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### *Research Article*

**Determinants and consequences of  
internal and international migration:  
The case of rural populations in the  
south of Veracruz, Mexico**

**Alberto del Rey Poveda**

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**Determinants and consequences of internal and international migration: The case of rural populations in the south of Veracruz, Mexico**

**Alberto del Rey Poveda<sup>1</sup>**

**Abstract**

This paper analyzes the current migration in rural population in the south of Veracruz state (Mexico). We identify three different spaces of migration, traditional markets, the northern border and the United States. Applying a three-level multinomial logistic model and taking into account individual, family, and local characteristics of the migrants, we find different determinants in each space. These determinants are related to the objectives, needs and means of the migrants and their families. Otherwise, each space involves different consequences to the family in terms of the relationships between migrants and the rest of their relatives.

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## **1. Introduction**

This study analyzes the current mobility that affects rural families in the south of the state of Veracruz, in Mexico, and its role on family reproduction. We find that the main causes of this new mobility are associated with the region of origin, and are related to the transformations deriving from the process of demographic transition, from the economic crisis of the beginning of the 1980s and the consequent new model of development, and finally to the 1992 legal reform on social ownership of land. These factors have caused labor mobility in the region, traditionally circumscribed to families with scant means and contained within the regional sphere, to give way to a mobility process generalized to rural families as a whole and to the emergence of new destinations: the northern border and the United States. These new markets, furthermore, show great economic dynamism and have for some time been the source of strong demands for labor.

Behind this mobility, which seems to affect all the towns and families, there are mobility processes that are greatly differentiated on a local, family and individual scale. These three levels of determinants of mobility, according to the combination between possibilities and needs, allow us to understand the current distribution of migration between the different traditional and emerging markets in a “new emigration region” in Mexico. Moreover, each destination is closely associated with different migratory projects, in accordance with the objectives sought. The new migratory destinations, while offering new possibilities for the families, entail important risks. Depending on the agricultural circumstances of each family, different effects are observed and, in general, this new migration demands a new framework of relationships between the migrant and the family.

## **2. Migratory antecedents in the south of Veracruz**

Labor migration has old antecedents in the reproduction of rural families that inhabit the region of Sotavento,<sup>2</sup> in the south of the state of Veracruz. However, during most of the 20<sup>th</sup> century, the region was characterized by being an area imminently receptive of labor.

Two processes permitted and sustained this flow of labor: first, the fact that it is a scarcely populated area (Hoffmann and Velázquez 1994, Oropeza 2000, Palma, Quesnel and Delaunay 2000), with wide open spaces, where, after the end of the

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<sup>2</sup> Sotavento in Veracruz is the southern region between the basin of the river Papalopan and the Uxpanapa-Tonalá.

Revolution, there was an intense agricultural distribution until the 1970s, which attracted many people from other parts of the state and from outside Veracruz to the rural areas; the second factor is the discovery of important oilfields in the region at the beginning of the 20<sup>th</sup> century, which brought in its wake the development of a dynamic petrochemical industry around the cities of Coatzacoalcos and Minatitlán, and which also attracted many workers, both to the rural areas and to the emerging urban centers. These two factors led to the south of Veracruz being characterized as a region of intense immigration until the 1980s, when, with the exhaustion of the land and the oil crisis, within a short period of time it became a region with intense emigration. Although the population of Sotavento grew spectacularly between 1900 and 2000, (twelve-fold, from a little over 130,000 to over 1,500,000) and 8.7 times over from 1930, when the beginning of the demographic transition was established. In the second part of the 1990s it registered negative growth, with a population loss of just over 7,000 people (see Figure 1).

