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Use of longitudinal data for migration statistics

Retrospective Demographic Survey (EDER)

Note by National Institute of Statistics and Geography (INEGI)*

Summary

To have broader retrospective information, Mexico's NSO (INEGI by its Spanish acronym), has conducted three retrospective surveys called Retrospective Demographic Survey (1998, 2011 and 2017). The most recent edition investigates the life history of women and men nationwide from 20 to 54 years of age, in terms of migration, education, work, family, marriage, fertility, contraception, and disability, etc. With the information that is collected, it is possible to identify each of migratory population movements from the place of birth and place of residence and record each of the places where people have lived for at least one full year continuously or migration events lasting less than one year.

This paper aims to show how analyzing the EDER makes it possible to establish a longitudinal approach that allows analyzing the migrant population, given their sociodemographic conditions, along with other transitions such as educational, so contains the analysis of the migrant population from a longitudinal approach.

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I. Background

1. Biographical surveys are a type of retrospective projects that combines the observation of different trajectories such as professional, residential, and family, throughout the life of individuals. They can combine quantitative and qualitative approaches and allow different levels of analysis: individual or contextual; through life or historical time; and according to the national or local geographical scope. Thus, they will enable us to observe changes in individual behavior concerning changes at the macro social level.
2. The first biographical survey was carried out in 1981 by the National Institute of Demographic Studies of France. The Family, Labor and Migration Biography survey, known as 3B, was developed by Courgeau who, together with Lelièvre, formalizes the method of a demographic analysis of biographies. The 3B Survey combined the work, residential, and family trajectories, placing them in their economic, demographic, and social context. For its part, the first representative biographical survey of South America was conducted in Colombia, in rural and urban locations, among women aged 12 to 25 years (Florez and Hogan, 1990).
3. The 3B Survey model was adapted to perform three EDER surveys in Mexico in 1998, 2011 and 2017. The EDER 1998 was the first project to collect life histories from a representative sample of women and men at the national level. It records family histories, transitions and demographic trajectories of three age cohorts: born in 1936-1938, born in 1951-1953 and born in 1966-1968. The survey received financial support from Mexican, French and American institutions, as well as the collaboration and participation of the National Institute of Statistics and Geography (INEGI). The protection of information is held by the College of the Northern Frontier (The College of the Northern Border- COLEF) and the results were published in the year 2004.
4. The second conduction of EDER was in 2011 as an annex module to the National Survey of Occupation and Employment (ENOE) during the third quarter and with financial support from COLEF and the Autonomous University of Baja California (UABC).
5. Thus, 2017 EDER follows up on the longitudinal (retrospective) survey projects of proven success in its design and results and is then a statistical information generation project that gives continuity to the two surveys' most important biographical of Mexico.
6. In 2017, INEGI assumed all stages of the information generation process of the EDER, with the collaboration of the Center for Demographic, Urban and Environmental Studies of El Colegio de México, A.C in the stage of conceptual design and training.
7. The three EDER surveys respond have the same objective, but different sample design and representativeness, given by each statistical project in which each one has carried out. They arise from the need to have longitudinal data on trajectories or life histories, essential to jointly address social and demographic processes; and to observe the interrelationships between demographic events along the trajectories of individuals.

EDER 1998	EDER 2011	EDER 2017
As a subsample of the ENADID:	As a module of the ENOE:	As a module of the ENH:
* 3 200 people surveyed, with equal number of men and women	* 3200 people surveyed with homogeneous distribution, men and women (1000,1000 and 1200 per cohort)	* 32 500 households surveyed
* 3 Cohorts: 1936-38 (60-62 years in 1998) 1951-53 (45-47 years in 1998) 1966-68 (30-32 years in 1998)	* 3 cohorts: 1951-53 (45-47 in 1988 / 58-60 in 2011) 1966-68 (30-32 in 1998 / 43-45 in 2011) 1978-1980 (31-33 years in 2011)	* The entire population of the country according to sex from 20 to 54 years of age
* Residence in rural locations (less than 15,000 in population) and urban (superior or equal to 15,000 population)	* Added to 32 self-represented urban and metropolitan areas of the ENOE	* The representation at a national and subnational level

8. The 2017 EDER collect longitudinal information that summarizes the life history from the cohort born from 1962 to 1997; that is, the life history of people whose age at the interview is 20 to 54 years. Because the last EDER (2017) makes possible to observe the cohort born between 1962 and 1997, it allows monitoring the same 1978-80 cohort seen in 2011; and the 1966-1968 cohort followed in 2011 and 1998.

