit econometric model. The core findings reveal that caregiving responsibilities significantly reduce women's probability of migrating, and that factors such as age, marital status, access to health services, and income influence their mobility. The closing reflections discuss the implications for the design of public policies that promote gender equity in migration opportunities.

LITERATURE REVIEW

According to Coxhead et al. (2015), migration decisions respond to the duality of “pull” factors of better conditions (employment, wages) at the destination and the “push” of difficulties (unemployment, low income, cost of living) at the origin. This migration, driven primarily by

economic differentials, reflects a search for well-being and often represents the central motivation for migration.

The economics of labor migration expands this view, understanding migration decisions as family strategies for allocating resources to maximize utility and minimize income fluctuations (Coxhead et al., 2015). Households diversify risks by assigning members to different sources of income, including migration (Haug, 2008). For Schewel (2020), the new theory of labor migration notes that, at the household level, an individual's migration can be an integral part of the livelihood strategies of those "left behind."

Rational choice models, which analyze migration as an individual cost/benefit calculation (Haug, 2008), have limitations in predicting real trends (Schewel, 2020). Traditional migration literature tends to "ignore" gender dynamics, assuming that women migrated primarily for family reunification (Zlotnik, 2003). However, in recent decades, women have been recognized as independent migrants (Docquier et al., 2009).

The non-economic determinants of female migration fall into three categories: individual (age, marital status, family role, education, work experience), family (size, structure, status), and social (cultural norms and values). These factors influence both a woman's ability to migrate and how migration is undertaken (how and by whom) (Grieco & Boyd, 2023).

Individual Level

"Expectancy-value models" analyze the individual dimensions of migration, assuming that migration decisions are based on a rational calculation of individual costs and benefits (De Jong et al., 1983). Consequently, these models attribute varying degrees of agency to individual migrants.

The theory of planned behavior (Ajzen, 1991) examines the predictors of individual migration intention, influenced by subjective beliefs about the consequences of migration, social approval, and self-efficacy in overcoming obstacles (Willekens, 2017). Moreover, Boneva and Frieze (2001) suggest that individuals with migration intentions tend to exhibit greater work orientation, higher motivation for achievement and power, yet lower affiliation motivation and family centrality, when compared to those without migration intentions.

Migration capability, like aspirations, varies across socioeconomic divides, introducing a structural element into the conception of possible futures (Carling, 2022). The aspiration-capability model posits that permanence in the place of origin is due to a lack of ability to move or to a voluntary decision (preference).

Gubhaju and De Jong (2009) argue that individual determinants of migration vary according to gender and the goals of that aspiration. Specifically, single people migrate in order to maximize their future, whereas married men engage in short-term migration so as to optimize household

income. Meanwhile, men and women married to each other who migrate long-term seek to reduce their household's economic risk.

Familial Level

This perspective assumes that the family, as a social organization, is the fundamental unit of migration decision-making (Czaika & Reinprecht, 2022). Bodvarsson and Van den Berg (2013) consider migration as a family decision that affects all family members, structure, and functions. Schewel (2020) postulates that the aspiration and ability to migrate (or stay) depend on the mobility or immobility of others. Individual motivations are influenced by family members who encourage, facilitate, hinder, or oppose migration. In this context, immediate and extended family members influence migration decisions, especially when they pursue different goals than the migrant (Gaibazzi, 2023). That is to say, a man with migration aspirations may influence a woman to stay in the household of origin due to caregiving responsibilities. Furthermore, in extended families, authority figures select the migrant member (Heidbrink, 2019), a fact associated with gender norms that limit female mobility due to caregiving responsibilities.

Social Level

Social dimensions examine the distribution of migration aspirations among groups, accounting for categories such as age, gender (Grabska et al., 2019), caste (Roohi, 2017), and class (Merino, 2017). Network theory posits that “migration, as a social phenomenon, arises from the complex interaction of individual, family, and peer decisions, migrant organizations, as well as economic and political factors.” (Boyd, 1989, cited in Czaika & Reinprecht, 2022, p. 52) Robertson et al. (2018) argue that migration aspirations are informed by both global discourses and ideals, and local realities, and that the specific local context influences the probability of female migration.

Jolly et al. (2005) assert that female migration decisions and capability are influenced by discriminatory social institutions, which affect their economic, political, or social expectations in two ways. First, they can encourage migration as a response to structural gender discrimination and violence (sexual abuse, social stigma, and restrictions on freedom, etc.). Second, they can limit migration capability.