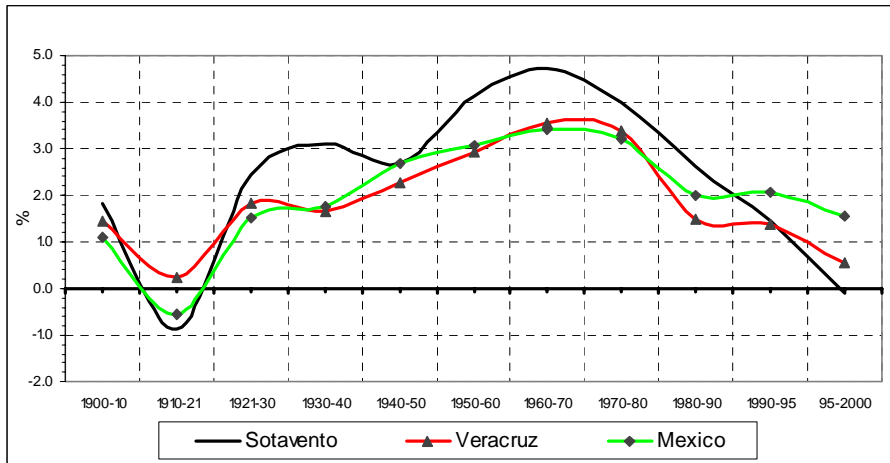
Rural emigration up to the 1970s, when agricultural distribution in the south of the state was still very active in the region of Uxpanapa<sup>3</sup>, was exceptional, exclusive to families in a precarious situation and short distance journeys (see Table 1): within the same municipality, Sotavento region, or other areas close to the state of Veracruz or neighboring states. Migration played the role of complement to the family agricultural activity, hence the distances traveled were short, thus allowing many comings and goings while continuing to be linked with agricultural production. On the level of the personal and family cycle, the journey was felt to be transitory, in wait of access to the means of production in the family or in the locality.

The high population growth and the end of agricultural distribution meant that the land was rapidly exhausted. In the 1970s and 1980s an ever-greater number of families needed to resort to migration in order to complete their consumption needs outside of agricultural production. These decades coincided with the moment of greatest activity of the petrochemical industry in the region (Prevôt Schapira 1994, Ochoa 2000), the main migratory destination; hence, migration continued to be contained within the region. These short journeys made it possible to maintain agricultural activity in the places of origin as the axis of family production, although for many families the resources generated through migration become more important than the agricultural activity.

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<sup>3</sup> Between 1965 and 1976, 607, 873 hectares were distributed in the region of Sotavento, which represents 51.3% of the land distributed in the region between 1917 and the end of distribution in 1984. 260,000 hectares correspond to the Uxpanapa Drainage District created in 1974 (Department for Agricultural Reform, Delegation of Veracruz).

**Figure 1: Population growth rate in Sotavento region, state of Veracruz, and Mexican Republic, 1900-2000**



Source: Mexican Population Census (several years) and Conteo in 1995 (INEGI).

The crisis at the beginning of the 1980s as a consequence of the fall in the price of oil and the worsening of the external debt led to an about turn in the country's model of development (Alba and Potter 1986, Escobar Latapí, Bean *et al.* 1999). This change in the economic model is set within the process of integration in the free trade market with North America (NAFTA), which required less interventionism of the State in the economy. Among the immediate consequences of the new doctrine and the crisis are, on the one hand, the withdrawal of the State from the agricultural sector and the modification of the system of rural aid,<sup>4</sup> which worsened the subsistence conditions of small farms and, on the other hand, the petrochemical activity decreased considerably throughout the country, and especially in this region (Prevôt Schapira 1994, Ochoa 2000). Hence, an ever greater number of families saw the need to migrate. At the same time, because of the shortage of jobs in the region, migration to Mexico City appeared as a major reference in the 1980s, although the industrial corridor continued to be the main migratory destination.

The symptoms observed at the end of the eighties became more pronounced in the 1990s: the families who had to seek resources outside agricultural production began to be a majority and they had to do so farther and farther away, since the regional labor

<sup>4</sup> In 1994 the program of direct support for country areas (PROCAMPO) was passed, which granted direct aid to production per surface unit.

market was completely saturated (besides the reduction in the petrochemical activity, more and more generations were joining the labor market, as a consequence of the demographic transition that was taking place). This led to the development and consolidation of the flow towards Mexico City in the first part of the 1990s and above all to the northern border and the United States in the second part of the decade (see Table 1). At the same time that this new migration was taking place in the region the traditional short distance destinations were losing importance. These data obtained through the MORESO survey in 1999 are only the tip of the iceberg in the process that was being gestated<sup>5</sup>.

