

Co-residence patterns of the individuals left behind by the migrants and their analytical implications: Evidence from Mexico

Simone Bertoli^{1,2} Elsa Gautrain¹ Elie Murard³

¹Université Clermont Auvergne, CNRS and CERDI

²IZA

³Universidad de Alicante and LEAP, Stellenbosch University

WIDER Seminar Series
September 18, 2019

Changing patterns of co-residence

Mexican migration to the United States typically occurs in **stages**, with married men leaving behind their wives and children (Cerrutti and Massey, 2001; Nobles, 2013).

Anthropological and sociological accounts strongly suggest the individuals left behind adjust their pattern of co-residence.

This calls into question the long-standing tradition in economics of treating household composition as an “exogenous or fixed characteristics” (Foster and Rosenzweig, 2002), an assumption that is maintained also when analyzing the effects of migration on the left behind.

Changing patterns of co-residence

Mexican migration to the United States typically occurs in [stages](#), with married men leaving behind their wives and children (Cerrutti and Massey, 2001; Nobles, 2013).

Anthropological and sociological accounts strongly suggest the individuals left behind adjust their pattern of co-residence.

This calls into question the long-standing tradition in economics of treating household composition as an “exogenous or fixed characteristics” (Foster and Rosenzweig, 2002), an assumption that is maintained also when analyzing the effects of migration on the left behind.

Changing patterns of co-residence

Mexican migration to the United States typically occurs in [stages](#), with married men leaving behind their wives and children (Cerrutti and Massey, 2001; Nobles, 2013).

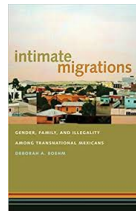
Anthropological and sociological accounts strongly suggest the individuals left behind adjust their pattern of co-residence.

This calls into question the long-standing tradition in economics of [treating household composition as an “exogenous or fixed characteristics”](#) (Foster and Rosenzweig, 2002), an assumption that is maintained also when analyzing the effects of migration on the left behind.

Co-residence choices of the left behind

“When her husband went to New Mexico just after their wedding, Jazmín decided to stay with her parents rather than following the tradition of moving to her husband's community. Jazmín said that her mother is a great help with her toddler son.” (Boehm, 2012, Intimate Migrations).

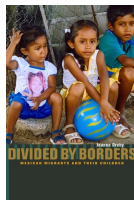
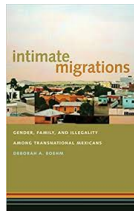
“Grandparents are the most common caregivers when mothers migrate [...] The prevalence of the practice of leaving children with maternal grandparents is curious given [...] the predominance of patrilocal residential patterns.” (Dreby, 2010, Divided by Borders).



Co-residence choices of the left behind

“When her husband went to New Mexico just after their wedding, Jazmín decided to stay with her parents rather than following the tradition of moving to her husband's community. Jazmín said that her mother is a great help with her toddler son.” (Boehm, 2012, Intimate Migrations).

“Grandparents are the most common caregivers when mothers migrate [...] The prevalence of the practice of leaving children with maternal grandparents is curious given [...] the predominance of patrilocal residential patterns.” (Dreby, 2010, Divided by Borders).



Why the pattern of co-residence matters

Co-residence with other adult family members can produce **significant economic effects** and **major analytical implications**, as it can:

- shape the consequences of migration for the left behind;
 - soften the trade-off between labor force participation and child care for the wives left behind (Wong and Levine, 1992);
- reduce information asymmetries (de Laat, 2014; Ashraf et al., 2015);
 - influence the decisions concerning the use of remittances;
- lead to the **non enumeration** of the migration of the husband.

Why the pattern of co-residence matters

Co-residence with other adult family members can produce **significant economic effects** and **major analytical implications**, as it can:

- shape the consequences of migration for the left behind;
 - soften the trade-off between labor force participation and child care for the wives left behind (Wong and Levine, 1992);
- reduce information asymmetries (de Laat, 2014; Ashraf et al., 2015);
 - influence the decisions concerning the use of remittances;
- lead to the **non enumeration** of the migration of the husband.

Retrospective questions in the 2010 Mexican Census

The 2010 Census includes the following questions:

(Question IV.1) “During the last five years, that is, from June 2005 to today, has any person who lives or lived with you (in [this household](#)) gone to live in another country?”

In case of positive answer, the following question is asked:

(Question IV.5) “When [name of the migrant] left for the last time, was he or she living with you?”