Cerise et al. (2013) pointed out that forced marriage among young women reduces their educational and employment opportunities, thus increasing their socioeconomic dependence on their spouses and limiting their decision-making capacity, including on migration. This practice, common in regions such as North Africa, the Near and Middle East, South Asia, and Latin America, is associated with poverty and rural life (Igareda, 2013). It is in these contexts that familial and cultural pressure compels the acceptance of marriages, as disobedience is perceived as an offense to family honor. Furthermore, poverty acts as a determining factor, turning marriage into an economic strategy or a protection mechanism in conflict zones (Torres, 2015).

Moreover, Posel (2004) argues that the mobility of married women is restricted by their traditional role of meeting household needs, to the detriment of personal benefit. In addition to

social norms, women's migration decisions are influenced by occupational segregation, characterized by low-skilled jobs primarily in services (household work, unskilled care work, or retail trade). Thus, the low pay of these occupations, coupled with family caregiving responsibilities, limits female migration opportunities (Tang, 2019).

Highly skilled women also perform paid or unpaid care work, and their contributions are often made invisible. This perpetuates inequalities in their labor and social integration. An example is Mexican women who migrate to the United States, who face difficulties accessing jobs that match their training (Ramírez & Gandini, 2016). They frequently end up in feminized sectors, such as education, healthcare, and personal services, where caregiving is central (Ciurlo & Salvatori, 2021). This pattern suggests that, despite their qualifications, women remain primarily responsible for caregiving, which limits their occupational mobility and perpetuates gender stereotypes.

Caregiving needs in households with minors, older adults, or people with disabilities often hinder female migration (mothers, wives, daughters, daughters-in-law). Even when a woman migrates (by herself or with her partner), caregiving responsibilities in the country of origin remain in the hands of other women. Gregorio and González (2012, p. 44) highlight that "exchange networks of goods, labor, care, and affection between related women demonstrate the centrality of kinship and gender in social reproduction." This principle persists, despite the geographical distance imposed by migration.

Despite the narrowing of gender disparities in recent years (Canudas, 2004), the sexual division of labor persists in Mexico. Hoffman and Buckley (2013) consider female migration to be "unnatural" because it challenges the male role as provider and that of female caregiving responsibilities. Therefore, when faced with the migration dilemma, households tend to prioritize men. Ferrant and Tuccio (2015) add that women have fewer migration opportunities given the scarcity of resources generally available to men. Furthermore, factors linked to patriarchy hinder the acceptance of stand-alone female migration (Jolly et al., 2005).

Specific forms of violence against women should be taken into account on top of the difficulties of migration. Sin Fronteras IAP (2004) emphasizes that violence is inherent to the migration process and goes beyond the State-individual relationship, although this is the most visible manifestation. For women seeking migration, physical violence often occurs in their immediate surroundings, frequently within their marital relationships, a fact that tends to drive their migration. However, this violence persists beyond the country of origin, intensifying during their journey and at the destination. There, they face aggression not only from immigration, customs, military, and police authorities, but also from their male companions and from assailants who take advantage of their vulnerability, especially when traveling alone. This reality poses a dilemma for female migration.

In line with Hamilton et al. (2021), family, social, and migration regimes limit families' preferences or decisions regarding female migration. Specifically, when it comes to patriarchal family contexts, migratory aspirations and capacity favor men, while women remain immobilized.

Thus, despite economic needs, non-economic values and the burden of care, deemed “irrational” from an economic perspective, restrict female migration.

Furthermore, Massey et al. (2006) highlight that the determinants of migration are contextually dependent, and so differences in national gender systems influence the migration patterns of men and women. They also point out that, in patriarchal societies such as Mexico, male migration is inversely associated with human capital and property ownership; men with more education and work experience are less likely to migrate, as their skills are valued locally. They also argue that, in these contexts, marriage or cohabitation significantly reduce the probability of migration for both genders, while in matrifocal societies the effect on migration is positive. They add that, in the latter, female migration increases with prior migration processes, reflecting women’s greater autonomy in decision-making. Finally, they assert that, in patriarchal contexts, women tend to migrate if their husbands have immigration status or legal documents, while in matrifocal contexts the correlation is less direct. Additionally, Bachan and De Jong (2018) point out that social networks facilitate female migration, particularly within regions.

On the other hand, various methodologies have been used to study the complex nature of female migration, which although limited allow for a reasonable understanding of it. The most common approaches include qualitative studies (interviews, focus groups, content analysis) and quantitative studies (econometric models, surveys, experiments, predictive models), complemented by interdisciplinary research bringing together both approaches.