Año de nacimiento	Edad por cumplir el año de la entrevista		
	1998	2011	2017
1997			20
⋮			⋮
1980		31	37
1979		32	38
1978		33	39
⋮			⋮
1968	30	43	49
1967	31	44	50
1966	32	45	51
1965			52
1964			53
1963			54
1962			55
⋮			⋮
1953	45	58	
1952	46	59	
1951	47	60	
⋮			⋮
1938	60		
1937	61		
1936	62		

9. Concerning the conceptual framework of previous surveys of 1998 and 2011, the last one addresses the same elements of conceptual design. The main methodological changes include additional topics; the transformation from paper and pencil interview to computer-assisted personal interview, that is to say, the transformation from paper matrix questionnaire to a system for capturing the answers through an electronic device.
10. Regarding the results presentation scheme, at the end of 2018, the information tables, accompanied by the project documentation, were published through the official INEGI website. Also, to give a more public dimension to this information of great interest, a series of

basic tabulations were added to the results presentation scheme, to make available to the users some strategic indicators on the main transitions of the life course

11. The lifting of this survey has allowed the reconstruction of the demographic history of Mexico, the understanding of the current population problems from their origins, and the connections of particular events in the course of life, as well as the proposal of public policies. More recent surveys like this, have been developed in France and Tunisia (ETST Survey 2016). In 2018, the Retrospective Demographic Survey of the City of Buenos Aires (EDER-CABA) took advantage of the experience of the EDER 2017. Thus, Mexico is so far the only country in Latin America that has implemented this type of survey nationwide Biographical, retrospective, and representative of men and women of different generations.

II. Methodological aspects

12. The Retrospective Demographic Survey (EDER) 2017, is a biographical module nested to the National Household Survey (ENH). Its objective is to collect longitudinal information that summarizes the life history of people aged from 20 to 54 years, in relation to different sociodemographic processes such as migration, education, work, co-residency with relatives, survival of parents, nuptiality and residential arrangements, fertility and survival of children, contraception first sexual intercourse and disability and disability.
13. In addition, it provides context information on current life conditions and characteristics and when the target population was 14 years of age; as well as satisfaction with present life and in different periods of life, as well as current living conditions and when the target population was 14 years of age and current subjective well-being and in different periods of life.
14. The EDER 2017 lifted between July 3 and December 31, 2017 as a module of the National Household Survey (ENH), and provides a summary of the life history of people aged 20 to 54, in relation to different socio-demographic processes such as migration, education, work, residential arrangements, marriage, fertility, mortality, contraception and disability.
15. Besides, it provides information on current living conditions and during childhood; and on one of the aspects of subjective well-being: satisfaction with present life and in different periods of life.
16. The main methodological characteristics are:

Unit observation		The private housing unit selected.
Sampling scheme		Probabilistic, stratified, and clustered.
Population under the study		"Household and Population aged 20 to 54."
Selected informant		One person, member of the household, aged 20 to 54, randomly selected.
Sample size		32,000 housing units.
Date of uprising		From July 3 to December 31, 2017 (conducted through the National Household Survey, quarters 3 and 4).
Geographic coverage		<ul style="list-style-type: none"> • National • Urban and rural areas