If this co-residence condition (at the time of migration) is violated, then the migration episode is [not](#) enumerated. This condition is in line with the recommendations by UNDESA (2017). [▶ INEGI](#)

Retrospective questions in the 2010 Mexican Census

The 2010 Census includes the following questions:

(Question IV.1) “During the last five years, that is, from June 2005 to today, has any person who lives or lived with you (in [this household](#)) gone to live in another country?”

In case of positive answer, the following question is asked:

(Question IV.5) “When [name of the migrant] left for the last time, was he or she living with you?”

If this co-residence condition (at the time of migration) is violated, then the migration episode is [not](#) enumerated. This condition is in line with the recommendations by UNDESA (2017). [▶ INEGI](#)

Retrospective questions in the 2010 Mexican Census

The 2010 Census includes the following questions:

(Question IV.1) “During the last five years, that is, from June 2005 to today, has any person who lives or lived with you (in [this household](#)) gone to live in another country?”

In case of positive answer, the following question is asked:

(Question IV.5) “When [name of the migrant] left for the last time, was he or she living with you?”

If this co-residence condition (at the time of migration) is violated, then the migration episode is [not](#) enumerated. This condition is in line with the recommendations by UNDESA (2017). [▶ INEGI](#)

Retrospective questions in the 2010 Mexican Census (cont'd)

If the wife (possibly with her children) joins the household of her parents or her parents-in-law after the migration of her husband, then this migration episode is not enumerated.

Why? The husband was not a member of the surveyed household when he left Mexico.

The INEGI informed us that the co-residence condition in Question IV.5 was violated in 12,667 instances (but this does not include the case in which respondents gave a negative answer already to Question IV.1). Enumerated migrants are 152,054. [▶ Wong et al](#)

Retrospective questions in the 2010 Mexican Census (cont'd)

If the wife (possibly with her children) joins the household of her parents or her parents-in-law after the migration of her husband, then this migration episode is not enumerated.

Why? The husband was not a member of the surveyed household when he left Mexico.

The INEGI informed us that the co-residence condition in Question IV.5 was violated in 12,667 instances (but this does not include the case in which respondents gave a negative answer already to Question IV.1). Enumerated migrants are 152,054. [▶ Wong et al.](#)

Evidence from Mexico

Bertoli and Murard (2019) draw on panel survey data to show that the occurrence of an international migration episode is associated with **further variations in the composition of Mexican households**, which occur a few months after migration.

These data do **not** allow to:

- observe all instances of changes in household composition;
- characterize the variations in the pattern of co-residence;
- verify if these persist over time.

Contribution

We combine two different data sources to document the extent of **lasting changes** in the co-residence patterns of the wives and children left behind after the husband moves to the United States.

We can observe the co-residence pattern of married couples where the husband migrated between June 2005 and June 2010:

- just before migration;
 - 2005Q2-2010Q3 waves of the ENOE panel survey.
- a few years after migration;
 - Large-scale survey connected to the 2010 Census.

Contribution (cont'd)

We identify the women that are likely to be married to a migrant (married, **not** co-residing with the spouse, and personally receiving remittances from abroad) in the 2010 Census.

We compare their co-residence choices with those observed in the ENOE at the time of migration of their husbands.

We analyze whether a change in co-residence choices leads to the **non enumeration** of the migration of the husband in the 2010 Census.

We compare the **observable characteristics** of the left behind depending on whether they adjusted their co-residence choices.

Preview of the results

A large share of [wives left behind co-reside with their parents](#), a move away from the predominant patrilocality in Mexico. The presence of babies and children magnifies the extent of this shift.

The observed change in co-residence patterns substantially increases the probability that the migration of the husband is **not** reported.

Relying only on the migration episodes that are captured in the data would give us a biased representation of the wives (education, labor force participation) and of the children left behind (school attendance).

Relevant literature

- Effects of migration on the left behind.
 - Yang (2008); McKenzie and Rapoport (2011); Alcaraz, Chiquiar and Salcedo (2012); Batista et al. (2012); Bertoli and Marchetta (2014).
- Endogeneity of household composition.
 - Foster and Rosenzweig (2002); Barsbai and Thiele (2013); Hamoudi and Thomas (2014).
- Intra-household decision making and relationship within the extended family.
 - Fafchamps and Quisumbing (2008); Cox and Fafchamps (2008).

The ENOE survey

The [Encuesta Nacional de Ocupación y Empleo](#) run by the INEGI is a quarterly rotating panel survey that follows households for five consecutive quarters.