Qualitative studies face limitations such as the risk of selection and recall bias, as well as subjectivity in perceptions, which can affect the validity and generalizability of the results. Despite this, ethnographic research is valuable for understanding migration decision-making processes. On the other hand, quantitative studies include macro analyses, which exclude individual and contextual dynamics, and micro analyses, focusing on households and families. However, the latter tend to focus on specific groups, and few address international migration from a gender perspective, which may not reflect the diversity of migration experiences.

DATA AND METHODOLOGY

Following Czaika and Reinprecht (2022), the common thread among migration theories is that the process is context- and situation-specific. In this regard, this paper estimates the effect of the need for care in households where a male has migrated on women’s probability of migrating too, controlling for a set of variables. A simple way to do this, given the binary nature of migration status and care needs, is by means of a nonlinear probability model.

Probit regression models in a non-linear way the probability that the binary variable $Y = 1$, given a set of predictor variables X , so that the predicted values are between 0 and 1. This type of regression makes use of standard normal cumulative probability distribution functions, generating probabilities in that range of values. One of the advantages of probit regression is that, by means

of binary variables, unequal variances in the study variables are utilized. The probit model with multiple regressors is:

$$Pr(Y_i = 1|x_i) = \theta(\alpha X_i) = \theta(\alpha_1 X_{1i} + \alpha_2 X_{2i} + \dots + \alpha_k X_{ki} + e_i) \quad (1)$$

Where Pr is the probability; Y_i is the binary dependent variable, representing female migration. θ is the cumulative distribution function of the standard normal distribution. X_{ki} are sociodemographic and economic characteristics linked to the i -th household that influence the decision to migrate. $\alpha_1 \dots \alpha_k$ are coefficients typically estimated by maximum probability, which generates efficient estimators with minimum variance under a standard normal distribution in large samples, allowing for conventional t -statistics. The error term, e_i , is independently and normally distributed with mean zero and variance σ^2 . Equation (1) takes the form:

$$Y_{ij} = \beta_0 + \beta_1 c_i + \beta X_{ij} + \epsilon_{ij} \quad (2)$$

Where Y_{ij} is a binary variable for the i -th household in entity j , with a value of 1 when a woman within a household with male emigration emigrates and 0 when the woman "stays behind" (otherwise); c_i is a binary variable associated with the need for care in household i , with a value of 1 if there is a member who is a minor, over 65 years of age, or has a disability, and 0 otherwise. β_1 measures the impact of the demand for care in the household on the probability of a woman emigrating in that household. X_{ij} is a vector of control variables that includes social, economic, and demographic characteristics of the woman in the household where the man (partner) migrated, such as age (Shrestha et al., 2023), education (Aslany et al., 2021), marital status (Aslany et al., 2021), ethnicity (Pardede & Venhorst, 2024), income (De Haas et al., 2019), activity status (Sancar & Akbas, 2022), access to healthcare (Aguila et al., 2023), and logistical/administrative factors related to the documentation required to migrate (Massey et al., 2006). It also includes household-level variables such as sociodemographic type and stratum (Shrestha et al., 2023) and a locality-specific one (Palermo et al., 2022).

The econometric analysis focuses on the effect of care on this probability. In probit regression, defined as a non-linear function and based on the normal cumulative distribution, the coefficients do not directly reflect the change in the probability of the dependent variable with a change in an independent variable. Thus, average marginal effects are accounted for, which allow estimating the change in the dependent variable with changes in the independent variable or with respect to the reference category, holding the other variables constant. This involves calculating the derivative of the probability function with respect to the independent variable in question.

This effect is tested by taking into account that the family life cycle is crucial in a household's decision regarding migration and on which member chooses to migrate. Aslany et al. (2021) establish that parental responsibilities affect migration, and identify that supporting children or providing them with a better future is a motivation for migration (by means of remittances). Couples are generally more likely to migrate when they do not have children or when their children are of preschool age, and this likelihood decreases when children are enrolled in elementary education (Nivalainen, 2004). Moreover, households with children exhibit a greater impact on

migration, since it inhibits female emigration and labor force participation (Rodriguez & Tiongson, 2001), rather men being the ones who move in order to support their families (De Haan, 1997).

Also, caring for elderly parents is an essential task for adults, which discourages emigration, particularly that of women (Ryan et al., 2009). De Jong (2000) argues that the presence of dependents generally increases male migration and decreases female migration. Thus, family care, based on gender norms, affects the migration propensity of men and women (Danzer & Dietz, 2014). For Torosyan et al. (2016), adult women in the household, by assuming caregiving duties, mitigate the pressure on men who migrate abroad.

In contrast to most migration studies with gender differentials, this paper provides direct evidence of caregiving tasks within the household. Table 1 defines the variables used in this study and presents the main descriptive statistics.