**Table 1: Distribution of the labor flow of the rural population in the south of the state of Veracruz by periods and destinations**

	Before 1970	1970-79	1980-89	1990-99	1990-95	Later 1995	Total
<b>Municipality</b>	29.3%	22.1%	17.1%	6.4%	8.7%	4.2%	16.1%
<b>Sotavento Region</b>	28.8%	40.4%	42.8%	22.8%	32.8%	13.2%	31.0%
<b>Veracruz State</b>	16.2%	9.6%	14.4%	9.9%	10.4%	9.5%	12.2%
<b>Neighbor States</b>	22.7%	20.6%	11.2%	21.4%	23.5%	19.5%	19.5%
<i>Short distance</i>	97.0%	92.7%	85.5%	60.5%	75.4%	46.4%	78.8%
<b>Mexico City</b>	2.5%	5.9%	11.8%	16.1%	19.1%	13.2%	10.6%
<b>North Border</b>	0.0%	0.7%	2.1%	15.8%	3.3%	27.9%	7.2%
<b>United States</b>	0.5%	0.7%	0.5%	7.5%	2.2%	12.6%	3.5%
<b>Total</b>	100%	100%	100%	100%	100%	100%	100%
<b>Movements</b>	<b>198</b>	<b>136</b>	<b>187</b>	<b>373</b>	<b>183</b>	<b>190</b>	<b>894</b>

Source: 1999 Moreso survey (IRD-CIESAS).

In the development and diffusion of long distance and long duration mobility in the common land<sup>6</sup> localities “ejidos” it must be pointed out that the Reform of Constitutional Article 27 of 1992, which opens the way to the privatization of social ownership (Quesnel and del Rey 2005, del Rey 2005). The consequences of this Reform are: the possibility of selling land, of using it as a guarantee for obtaining loans

<sup>5</sup> This was confirmed during field work three years later when carrying out 70 in-depth interviews (MORESO 2002) with families previously surveyed in 1999. During this second phase we confirmed the strong development of long distance migration, above all to the United States. Migrants who were in the traditional markets or on the border had gone to the United States.

<sup>6</sup> The common lands are agricultural settlements created by the Mexican State during the agricultural distribution process (legally from 1917 to 1992), in which a group of people receive the right to work an area of land. The legal ownership of these lands is the communal institution, i.e., all the people with this right, who individually only have the right to work the land and the ability to transmit their right to another person.

or the elimination of the restriction of remaining in the locality in order to preserve the right to the land. These circumstances favor mobility, especially in the case of international migration, since the loan with the guarantee of the title of ownership of the land is the main means of financing the costly journeys to the United States.

Therefore, at the end of the 1990s, for many rural families in this southern region the need to migrate outside the region and the possibility of doing so were combined.

Migration to these far off areas entails the displacement of the agricultural activity as the axis of family reproduction. On the one hand, the crisis of many major products in the region (cane, coffee, tobacco and corn) led to a decrease in income (Gordillo, De Janvry and Sodoulet 1999, Warman 2001, García Zamora 2002, Léonard and Palma 2002). On the other hand, these new destinations did not make it easy to combine migration and farming. Furthermore, the markets in the north offered good professional prospects (the case of migration on the border for young people) and great possibilities of earnings (in the case of migration to the United States). This situation caused migration to spread among all the rural domestic groups, regardless of their agricultural situation; thus, the profile of migrant or migrant family that had existed until then in the region was lost.