It allows identifying (from variations in the household roster and questions about the absence of former members) the occurrence of international migration episodes from the second to the fifth interview.

The waves from 2005Q3 to 2010Q3 allow identifying the migration episodes occurring over the same five-year recall period used in the 2010 Census, and the pattern of co-residence just before migration occurs.

Survey connected to the 2010 Census

The survey connected to the 2010 Census was administered in June to 10 percent of the Mexican population ($\simeq 2.9$ million households). It contains questions on:

- Marital status.
- Co-residence with the spouse and with parents.
- Receipt of remittances from abroad (separately for each household member above 12).
- Retrospective questions on migration.

Survey connected to the 2010 Census

We can identify married couples that co-reside in Mexico (stayers), and married couples that do not co-reside, and where the husband is **likely to have migrated abroad**, when the woman is:

- married;
- not co-residing with her spouse;
- reporting to be receiving remittances from abroad.

For these women, we can search whether the household that they belong to reported their husbands as **current international migrants** (see Questions IV.1 and IV.5).

Sample

Thus, drawing on the ENOE and on the 2010 Census, we can isolate a sample of women aged 20 to 49, and observe their pattern of co-residence:

- just before they are left behind;
 - ENOE 2005Q3-2010Q3 (3,120 observations).
- a few years after they have been left behind.
 - 2010 Census (19,251 observations).

We can also analyze the married couples that co-reside in Mexico from the 2010 Census (\simeq 1 million). [▶ MxFLS](#)

Definitions

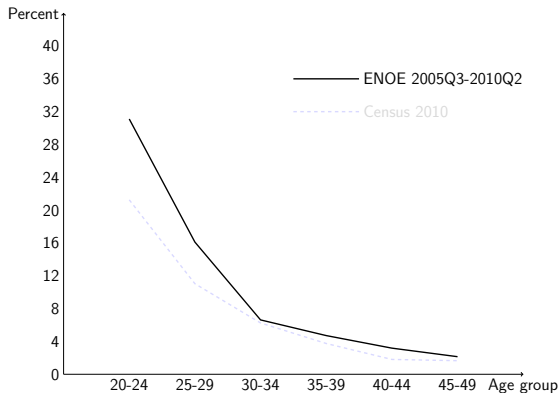
We focus on the incidence of **patrilocality** and **matrilocality**, which are defined as follows:

- **Patrilocality.**
 - Co-residence with the parent(s) of the **husband**.
- **Matrilocality.**
 - Co-residence with the parent(s) of the **wife**.

We cannot consider a less stringent definition (living with or close by) as we do not have information on the municipality of birth in Mexican surveys.