Table 1. Variable Definition and Descriptive Statistics

Variable/Name	Definition	Mean	Standard deviation
Dependent			
(mig) Migration	=1 if a female (head of household) in a household with male (partner) emigration has emigrated, 0 otherwise.	0.1321	0.1675
Independent			
(age) Age	Number of years	49.5	16.07
(edu_lev) Educational level	Number of years in educational institutions	3.82	2.65
(mar_sta) Marital Status	=1 if a woman (head of household) in a household with male emigration (partner) is married or cohabiting, 0 otherwise.	0.5219	0.5283
(ethn) Ethnicity	=1 if a woman (head of household) in a household with male emigration (partner) identifies as indigenous or Afro-descendant, 0 otherwise.	0.0178	0.0119
(inc) Income	=1 if a female (head of household) in a household with male emigration (partner) earned income from work, national or international remittances, pensions, rents, interest, or other benefits, 0 otherwise.	0.8719	0.3105
(act_sta) Activity Status	=1 if a female (head of household) in a household with male emigration (partner) does not have paid employment, 0 otherwise.	0.0912	0.0603
(ahs) Access to Health Services	=1 if a female (head of household) in a household with male emigration (partner) is a beneficiary of a health institution, 0 otherwise.	0.4711	0.4472
(care) Caregiving	=1 if there are household members who are minor, over 65 years of age, or disabled, 0 otherwise.	0.7284	0.2937
(sd_str) Sociodemographic Stratum	=1 if the household with male emigration is upper or upper-middle class, 0 otherwise.	0.1948	0.1795

(continues)

(continuation)

<i>(loc_siz)</i> Locality Size	=1 if the household with male emigration is in a locality with population of less than 2,500 (rural), 0 otherwise.	0.0961	0.0544
<i>(doc_emi)</i> Document for Emigration	=1 if the emigrant partner has a permit to reside or work abroad or is a (U.S.) citizen, 0 otherwise.	0.0256	0.0217
Variable/Name	Definition	Mean	Standard deviation
Instrumental variables			
<i>(hou_typ)</i> Household Type	=1 if the household with male emigration is extended or compound, 0 otherwise.	0.2468	0.2392
<i>(inc_pp)</i> Income from Public Programs	=1 if a woman (head of household) in a household with male emigration (partner) receives income from a government program, 0 otherwise.	0.6518	0.3317
<i>(hmwa)</i> Household Members of Working Age	=1 if there is a person of working age (15 to 65 years) in the household, 0 otherwise.	0.5918	0.5117

Source: Own elaboration based on ENADID 2023 (INEGI, 2024).

Instrumental Variables

Given the potential endogeneity arising from the inclusion of caregiving or covariates such as income, an instrumental variables (IV) approach is followed to estimate the effect of potentially endogenous covariates on female migration. Endogeneity occurs when an explanatory variable within the model is correlated with the error term. This means that this variable depends on other aspects that although not directly modeled still affect the dependent variable.

Two variables are used to instrument household caregiving. The first is a binary associated with the type (structure) of the household, that is, whether it is nuclear, extended, or composite, since this influences the demand for and supply of care. For Shrestha et al. (2023), migration, as a household subsistence strategy, depends largely on household structure.

Since families are responsible for the reproduction and socialization of their children, and form social networks that facilitate leaving the household (Kok, 2010), family households (which include other relatives such as aunts/uncles, cousins, siblings, etc., and people unrelated to the household head) can be expected to influence female migration through caregiving.

The second instrument is income from government programs (1 if they receive money from a government program and 0 otherwise) (De Haas et al., 2019). This income can complement or replace work income in the household. Similarly, it can represent the source of financing for caregiving and migration.

Since public programs guarantee a minimum income, they facilitate the support of dependent members in the household (infants, the elderly, or people with disabilities), which in theory reduces the need for direct caregiving. However, as support subjects, it forces people to stay in their

locality, thus limiting migration. Furthermore, the monetary benefit received may increase the perceived need for care, curbing the drive to emigrate.

Haushofer and Shapiro (2013) set forth that unconditional cash transfers significantly improve psychological well-being and spending on food, healthcare, and education, with particularly positive effects on children's education, health, and nutrition (Adato & Bassett, 2009). Specifically, for Barber and Gertler (2010), the *Oportunidades* program provided women with cash transfers and skills and social support for better healthcare. This resulted in improved care for household members, directly influencing female migration opportunities.

Income is measured with the variable "people of working age in the household, other than the female head of household" (1 if any household member is between 15 and 65 years old, and 0 otherwise). In this sense, household employment arrangements have changed in recent years, men no longer being sole providers (Martínez & Ferraris, 2016).