A relevant aspect, which should be mentioned concerning this new long distance migration in the region, is the speed with which it has developed, even more so in the case of international migration, which represents a new situation on a national scale. In western Mexico, international migration has its origins at the beginning of the 20<sup>th</sup> century, with a prolonged process of development, especially during the *Bracero* Program (1942-1964) and with more permissive access conditions on the part of the United States. This made it possible to develop circulation and establishment networks, which finally led to a spreading of the phenomenon in the 1970s and 1980s (Bustamante 1977, Massey 1987, Massey et al. 1987, Cornelius 1989, 1992, Durand 1996, Escobar Latapí, Bean *et al.* 1999). In the case of the region under study, without the existence of migratory antecedents, or the presence of local and family networks, that is, without the social capital accumulated in the west and under much more restrictive conditions of entry, international migration is now presented in Sotavento as a main referent of the communities and families and above all for the new generations.

It is important to highlight this scenario: strong restrictions to entry and lack of antecedents and migratory networks, which leads them to resort to organized groups that traffic with migrants without papers (“polleros” or “coyotes”), and thus the cost of the journey rises considerably. This situation makes repetitive and short duration movements, such as those that have been observed and are still observed today in the west, unfeasible (Avila, Castro and Tuirán 1999, Corona, Gómez de León and Tuirán 1999, CONAPO 1999). For the populations that are currently joining the international flow, moving to the United States, given the high cost and the difficulties of crossing



the frontier, entails several years of remaining “on the other side” and therefore a long period of absence from their homes and families (Quesnel and del Rey 2004).

### 3. Current migration: destinations and determinants

Until the 1990s, labor emigration was a resource only resorted to by the most needy country people who lacked the resources to ensure family survival. That is, there was a profile of migrant families. Migration was concentrated in nearby areas in which the father, head of the family, controlled what the children would do: he decided *who would go, when to go and when to come back*. This control over the offspring was based on the father’s capability to ensure their future, first on the family farm or else in the neighborhood or region. There were, therefore, particular family or local-regional conditions that sustained this functioning of the family. Migration was integrated in the families as part of their reproduction strategies, which mainly revolved around agricultural and land production. It was, thus, *a territorialized family organization*.

However, with the “rural de-agriculturization” process begun in the 1980s, emigration came to be the center of reproduction strategies for the greater part of the regional rural sector. Under current agricultural conditions, labor emigration for these rural groups is no longer an option but rather a necessity. Even for those rural groups in better conditions, emigration to the northern markets is becoming a central focus, not so much for guaranteeing their reproduction, but rather for the options it offers for capitalizing their farms. Migration in rural family reproduction in Sotavento has gone from being exceptional and secondary to affecting all the rural family groups; hence, the profile of the traditional migrant –young, without land and belonging to a family with scarce resources- has disappeared.

Currently, the migratory flow is very heterogeneous, according to the *destinations* (with movement towards the regional-traditional markets and towards the “emerging” markets in the north, the border and the United States), the *objectives* (the situation of need of some families is combined with the possibilities in others), the different *families* affected (as regards the diversity of agricultural property), the *economic sectors* to which they belong, the diversity of the *migrants* (according to age, sex, education or marital status) and the periods of absence.

However, according to the conditioners of the agricultural nucleus of residence, of the family they belong to and the characteristics of each member, which we define as “the scale determinants of migration”, it is possible to define different migratory projects. These projects combine in the three levels of determinants the needs and possibilities, what defines the objectives, the migrant’s profile, destination, time of absence and return.

### 3.1 Method, data and variables

There is no doubt that each migratory space considered requires particular conditioners (for the type of movement it demands, for the cost or for the work it offers) and at the same time offers diverse possibilities for the migrants and their families. Several studies confirm the existence of “determinants” or conditioners on different analysis scales that affect the mobility process (Massey et al. 1987, Guilmoto 1998, Guilmoto and Sandron 1999).