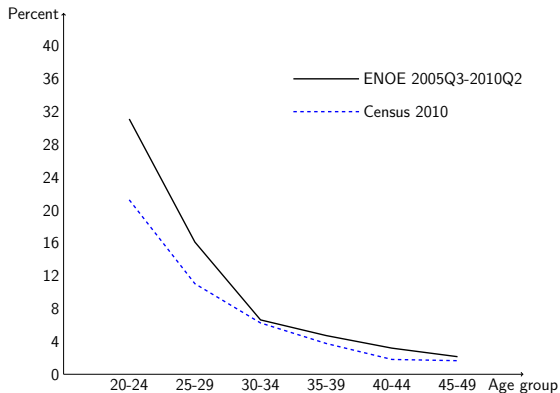
Patrilocality

▶ Confidence intervals



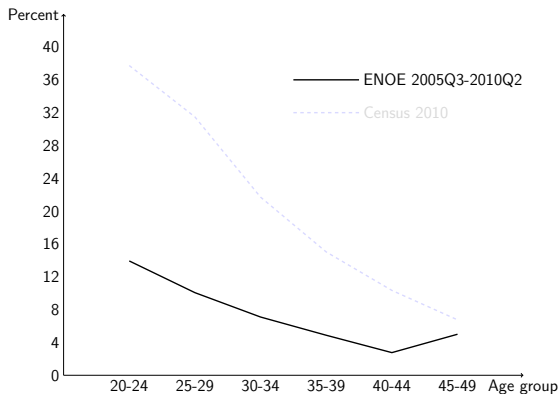
Patrilocality

▶ Confidence intervals



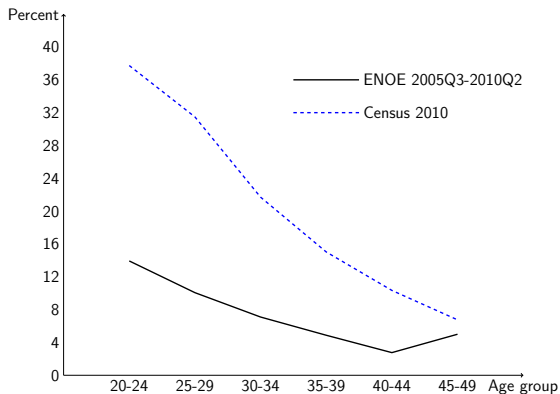
Matrilocality

▶ Confidence intervals



Matrilocality

▶ Confidence intervals



A shifting pattern of co-residence

The ENOE data reveal that the migration of the husband is more likely both from matrilocal and patrilocal couples (than from couples in nuclear households); the **effect is stronger for patrilocality**. [▶ Estimates](#)

Matrilocality substantially increases among the wives left behind a few years after migration, while the share of them co-residing with their parents-in-law remains stable.

This is likely to reflect the **dissolution of the nuclear household of origin of the migrant**.

A shifting pattern of co-residence

The ENOE data reveal that the migration of the husband is more likely both from matrilocal and patrilocal couples (than from couples in nuclear households); the **effect is stronger for patrilocality**. [▶ Estimates](#)

Matrilocality substantially increases among the wives left behind a few years after migration, while the share of them co-residing with their parents-in-law remains stable.

This is likely to reflect the **dissolution of the nuclear household of origin of the migrant**.

A shifting pattern of co-residence

The ENOE data reveal that the migration of the husband is more likely both from matrilocal and patrilocal couples (than from couples in nuclear households); the **effect is stronger for patrilocality**. [▶ Estimates](#)

Matrilocality substantially increases among the wives left behind a few years after migration, while the share of them co-residing with their parents-in-law remains stable.

This is likely to reflect the **dissolution of the nuclear household of origin** of the migrant.

Is the husband enumerated?

Consider a wife left behind in the 2010 Census: is her **husband reported as a current int'l migrant** by the household the wife belongs to at the time of the survey?

We search for **male migrants** whose age is coherent with the one of the wife, i.e., up to 10 years older or 4 years younger.

54.5 percent of the wives left behind in our sample have their husband that is not enumerated as a current international migrant.

Is the husband enumerated?

Consider a wife left behind in the 2010 Census: is her **husband reported as a current int'l migrant** by the household the wife belongs to at the time of the survey?

We search for **male migrants** whose age is coherent with the one of the wife, i.e., up to 10 years older or 4 years younger.

54.5 percent of the wives left behind in our sample have their husband that is not enumerated as a current international migrant.

Is the husband enumerated? (cont'd)

Is the probability of non-enumeration related to the co-residence pattern of the wife? The non-enumeration might be due to other factors, notably [migration before June 2005](#), or [deliberate misreporting](#) (Hamilton and Savinar, 2015).

Co-residence patterns and non-enumeration

Dependent variable: **Husband not enumerated**

	(1)	(2)	(3)	(4)	(5)
Patrilocality	0.004 (0.014)	0.012 (0.014)	0.004 (0.014)	0.046 (0.046)	0.019 (0.015)
Matrilocality	0.347*** (0.009)	0.323*** (0.009)	0.297*** (0.009)	0.194*** (0.023)	0.362*** (0.014)
Adjusted- R^2	0.084	0.108	0.200	0.173	0.198
Observations	19,251	19,251	19,251	2,677	16,574
Average probability	54.5	54.5	54.5	47.9	67.6
Age dummies	Yes	Yes	Yes	Yes	Yes
Rural dummies	No	Yes	Yes	No	No
Municipality dummies	No	No	Yes	Yes	Yes
Age range	20-49	20-49	20-49	20-49	20-49
Areas	All	All	All	Urban	Rural

Source: Authors' elaboration on the 2010 Census.

▶ Respondent

Interpretation

Matrilocality is associated with a $0.297/0.545=54.5$ percent increase in the probability that the migrant husband is **not** enumerated in the data, while patrilocality is not significantly associated with this probability.

This confirms that the wives left behind have joined the households of their parents after their husbands left Mexico.

Characteristics of the wives left behind

Does the pattern of co-residence of the wives left behind correlate with some key observable characteristics, notably education and labor force participation?