In fact, García and Pacheco (2014) highlighted that children, both adults and adolescents, contribute significantly to household income. Therefore, the presence of people of working age in the household can impact on total income and influence migration choices. Fields et al. (2003) established that households often have multiple sources of income, and that the contribution of members other than the head of household can exceed 50% of the total.

This study employs data from ENADID 2023, a nationally representative survey. Although the survey is limited in that it does not directly capture information related to caregiving or motivations for migration, the econometric analysis provides indirect evidence of the effects of household caregiving on women's probability of migrating. Our analysis is restricted to households with male emigrants (husband or partner of the head of household). Since variables associated with caregiving at home are used, the final number of observations is 2,611. STATA 14 software was used with the main commands "probit" and "ivprobit."

Three alternative models are proposed, differentiated by the inclusion of the variables "Income," "Activity Status," and "Sociodemographic Stratum." Since these variables are conceptually related, a correlation between them is expected. Overall, they can be influenced by common underlying factors, such as the woman's educational level, the presence of children in the household, marital status, job opportunities in the region, asset ownership, etc. Therefore, accounting for these variables separately makes it possible to interpret the effect of each independently.

RESULTS AND DISCUSSION

Validity and Relevance of the Instrument

Given the importance of instrumental variables for the identification strategy, the results on their validity and relevance are reported first (Table 2). Weak identification tests show that the instruments are relevant and robust. In all cases, the Kleibergen-Paap *rk* *F*-statistic exceeds the

general value of 10 proposed by Stock and Yogo (2005). Also, the over-identification tests demonstrate the validity of the instruments. Furthermore, based on Amemiya-Lee-Newey, it is not possible to reject the null hypothesis that the instruments are valid.

Table 2. Impact of Care Work on Female Migration in Households with Male Migration

Variables	Probit			IV-Probit		
	1	2	3	1	2	3
<i>age</i>	-0.049 ***	-0.078 ***	-0.045 ***	-0.053 ***	-0.069 ***	-0.051 ***
<i>edu_lev</i>	-0.094 ***	-0.093 ***	-0.092 ***	-0.092 ***	-0.085 ***	-0.081 ***
<i>mar_sta</i>	-0.031 ***	-0.044 ***	-0.047 ***	-0.038 ***	-0.047 ***	-0.052 ***
<i>ethn</i>	-0.108 **	-0.082 **	-0.096 **	-0.122 **	-0.111 **	-0.098 **
<i>inc</i>	0.225 ***	-	-	0.228 ***	-	-
<i>act_sta</i>	-	0.209	-	-	0.212	-
<i>ahs</i>	-0.162 **	-0.145 ***	-0.141 ***	-0.168 **	-0.140 ***	-0.132 ***
<i>care</i>	-0.239 ***	-0.233 ***	-0.246 ***	-0.246 ***	-0.227 ***	-0.258 ***
<i>sd_str</i>	-	-	0.071 **	-	-	0.073 **
<i>loc_siz</i>	0.025 ***	0.028 ***	0.033 ***	0.019 ***	0.031 ***	0.036 ***
<i>doc_emi</i>	0.194 **	0.137 **	0.178 ***	0.205 ***	0.188 **	0.193 **
Weak identification test (test F) ^a	-	-	-	129.48	116.33	131.24
Over-identification test (p -value) ^b	-	-	-	0.66	0.67	0.71
Pseudo-R ²	0.023	0.025	0.024	0.015	0.021	0.017
Wald X ² test	174.38 ***	195.08 ***	149.68 ***	208.75 ***	237.66 ***	187.2 ***2
Log Likelihood	-1 189.75	1 008.16	1 228.09	-1 334.57	-1 250.12	-1 322.99
AIC	1 921.18	2 105.47	1 888.37	2 057.13	2 310.25	2 067.96
BIC	2 048.28	2 200.16	2 155.35	2 200.57	2 340.57	2 218.57
Number of observations	2 611	2 611	2 611	2 599	2 599	2 599

Note: Significance levels *** 1%, **5%, and *10% based on robust standard errors.

^a The Kleibergen-Paap $rk F$ -statistic is reported, which poses the null hypothesis that instruments are weak, versus the alternative hypothesis that instruments are strong (correlation between instruments and endogenous variables to identify causal effects). The rejection criterion is a p -value < 0.05.

^b The p -value of the minimum chi-square statistic from the Amemiya-Lee-Newey (ALN) test is reported for variables with binary outcomes with the null hypothesis of valid instruments and the alternative hypothesis that at least one of the instruments is invalid. The rejection criterion is a p -value < 0.05.