It is our aim to measure these determinants that affect the migration process. To do so, we perform a modeling of the risk of migrating to the three labor markets considered - traditional markets, northern border and the United States- by means of a three-level multinomial logistic regression. This model allows us to observe which variables are significant in the “risk” of migrating to each of the markets, as well as the direction of the relation of each independent variable. Moreover, the multilevel analysis considers the variability associated with each level (individual, family and local). Thus, the model is defined as follows:

$$prob(Y_{ijk} = s) = \frac{e^{\beta'_s X_{ijk}}}{\sum_{p=0}^P e^{\beta'_p X_{ijk}}}, \quad [1]$$

with  $\beta_0=0$  and  $\beta'_s X_{ijk}$  being a set of predictors at the individual (*i*), family (*j*) and local (*k*) levels.<sup>7</sup>

In this three-level multinomial logistic regression model, the dependent variable takes four values: 1 or migration to the traditional markets; 2 or migration to the border; 3 or migration to the United States; and 4 or absence of migration. Our model -  $prob(Y_{ijk}=s)$ - compares the risk of migration to traditional markets, to the border and to US face the probability of no-migration (reference category). The dependent variable only takes into account the existence of migration between 1996 and 1999 and in movements of at least 1 year in duration in people aged 14 and over (having a total of 3467 people in risk of migrating). These are movements close to the time of the survey, which allows us to have a good approach to the local, family and personal conditions at the time they migrated. Our goal in this study is to estimate significant variables and its effects in each space of migration.

To perform this analysis we used the data from the random survey on Migration and Social Reproduction carried out with 947 families in the south of the state of Veracruz in 1999 (MORESO 1999).

The MORESO survey was carried out in 36 rural areas randomly selected in 1999: 18 common lands –“ejidos”- or social ownership areas and 18 of individual ownership

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<sup>7</sup> For normalization reasons, it is assumed that  $\beta_0$  is equal to zero.

or colonies. In the sampling three sub-regions or contexts were differentiated according to age of the settlement, agricultural situation of the areas and articulation with the urban markets, giving as a result: context 1 of old agriculture connected to the markets (the area of greatest scarcity of land); context 2 of old indigenous agriculture in isolated regions; and context 3 which corresponds to more recently colonized areas (less population density and more land). In each agricultural nucleus the families were classified according to the type of tenancy of the land and 4 basic typologies of families were obtained: on the common lands, the “ejidatarios” or owners of land and the “avecindados”, who have no land; in the private ownership areas, the “colonos” or owners and the “pobladores” or non-owners. In 2002 we carried out a selection of the families surveyed in 1999 in order to evaluate the development of mobility and go deeper into migratory dynamics, inheritance of land and intergenerational relations (MORESO 2003, IRD-CIESAS). The variables included in the model are:

**Table 2: Definition of variables used in analysis of migration**

<b>LOCAL VARIABLES</b>	<b>Categories</b>
Socio-historical context of the place of residence	Context 1 Context 2 Context 3*
Agricultural nucleus	Ejido Non-ejido*
Local indigenous condition	Non-Indigenous Indigenous*
Population growth rate between 1990-1995	
Percentage of population economically active in the primary sector in 1990	
Size of the population in the agricultural nucleus in 1995	
<b>FAMILY VARIABLES</b>	<b>Categories</b>
Agricultural family condition	Owners: Ejidatarios Owners: Colonos Non-owners*
Family migratory history (before 1995)	Without antecedents With antecedents*
Number of males aged 14 and over living in the household group	
<b>INDIVIDUAL VARIABLES</b>	<b>Categories</b>
Age groups	<20 20-29 30-39 40 and more*
Education level	Less primary Primary and more*
Marital status (single condition)	Single Non-single*
Sex	Male Female*

\* Reference category

*Socio-historical context of the place of residence* refers to the process of settlement in the region, agricultural history and connection with urban centers and regional markets. With these criteria we distinguish *context 1* or old indigenous agricultural sub-region connected to urban centers; *context 2* or old indigenous agricultural sub-region in refuge areas; and *context 3* or sub-region populated in the second part of the 20<sup>th</sup> century.

*Agricultural nucleus* identifies the population according to the type of ownership of the land: social or ejidal and private. The type of tenancy of the land refers to a specific type of regulation that offers different possibilities of use and usufruct of the land resource, to particular ways of organization and local reproduction, to different migratory antecedents and even to different objectives in migration deriving from their material living conditions.

The *population growth rate of the agricultural nucleus between 1990-1995* reflects the demographic conditions prior to the development of the emerging migration. Given the existence of similar conditions of fertility and mortality in the populations being studied, the population growth rates reflect the previous migratory process – local antecedents- in each population.