Wives' education and co-residence patterns

Dependent variable: **Years of schooling**

	(1)	(2)	(3)	(4)	(5)
Patrilocality	-0.085 (0.104)	0.013 (0.099)	0.113 (0.098)	-0.620* (0.046)	0.234** (0.093)
Matrilocality	1.653*** (0.066)	1.336*** (0.063)	1.112*** (0.064)	1.345*** (0.169)	0.955*** (0.069)
Adjusted- R^2	0.076	0.154	0.297	0.252	0.264
Observations	19,251	19,251	19,251	2,677	16,574
Average years of schooling	7.62	7.62	7.62	9.08	6.88
Age dummies	Yes	Yes	Yes	Yes	Yes
Rural dummies	No	Yes	Yes	No	No
Municipality dummies	No	No	Yes	Yes	Yes
Age range	20-49	20-49	20-49	20-49	20-49
Areas	All	All	All	Urban	Rural

Source: Authors' elaboration on the 2010 Census.

Wives' education and co-residence patterns (cont'd)

Wives left behind co-residing with their parents have 1.11 more years of schooling ($1.11/7.62=14.6$ percent).

Schooling is positively correlated with the ability of wives left behind to depart from the traditional co-residence pattern in Mexico, i.e., patrilocality.

What can we say about the migrants?

- The higher level of education of the wives left behind that co-reside with their own parents does **not** entail that migrants that are not enumerated are better educated than other migrants.
 - Among co-residing married couples, the probability of matrilocality increases when the wife is better educated than her husband.

Labor force participation

Dependent variable: *Wife is employed*

	(1)	(2)	(3)	(4)	(5)	(6)
Patrilocality	-0.072*** (0.013)	-0.070*** (0.013)	-0.069*** (0.013)	-0.067*** (0.013)	-0.075 (0.049)	-0.062*** (0.012)
Matrilocality	-0.030*** (0.008)	-0.030*** (0.008)	-0.058*** (0.008)	-0.053*** (0.008)	-0.084*** (0.024)	-0.035*** (0.009)
Adjusted- R^2	0.054	0.130	0.161	0.164	0.129	0.155
Observations	19,214	19,214	19,214	19,214	2,672	16,542
Employment rate (percent)	25.1	25.1	25.1	25.1	37.4	19.0
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes
Rural dummies	Yes	Yes	Yes	Yes	No	No
Municipality dummies	No	Yes	Yes	Yes	Yes	Yes
Years of schooling dummies	No	No	Yes	Yes	Yes	Yes
Pre-school child dummy	No	No	No	Yes	Yes	Yes
Age range	20-49	20-49	20-49	20-49	20-49	20-49
Areas	All	All	All	All	Urban	Rural

Source: Authors' elaboration on the 2010 Census.

Lower employment rate

Matrilocality is associated with a $-0.053/0.251=21.1$ percent **reduction** in the probability that the wife left behind is employed.

This is likely to capture the **endogeneity of co-residence choices** with respect to unobserved determinants of the labor supply of the wives left behind.

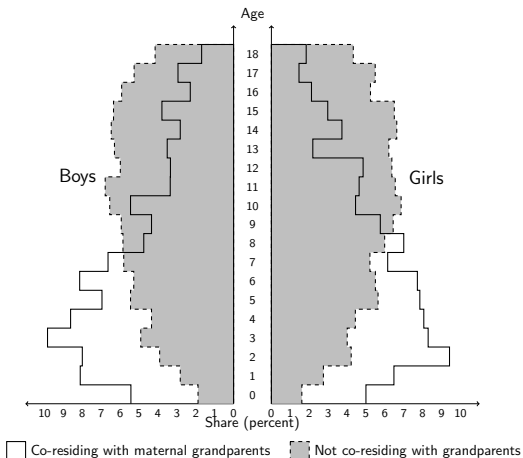
For instance, co-residence might be more likely when parents have contributed to finance the migration of the son-in-law (way to secure access to remittances); this **risky investment choice** requires both **savings** and **trust**.

Children left behind

The 2010 Census provides the identifier of the two parents for each household member; thus, we can identify the children that co-reside with the 19,251 wives left behind in our sample.

We have 49,832 children aged 0 to 18 that co-reside with their mothers and that have been left behind by their fathers.

Age pyramid of children left behind



Age pyramid of children left behind (cont'd)

The probability of co-residing with maternal grandparents significantly declines with the age of the child, even after controlling for the age of the mothers.

Having young children appears to be a significant correlate of the co-residence pattern of the wives left behind.