III. Conceptual design

17. A proposal for to carry out a biographical module of life histories is threefold: to complement the available transversal information with longitudinal information; Jointly address socioeconomic and demographic processes; Observe interrelations between life trajectories and the change between cohorts.
18. The EDER Survey is based on the theoretical approach of the life course, which reconstructs the life of individuals considering both frames of reference in which it develops: historical time and lifetime.
19. The Research interest is responding "... how a familiar, economic or another type of event that an individual faces, will modify the likelihood of another event occurs in their existence" (Courgeau and Lelièvre, 2001)
20. The Principles of life course perspective are:
 21. *Life-Span development*: the life course is a cumulative process and should, therefore, be studied as a whole.
 22. *Time and place*: individuals and birth cohorts are influenced strongly by historical context and specific location.
 23. *Timing*: the impact of individual experiences and historical events on the subsequent life course depends to a large extent on their synchronization. At what specific time (historical, age, or stage) a particular transition occurs, has diverse causes and consequences.
 24. *Linked Lives*: human lives are interdependent, and the family is the primary area for experiencing and interpreting more comprehensive historical, cultural, and social phenomena.
 25. *Agency*: the individual life course is made of choices and actions individuals take within the opportunities and constraints of history and social circumstances.
26. The Basic concepts observed are:
 27. *Cohort*: group of persons who were born at the same historical time and who experience particular social changes within a given culture in the same sequence and at the same age.
 28. *Transition*: change in roles and statuses that represents a distinct departure from prior roles and conditions.
 29. *Trajectory*: long-term pattern of stability and change, which usually involves multiple transitions.
 30. *Life Event*: significant occurrence involving a relatively abrupt change that may produce severe and long-lasting effects.
 31. *Turning Point*: life event that produces a lasting shift in the life-course trajectory.
32. The methodological strategy for the collection of information from the EDER 1998 and 2011 was resumed, which consists of the design of a matrix-based biographical questionnaire, whose lines are constituted by the calendar years in the life of the individuals and their age throughout of this calendar from its birth (age zero), and whose columns define the different events or states in the lifetime of the people interviewed. This design allows relating all the events of a person through a shared calendar. All biographical information, which is associated with an event (such as a marriage or the birth of a child), a status (being single, divorced, etc.), and all the variables that characterize these events and state, are dated, described and related through the common calendar that structures the matrix.

33. The questionnaire also combines, in the same calendar, not only the family, occupational and migratory events of the informant, but also the events that occurred to close relatives, such as the parents, spouses, and sons and daughters of the interviewee, and even other relatives, such as brothers, in-laws and others.
34. An essential advantage of the 2017 EDER is that it allows the compilation of information both in the urban and rural areas, unlike the 2011 EDER that only covered the urban one.

A. Thematic coverage according to the structure of the 2017 EDER questionnaire

35. The thematic coverage is structure in 14 themes: 1. Date and age; 2. Place of residence history; 3. Scholarship history; 4. Employment, domestic work and unpaid care, and economic support history; 5. History of Family of origin; 6. Nuptiality history (Political family); 7. Reproductive history (Sons and daughters); 8. Contraception history; 9. Disability history; 10. Family background; 11. Current characteristics of the informant: language and indigenous belonging, housing, dropout, and subjective well-being; 12. Temporary migrations; 13. Temporary jobs; and, finally, 14. Age at first sexual intercourse.
36. For its part, the ENH 2017, a regular and continuous project, provides information on the following significant sections: Housing characteristics; Residents and identification of homes in the home; Characteristics of household members, education and occupation; and health.