Source: Own elaboration based on ENADID 2023 (INEGI, 2024).

The reliability of the over-identification test increases if the instruments are different in terms of their logical reasoning and theoretical foundation (Murray, 2006). In this sense, given that the instruments used are considered exogenous (favorable over-identification tests), the results are reliable. Additionally, the endogenous Wald χ^2 values of all models are significant at 1%. Consequently, the central independent variable (caregiving) is endogenous, and it is appropriate to estimate it using the IV-Probit model.

Econometric Results

Multivariate estimates using probit regressions on women's probability of migrating, focusing on households with male migration, are shown in Table 3 (marginal effects). The reference categories are migration (female), marital status (married/cohabiting), ethnicity (indigenous or Afro-descendant), income (income from employment, remittances, pensions, and others), activity status (unemployment), access to health services (beneficiary), caregiving (minors, elderly, or people with disabilities), sociodemographic stratum (upper or upper-middle class), and locality size (rural).

Table 3. Probit Estimates: Marginal Effects

Variables	Probit			IV-Probit		
	1	2	3	1	2	3
<i>age</i>	-0.0123 ***	-0.0195 ***	-0.0113 ***	-0.0130 ***	-0.0176 ***	-0.0130 ***
<i>edu_lev</i>	-0.0226 ***	-0.0223 ***	-0.0221 ***	-0.0230 ***	-0.0213 ***	-0.0203 ***
<i>mar_sta</i>	-0.0074 ***	-0.0106 ***	-0.0113 ***	-0.0095 ***	-0.0120 ***	-0.0133 ***
<i>ethn</i>	-0.0265 **	-0.0201 **	-0.0235 **	-0.0307 **	-0.0283 **	-0.0250 **
<i>inc</i>	0.0563 ***	-	-	0.0577 ***	-	-
<i>act_sta</i>	-	0.0508	-	-	0.0534	-
<i>ahs</i>	-0.0397 **	-0.0355 ***	-0.0345 ***	-0.0420 **	-0.0350 ***	-0.0330 ***
<i>care</i>	-0.0574 ***	-0.0559 ***	-0.0590 ***	-0.0603 ***	-0.0556 ***	-0.0632 ***
<i>sd_str</i>	-	-	0.0172 **	-	-	0.0188 **
<i>loc_siz</i>	0.0059 ***	0.0066 ***	0.0078 ***	0.0048 ***	0.0082 ***	0.0085 ***
<i>doc_emi</i>	0.0466 ***	0.0329 ***	0.0427 ***	0.0492 ***	0.0451 ***	0.0463 ***
Number of observations	2 611	2 611	2 611	2 599	2 599	2 599

Note: Significance levels *** 1%, **5%, and *10% based on robust standard errors.

Source: Own elaboration based on ENADID 2023 (INEGI, 2024).

The results show that, when controlling for personal and household characteristics, married or cohabiting women are approximately 1% less likely to emigrate than single or divorced women. This finding is consistent with previous studies (Khan et al., 2023). The lower propensity to emigrate among women with migrant partners can be attributed to the family and social

responsibilities assigned to the former. As pointed out by Contreras (2007), migration is perceived as a familial duty, which underscores the differences in migration decisions between genders based on marital status. Gubhaju and De Jong (2009) also reported that greater intention to migrate can be found among married men than married women.

However, they contrast with Agadjanian et al. (2008), who state that individuals whose partners sought to migrate were significantly more likely to also aspire to migrate. Similarly, Contreras (2007) identified that, out of a sense of duty, women assume a social mandate within marriage to physically and emotionally support their partners. This is perceived as part of their role in the well-being and care of the family, particularly the husband. In this context, migration arises as a strategy to contribute to the well-being of children, facilitate their social mobility, and compensate for their own shortcomings.

In any case, the high costs associated with migration (transportation, food, housing, etc.) may explain why women stay at home to minimize them. Guntoro et al. (2019) make a similar argument. Also, a significant portion of women who follow their partners' migratory footsteps initially stay at their places of origin and only migrate until their partners are economically established at the destination (He & Gerber, 2020). However, since the dissolution of cohabitation is a widespread phenomenon after migration (Bertoli et al., 2023), women may wish to stay at their place of origin so as to reduce the psychological costs for their children given the separation.

Women who identify themselves as indigenous or Afro-descendant have an average disadvantage of 3% of emigration compared to women of other ethnicities across all three models. This result is in line with Pardede and Venhorst (2024), for whom ethnicity, understood as the set of cultural characteristics that distinguish a community, is a limiting factor for women's migration opportunities. On the one hand, cultural norms in the host country regarding the employment of immigrants discourage indigenous women's migration decisions (Polavieja, 2015). On the other hand, since indigenous groups tend to be affected by poverty, the resources available to them for migration are limited. Platt (2024) argues similarly, noting that immigrants of different ethnic origins can experience significant variations in their employment rates, income, and poverty levels.