School attendance

▸ Paternal grandparents

Dependent variable: **Child attends school**

	(1)	(2)	(3)	(4)	(5)
Co-residence with maternal grandparents	0.100*** (0.012)	0.054*** (0.012)	0.036*** (0.012)	0.077*** (0.029)	0.023 (0.015)
Adjusted- R^2	0.004	0.236	0.251	0.225	0.268
Observations	17,915	17,915	17,915	2,078	15,837
Attending school (percent)	76.1	76.1	76.1	79.4	74.7
Age dummies	No	Yes	Yes	Yes	Yes
Sex dummies	No	Yes	Yes	Yes	Yes
Rural dummies	No	Yes	Yes	No	No
Municipality dummies	No	Yes	Yes	Yes	Yes
Mother's years of schooling	No	No	Yes	Yes	Yes
Age range	12-18	12-18	12-18	12-18	12-18
Areas	All	All	All	Urban	Rural

Source: Authors' elaboration on the 2010 Census.

Children left behind by both parents

The 2010 Census includes 24,339 observations related to children:

- aged 12 to 18;
- **not** co-residing with either of the two parents;
- belonging to a household that receives remittances from abroad.

These children have been presumably be left behind by both parents (35.1 percent of them personally receives remittances).

39.1 percent co-reside with their grandparents, and 75.8 percent belong to households that do not report any current international migrant.

▶ Small children

▶ LSMS

Children left behind by both parents

The 2010 Census includes 24,339 observations related to children:

- aged 12 to 18;
- **not** co-residing with either of the two parents;
- belonging to a household that receives remittances from abroad.

These children have been presumably be left behind by both parents (35.1 percent of them personally receives remittances).

39.1 percent co-reside with their grandparents, and 75.8 percent belong to households that do not report any current international migrant.

▶ Small children

▶ LSMS

School attendance and grade repetition

57.7 percent of these children attend school (76.1 percent for those with a migrant father but still co-residing with their mother).

Co-residence with grandparents (rather than with other relatives, typically aunts) is associated with a significantly higher school attendance. Effect is much **stronger for girls**, as co-residence with grandparents greatly reduces the probability of being a housewife.

► Dreby (2010)

► Estimates

Co-residence with grandparents significantly reduces the probability of having repeated grade(s).

► Grade repetition

School attendance and grade repetition

57.7 percent of these children attend school (76.1 percent for those with a migrant father but still co-residing with their mother).

Co-residence with grandparents (rather than with other relatives, typically aunts) is associated with a significantly higher school attendance. Effect is much **stronger for girls**, as co-residence with grandparents greatly reduces the probability of being a housewife.

▶ Dreby (2010)

▶ Estimates

Co-residence with grandparents significantly reduces the probability of having repeated grade(s).

▶ Grade repetition

School attendance and grade repetition

57.7 percent of these children attend school (76.1 percent for those with a migrant father but still co-residing with their mother).

Co-residence with grandparents (rather than with other relatives, typically aunts) is associated with a significantly higher school attendance. Effect is much **stronger for girls**, as co-residence with grandparents greatly reduces the probability of being a housewife.

▶ Dreby (2010)

▶ Estimates

Co-residence with grandparents significantly reduces the probability of having repeated grade(s). ▶ Grade repetition

Analytical implications

We need to develop a joint theoretical modeling of migration and co-residence choices, with the following basic ingredients:

- other family members contribute to finance migration costs;
- spouses can have divergent preferences with respect to the pattern of co-residence;
- co-residence reduces information asymmetries;
- co-residence lowers the cost of the provision of some public goods (e.g., care for the children and for the elderly).

Concluding remarks

Migration from Mexico to the United States usually occurs in steps. The initial pattern of co-residence is significantly correlated with the probability of migration of the husband.

The left behind adjust their co-residence choices, with a substantial increase in matrilocality, which induces the **non-enumeration of the migration episodes**.

Wives left behind that join the households of their own parents are **significantly more educated**, and their teen-age children are more likely to be attending school.

Way ahead: model jointly migration and co-residence decisions.

Theoretical framework of the 2010 Census

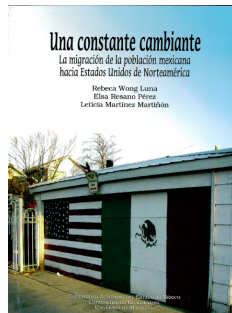
The INEGI clarifies that the co-residence condition (Question IV.5) is introduced to verify “whether the migrant person was a part of the group of current members of the [surveyed] household when she moved abroad.”