B. Conceptual additions

37. In 2017, some conceptual additions were made in the questionnaire that updates the study topics such as the inclusion of two questions to identify the population that has dedicated at least one year of their lives to do domestic work or care for their family without remuneration, and the periods during which it was so. Also, from the 2017 EDER, the question about the age at the first sexual relationship, the trajectory of the condition and type of disability, according to the degree of difficulty in the activity declared by the direct informant, and the degrees of satisfaction were included with life in different age groups.
38. **Domestic or unpaid care work:** the 2017 EDER identifies the periods of at least one year in which women and men dedicated themselves to do domestic or care work for their family without receiving remuneration in return. This question is added to the career path in response to the high relevance of the First Resolution of the XIX International Conference of Labor Statisticians of 2013, which redefines the concept of work itself; recognizing its different forms and thus giving a frame of reference for the measurement of all work, paid and unpaid.
39. **Sexuality:** regarding the issue of sexuality, the first sexual intercourse is inquired about age. This section moves to the end of the interview, this decision is because the sensitivity that the subject could generate could, in turn, compromise the interview that was carried out by operational personnel of both sexes. This strategy even allowed the informant himself to record his response without the need to make it known to the interviewer, a similar approach to that between the CASI type view.
40. **Disability:** a section is added that allows to identify the periods of at least one year in which people presented difficulties or could not perform activities in their daily lives, such as walking, climbing or lowering using their legs, seeing (even if wearing glasses), moving or use arms or hands, listen (even if you use a hearing aid), bathe, dress or eat, talk or communicate and generally perform daily activities with autonomy and independence. Also, the degree of difficulty is captured for each period by type of disability. One of the advantages

of the EDER when registering information about disability is the fact that the data comes from the direct informant, which allows complying with the concept of disability as indicated by international standards, which refers to the perception of difficulties to carry out activities of daily life,

41. **Temporary Migrations:** the methodology of releasing life stories that allow summarizing it based on trajectories formed by events lasting one year has proven its success and its results have allowed us to understand various current problems based on the trajectories and their relationship with particular events of the course of life.
42. However, in this survey, it was decided to reposition the information on events with a duration of less than one year for two trajectories that are affected by seasonality and instability: residential and work trajectories. In such a way that two sections were added that allow identifying, on the one hand, the periods and places (countries, states, municipalities, and localities) in which the people interviewed lived short periods of less than one year (1 to 11 months); On the other hand, periods of less than one year (from 1 to 11 months) in which people worked on a temporary basis are captured, with the respective classification of occupation and position at work.

IV. Sampling design

43. The sampling frame for the EDER was formed by all the listings of private housing with a habitual resident population of 20 to 54 years of age, detected by the National Household Survey (ENH 2017); integrated into the National Housing Framework.
44. The sampling design for the EDER was based on the sample of the third and fourth quarter of the ENH 2017 and is characterized by being probabilistic; consequently, the results obtained from the survey are generalized to the entire population. The design is stratified and by clusters, where the last unit of selection is the person.
45. The selection of dwellings is carried out in two stages, in the first stage the primary sampling units (UPM) are chosen, which are geographical areas with identifiable limits in the field, which group a set of dwellings, whose number depends on the size of the localities. For each UPM selected in the first stage, the listing of housing is carried out. Thus, in the second stage, the dwellings object of an interview of each survey are selected.

V. Use of longitudinal data for migration statistics

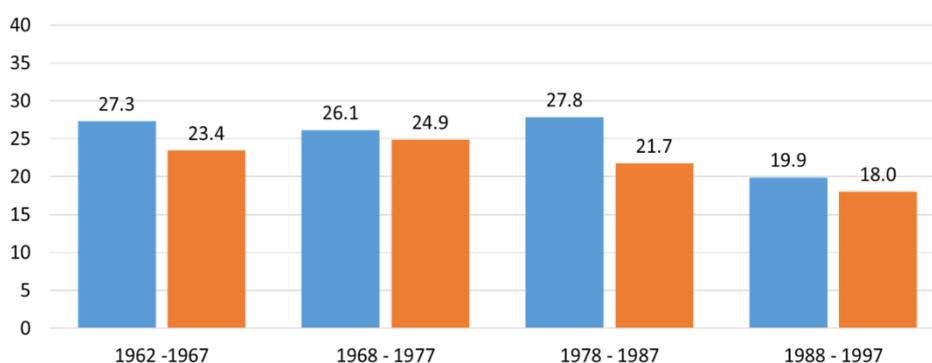
46. Migrations in Mexico reflect a long history linked to the socioeconomic transformations of the country. The Mexican population is mainly urban; its history is marked by the existence of varied social, economic, and migratory trajectories. The experience of migration to the United States occurs much more frequently among men than among women.
47. The EDER shows that in Mexico the intensity of migration has decreased. As a strategy of analysis, were considered trajectories formed by events of duration of at least one year of life of the individual; focusing on the moment when the first event happens. For the comparative analysis of different generations, four cohorts are presented based on the following years of birth (age at the date of the interview):
 - 1962-1967 (Adults 50 to 54 years old)
 - 1968-1977 (Adults 40 to 49 years old)