Similarly, women with access to health services (beneficiaries) are less likely to migrate than those without; access to these services implies, on average, a 4% lower probability of mobility. Health services encourage women to stay at their place of origin, given the advantages of access to health care for them and their families. In this regard, Sana and Hu (2006) noted that workers are more likely to migrate when they lack social security coverage, including health services. In other words, women's access to health services, linked to formal employment, discourages international migration because it guarantees a modicum standard of living (Schüring et al., 2017).

Furthermore, the higher the level of education a woman has in a household with male migration, the lower her likelihood of emigrating. An additional year of schooling for women, which implies greater human capital, translates into a 2.2% lower probability of changing their place of residence. Canudas (2004) estimates a similar result and explains that the training and knowledge acquired

in the Mexican educational system are not completely transferable to the United States (US). Therefore, given language and cultural differences, education received in Mexico is better rewarded within the country than abroad. For Handler (2018), a high level of education of people at the lower end of a country's income distribution drives emigration; yet beyond a certain threshold, higher levels of education lead to higher incomes in the country of origin, which tends to reduce migration.

Also, all else being equal, the probability of emigrating per additional year of a woman's age decreases by 1.4% on average. This result is in line with Canudas (2004), who established that the probability of migrating is high when a person is young and then decreases with age. One possible explanation for this is that gendered migration decisions are influenced by expectations, gender roles, and social institutions, which differ across age groups. Moreover, resources, capabilities, and autonomy also vary with age and the life cycle; in particular, the latter two decline with the aging process.

When women in migrant households earn income primarily from work, remittances, pensions, or retirement benefits, their likelihood of migrating increases by 5.4%. This is consistent with Ferrant and Tuccio (2015). While the literature identifies that differences in income, unemployment, and cost and quality of life between the countries of origin and destination drive migration, an increase in income in the place of origin to a "decent" level allows for basic needs to be met and provides resources for the migration process. Furthermore, work income can be supplemented with unconditional public transfers, which expands the possibilities of migrating.

Higher income also strengthens women's bargaining power within the household, allowing for them to make active decisions on migration. As a result, their likelihood of migrating increases. However, this bargaining power depends largely on the ownership of assets and non-work income, as pointed out by Nobles and McKelvey (2015).

Likewise, living in a high- or upper-middle-income household increases the likelihood of female emigration by 2%. This finding is consistent with D'Ingiullo et al. (2023), who believe that resource endowment is key to the migration of highly qualified individuals seeking to improve their income or to access a better quality of life. However, when the household reaches an economic level that allows it to acquire basic, and even luxury, goods, the economic motivation to migrate decreases. This suggests that the economic reasons behind migration vary by social stratum; while the upper and upper-middle classes may migrate to achieve higher standards of living, lower income groups do so out of necessity. Bonasia and Napolitano (2012) convey a similar idea.

On the other hand, residing in a rural area and having a partner who has migrated increase the probability that a woman will also migrate by 0.3%. According to De Haas (2011), exposure to the relative wealth and success of migrants makes rural life less attractive, discouraging work and encouraging migration. Furthermore, Schewel (2022) argues that female labor migration is often a short-term, long-distance (international) strategy to accumulate the necessary capital that will later allow for short-distance (internal), long-term migration.

Also, unemployment is not statistically significant in the likelihood of female emigration. This may be explained by how unemployment is measured, which only accounts for the week prior to the survey. Ramoni et al. (2017) report that medium and long-term unemployment does not always lead to international migration, as informal employment becomes an option. Furthermore, female unemployment in the place of origin may not influence the decision to migrate, given that remittances sent by the migrant partner usually compensate for the lack of income. Finally, male migration can increase women's reservation wage, that is, the minimum wage for which they would be willing to accept a job, which discourages their participation in the labor market or their migration (Démurger, 2015).

As for caregiving, having minors, older adults, or people with disabilities in the household significantly reduces the probability of female migration. In all three models analyzed, these responsibilities emerge as a substantial barrier to female mobility in households with male migration. On average, women with caregiving responsibilities are 5.3% less likely to migrate than those in households without care needs. This supports the findings of Danzer and Dietz (2014), who asserted that gender roles and norms, especially those related to family caregiving, influence the propensity to migrate. Démurger (2015) also pointed out that male migration can increase the caregiving burden for those "left behind" and consequently affect female mobility.