[◀ Back](#)

Una constante cambiante

[← Back](#)

Wong Luna et al. (2006) observed that it is not possible to capture migration episodes related to households that “dissolved their original composition over the reference period of the survey and formed new households.” (p. 14, our translation from Spanish).



Initial pattern of co-residence and husband migration

[← Back](#)

Dependent variable: **Husband migrates**

	(1)	(2)	(3)	(4)
Patrilocal couples	1.303*** (0.073)	1.399*** (0.076)	1.437*** (0.076)	1.432*** (0.076)
Matrilocal couples	0.485*** (0.081)	0.822*** (0.084)	0.910*** (0.084)	0.975*** (0.083)
Adjusted- R^2	0.00	0.01	0.01	0.03
Observations	330,549	330,549	330,549	330,549
Migration (percent)	1.0	1.0	1.0	1.0
Household controls	No	Yes	Yes	Yes
State FE	No	No	Yes	Yes
Municipality FE	No	No	No	Yes

Source: Authors' elaboration on ENOE 2005Q2-2010Q3.

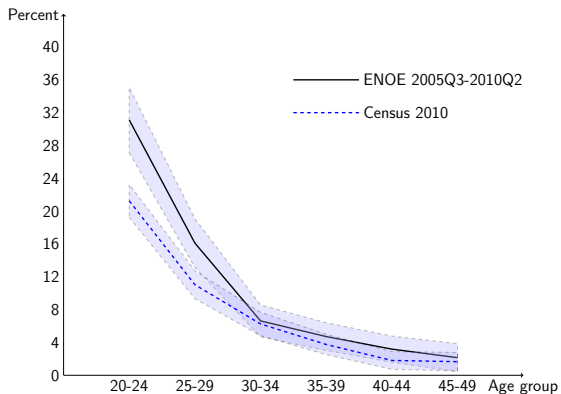
Mexican Family Life Survey

[← Back](#)

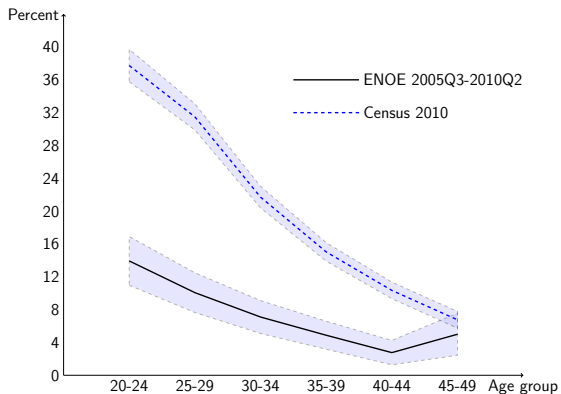
The Mexican Family Life Survey (MxFLS), which tracks individuals over time irrespective of their co-residence choices, would appear as a natural (and superior) alternative as the main data source.

However, the limitation of the MxFLS is represented by **sample size**: 8,440 households in total, so that the number of international migration episodes that are observed is very limited, and not suited for an in-depth analysis of the shifting pattern of co-residence.

Patrilocality

[← Back](#)

Matrilocality

[← Back](#)

Who answers to questions matters

[← Back](#)

Dependent variable: Husband not enumerated

	(1)	(2)	(3)	(4)	(5)
Patrilocality	-0.060*** (0.015)	-0.043*** (0.015)	-0.057*** (0.015)	-0.091* (0.047)	-0.033** (0.016)
Matrilocality	0.289*** (0.010)	0.276*** (0.010)	0.252*** (0.010)	0.158*** (0.024)	0.316*** (0.012)
Wife is the respondent	-0.117*** (0.008)	-0.100*** (0.008)	-0.095*** (0.008)	-0.086*** (0.021)	-0.093*** (0.009)
Adjusted- R^2	0.095	0.115	0.206	0.179	0.203
Observations	19,251	19,251	19,251	2,677	16,574
Average probability	54.5	54.5	54.5	47.9	67.6
Age dummies	Yes	Yes	Yes	Yes	Yes
Rural dummies	No	Yes	Yes	No	No
Municipality dummies	No	No	Yes	Yes	Yes
Age range	20-49	20-49	20-49	20-49	20-49
Areas	All	All	All	Urban	Rural

Source: Authors' elaboration on the 2010 Census.