- 1978-1987 (Adults 30 to 39 years old)
- 1988-1997 (Young people from 20 to 29 years old)

48. It is considered the moment in which the first migration takes place, lasting at least one year, with the condition of presenting at the retrospective age 20 years or less, so that the different generations share a collective experience regarding the exposure time.

49. So, the intensity of migration has decreased between cohorts as an event that happens in the first 20 years old. The following graph shows the proportion of people born in Mexico who migrated in their first 20 years of life, by cohort and sex.

Graph 1. Proportion of Mexicans born who emigrated being under 20 aged, by cohort and sex



50. The proportion of Mexican born, who emigrated to the USA being under 20 aged, is small but presented an increase in the cohort 1978-1987. For all cohorts, the proportion of migrants under 20 years of age is higher among those who, by the date of the survey, had achieved less education.

Proportion of Mexican born who emigrated to USA being under 20 aged, by the highest level of education completed and cohort

Highest level of education completed	Total	Cohort		
		1968-1977	1978-1987	1988-1997
Total	2.3	2.3	3.5	1.6
Below secondary	3.0	3.0	5.3	1.7
Below upper-secondary	3.0	2.5	4.8	2.1
Upper secondary	1.7	2.3	1.8	1.3
Tertiary education	1.1	0.9	1.1	1.4

51. The proportion of Mexican born who emigrated to another place than the USA, including internal migration, being under 20 years old, is higher, than the movements to the United States. This proportion, however, has decreased among the youngest cohort.

**Proportion of Mexican born who emigrated to USA being over 20 aged,
by the highest level of education completed and cohort**

Highest level of education completed	Total	Cohort		
		1968-1977	1978-1987	1988-1997
Total	20.7	23.1	20.9	17.2
Below secondary	20.5	22.2	17.1	18.0
Below upper-secondary	20.9	24.5	21.0	18.0
Upper secondary	20.1	21.3	21.1	17.2
Tertiary education	20.9	23.5	24.0	16.3

52. For the youngest cohort, the educational achievement of the Mexican population had a negative relation to migration during his school age.

Proportion of Mexican born, who emigrated to other states or countries, being under 20 aged, by the highest level of education completed and cohort.

Highest level of education completed	Total	Cohort		
		1968-1977	1978-1987	1988-1997
Total	20.7	23.1	20.9	17.2
Below secondary	20.5	22.2	17.1	18.0
Below upper-secondary	20.9	24.5	21.0	18.0
Upper secondary	20.1	21.3	21.1	17.2
Tertiary education	20.9	23.5	24.0	16.3

Source: **INEGI**. Encuesta Demográfica Retrospectiva, EDER 2017.

Excludes Mexican born who emigrated to USA being under 20 aged.

VI. Final considerations

53. The contributions of the EDER 2017 can be summarized in providing more thematic coverage; larger cohort size; larger sample size; greater geographical disaggregation; more opportunity in the validation and arrangement of data tables; higher offer of presentation of results that includes tabulations and basic indicators on migration issues.
54. The EDER allows, through a preliminary analysis, to observe when they happen and how the transitions to adulthood change in Mexico, between and within generations. Besides, it allows us to see how differences in social origin configure different trajectories. Users are invited to analyze the sequences and synchrony between the events that set the trajectories of the place of residence, schooling, work, domestic work and care, economic support, the family of origin; political family; daughters and sons; contraception; and disability
55. The use of longitudinal data for migration statistics allows seeing how “cohorts do not cause change; they permit it. If change does occur, it differentiates cohorts of individuals from one another, and comparison of their careers or life trajectories then becomes a way to study change” (Ryder, 1965).

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