These estimates support the hypothesis of Hughes et al. (2020), according to which men who value fulfilling their economic obligations are more likely to migrate, while women who assume caregiving responsibilities are less likely to do so. Minors in the household can hinder women's migration aspirations if it means leaving them behind. Furthermore, these family arrangements condition women's economic development through migration, preventing them from realizing their aspirations. This result, consistent with Massey et al. (2006), suggests that the patriarchal gender system in Mexico determines women's likelihood of emigration. The dominant gender ideology favors male migration and restricts female migration due to caregiving needs.

According to Cortes (2016), the lower probability of female migration is also explained by the fact that, while some women follow their migrant partners, others remain immobile. When women migrate, other women often assume childcare in their country of origin. Zlotnik (2003) argues that women depend on their family networks to migrate, which influences their decisions. Other relatives not being available, they are the ones who manage assets and dependents (Cortes, 2016).

Czaika and De Haas (2012) explain that male international migration is more likely due to work reasons, while female migration is usually internal (short distance and brief) for family reasons. This explains why female international migration is less frequent in households with a migrant man.

Furthermore, circular migration may explain the low probability of female emigration. The unequal distribution of care work in the home forces many migrant women to return periodically to fulfill these responsibilities, which can discourage the continuation of the migration process (Ellis et al., 1996). Likewise, when parents migrate, the children left behind often experience

significant changes in their living conditions, such as moving in with other relatives (Bertoli et al., 2023), which may encourage women to stay at their place of origin to ensure their well-being.

CLOSING REFLECTIONS

International migration can be understood as a survival or household growth strategy that, in general, leads men to emigrate. This translates into men being the direct beneficiaries of the opportunities offered by the destination, while women stay in their place of origin, shouldering care work and household resource management responsibilities.

This paper estimates the probability of women migrating, in households where the male partner has emigrated, in the Mexican case, using data from the ENADID 2023. The econometric methodology based on nonlinear probit and IV-probit models confirms an immobility bias against women compared to men. Specifically, women who are married or in a cohabitation relationship, indigenous or Afro-descendant, in lower-middle- or low-income households in urban areas, of adult age, with access to health services, and who provide care for dependent household members are less likely to migrate internationally.

Overall, the results are consistent with the available literature on migration that addresses gender aspects and household responsibilities. In this sense, evidence supports the proposed hypothesis. That is, that households with care needs limit women's probability of international migration given that the man has already emigrated. Said otherwise, in a context of male emigration, the social and family-based care work responsibilities assigned to women constitute an obstacle to forming and materializing international migration aspirations.

Consequently, the estimated results suggest that inequality is reproduced based on care practices as principles of social organization in a context of male migration. Furthermore, in the absence of a partner, women take on several specific activities commonly performed by men.

In this sense, caregiving within the home in the place of origin, when the man has migrated, represents a central element of women's "immobility." It constitutes a centripetal force that limits women's opportunities to emigrate and directly benefit from the process. This, in turn, can restrict women's development paths, upward social mobility, and economic autonomy.

Furthermore, it must be considered that migration can simultaneously reflect processes of empowerment (of the person "who leaves") and dependence (of the person "who stays"). The results also warn of the possibility that the most vulnerable or physically and economically dependent groups may face strong social restrictions on migration or, in the extreme, may be unable to move at all, being excluded from opportunities to live lives they value. On the other hand, we still acknowledge that "staying" in the place of origin can bring economic and social benefits for the women who remain there.

Thus, governments and Mexican migrant households face significant challenges in simultaneously addressing women's migration process and the caregiving systems that may be

able to support it. In particular, governments, especially in areas characterized by net emigration, must take into account women's "immobility" when allocating budgets and designing local development programs.

Given the benefits of migration, it should be possible to promote it with measures that favor women's empowerment in the migration process, which implies the creation of migration aspirations and their realization through different capabilities. It is necessary to encourage the creation and strengthening of support and well-being networks for caregiving in the place of origin, as well as local caregiving systems that redistribute caregiving burdens. As such, caregiving would play a dual role by generating direct well-being and serving as a support mechanism for female migration.

Finally, it is recognized that the study's limitations include the use of the ENADID, which does not directly capture data on care work at households or women's motivations for migrating. Conversely, it captures information from households or reference women without migration experience, and so the results and interpretations are limited to these surveyed households and only capture indirectly the effect of care work.

To the above should be added that it was not possible to delve deeper into the analysis of how migrant women act within their *habitus* and social position. Likewise, although a classification was made according to marital status to analyze the reasons for migration, this variable did not allow covering other intersectional factors that also influence their experiences and decisions.

Translation: Fernando Llanas.

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