Migration modules in LSMS

[← Quote](#)

Interestingly, the World Bank included for the first time a migration module in the LSMS because of [concerns related to variation in co-residence patterns](#) of the left behind:

“The LSMS survey of Ecuador in 2005–2006 [...] included a module on emigrants from the household, recording their current age, sex, relationship, education, and whether the emigrant left minor children under age 18 behind (there being [special concern at the time](#), following the surge of emigrants to Spain in 1997–2003, [about who was taking care of them following the emigration of a parent, often the mother](#)).”

School attendance

← Back

Dependent variable: [Child attends school](#)

	(1)	(2)	(3)	(4)	(5)
Co-residence with paternal grandparents	0.058*** (0.020)	0.030 (0.019)	0.022 (0.019)	-0.108* (0.057)	0.079*** (0.020)
Adjusted- R^2	0.004	0.235	0.253	0.227	0.268
Observations	17,915	17,915	17,915	2,078	15,837
Attending school (percent)	76.1	76.1	76.1	79.4	74.7
Age dummies	No	Yes	Yes	Yes	Yes
Sex dummies	No	Yes	Yes	Yes	Yes
Rural dummies	No	Yes	Yes	No	No
Municipality dummies	No	Yes	Yes	Yes	Yes
Mother's years of schooling	No	No	Yes	Yes	Yes
Age range	12-18	12-18	12-18	12-18	12-18
Areas	All	All	All	Urban	Rural

Source: Authors' elaboration on the 2010 Census.

Children not co-residing with their parents [◀ Back](#)

The 2010 Census includes 9,316 observations related to children:

- aged up to 5 (i.e., born after June 2005);
- born in Mexico;
- not co-residing with either of the two parents;
- belonging to a household that receives remittances from abroad.

63.4 percent co-reside with their grandparents, and 69.2 percent belong to households that do not report any current international migrant, even though their mothers must have left Mexico over the five-year recall period.

Children not co-residing with their parents [← Back](#)

The 2010 Census includes 9,316 observations related to children:

- aged up to 5 (i.e., born after June 2005);
- born in Mexico;
- not co-residing with either of the two parents;
- belonging to a household that receives remittances from abroad.

63.4 percent co-reside with their grandparents, and 69.2 percent belong to households that do not report any current international migrant, even though their mothers must have left Mexico over the five-year recall period.

Distrust towards other caregivers

[← Back](#)

“Migrant parents implicitly trust the that grandparents will spend the money wisely, keeping the best interests of their grandchildren in mind. But **when the children live with other relatives, there is high level of distrust** over whether remittances are used to support the children.” (Dreby, 2010, p. 161).



School attendance

[← Back](#)

Dependent variable: **Child attends school**

	(1)	(2)	(3)	(4)	(5)
Co-residence with grandparents	0.251*** (0.006)	0.135*** (0.006)	0.120*** (0.006)	0.067*** (0.010)	0.175*** (0.009)
Adjusted- R^2	0.062	0.252	0.303	0.271	0.343
Observations	24,339	24,339	24,339	11,134	13,205
Attending school (percent)	57.7	57.7	57.7	61.3	54.7
Age dummies	No	Yes	Yes	Yes	Yes
Sex dummies	No	Yes	Yes	Yes	Yes
Rural dummies	No	Yes	Yes	No	No
Municipality dummies	No	No	Yes	Yes	Yes
Age range	12-18	12-18	12-18	12-18	12-18
Sex	Both	Both	Both	Boys	Girls

Source: Authors' elaboration on the 2010 Census.

Grade repetition

◀ Back

Dependent variable: **Child has repeated grade(s)**

	(1)	(2)	(3)	(4)	(5)
Co-residence with grandparents	-0.035*** (0.007)	-0.032*** (0.007)	-0.024*** (0.008)	-0.028** (0.013)	-0.027** (0.012)
Adjusted- R^2	0.002	0.023	0.095	0.112	0.105
Observations	14,112	14,112	14,112	6,929	7,183
Grade repetition (percent)	26.3	26.3	26.3	30.6	22.1
Age dummies	No	Yes	Yes	Yes	Yes
Sex dummies	No	Yes	Yes	Yes	Yes
Rural dummies	No	Yes	Yes	No	No
Municipality dummies	No	No	Yes	Yes	Yes
Age range	12-18	12-18	12-18	12-18	12-18
Sex	Both	Both	Both	Boys	Girls

Source: Authors' elaboration on the 2010 Census.