The *percentage of population economically active in the primary sector in 1990*<sup>8</sup> indicates the weight of agricultural activity with respect to the whole of local economic activity. For the beginning of the decade, it has areas with a process of losing rural workers versus other areas where agriculture continues to be the only economic activity. This makes it possible to inquire into the importance of the local productive structure in labor migration.

The *size of the population in the agricultural nucleus in 1995* refers to different social and economic dynamics that appear linked to the size of the place, such as availability of infrastructures (among others education and communication), work opportunities and information and means for migrating. This indicator is usually associated with the community's resources and with how it is integrated in the market, which determines its productive structure and activities; this, in turn, affects the rural units.

*Family migratory history* before 1995 (both of the individual and of some of the members who form the household group<sup>9</sup>). This history implies a social capital, for coping with different labor destinations, especially in international movement (Bustamante and Martínez 1979, Massey 1987, Massey et al. 1987, Massey and García

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<sup>8</sup> This is the only information available at a local level through the INEGI registers. The 1995 INEGI Population Count (Censo de Población) does not give this information at local levels.

<sup>9</sup> We decided to integrate in the same variable the individual's own antecedents with those of the family, since separately they showed a high degree of correlation and this did not hinder consideration of both variables in the model.

España 1987, Massey and Espinoza 1997, Curran and Rivera-Fuentes 2003), but also within the country (Lomnitz 1973, Arizpe 1980, Adler Lomnitz 1991, Curran and Rivera-Fuentes 2003). In a context lacking experience of international migration, we consider it appropriate to take into account family experience in any sphere of migration and families without experience.

*The agricultural family condition* refers to the type of tenancy of the land. We define three groups: *ejidatarios* or owners of land under social property; *colonos* or private owners; and non-owners of land. The family property reflects a certain scale of needs, as well as the availability of resources, which, in the case of migration to the United States, is presented a priori as a first order element.

*Local indigenous condition* takes into account the cultural and social factors in the risk of migration. Social and cultural factors are also important in migrant networks (Taylor 1986, Massey 1987, Massey et al. 1987, Massey and Espinoza 1997), involving interpersonal linkages between migrant populations in origin and destination areas. The emergence of migrant networks may help potential migrants of the same ethnic origin, for instance, by contributing to financing the journey, helping to find a job or appropriate accommodation, or by giving general information for travelling.

*The number of males aged 14 and over living in the household group* is an indicator of the labor force in the household (family and non-family) and defines a particular situation with respect to the existence or not of labor mobility in the family (Lee 1975, Arizpe 1980, Boyd 1989).

*The age of the person* generally defines particular physical and family conditions that favor migration at certain ages and not at others. We construct 4 groups: less than 20 years old, 20-29, 30-39, and 40 and more, in order to analyze the effect of passing from one age group to another on the probability of migrating.

*Educational level* indicates the migrant's degree of preparation, which is fundamental for the performance of certain labor activities. According to educational level a selection of migrants can be made according to destinations and occupations (Lee 1975). In the case of international migration, although some authors do not consider it a relevant variable (Portes and Bach 1985, Taylor 1986, 1987, Portes and Böröcz 1989), others do (Cornelius 1992). Due to there are few cases with secondary degree, we established only two categories: *without primary* education completed (under 6 years of schooling) and *with primary* education completed or more.

*Unmarried or single status* versus other marital statuses (either married, whatever the type of union, widowed or separated or divorced). Marital status refers to different situations of departure in relation to family responsibilities and can strongly condition the process of mobility and absence.

*Sex* is the last variable considered, both because of the physical conditions for carrying out a certain kind of job and for the implications of movement, especially

when migration is to the United States (García, Muñoz *et al.* 1979, Delaunay 1995, Curran and Rivera-Fuentes 2003).

### **3.2 The determinants of migration to the traditional markets**

The risk or probability of migrating to traditional markets, according to the results of the model (Table 3), appears associated first with certain personal characteristics and second with local and family conditioners.

In agricultural areas situated in context 1 there is a greater risk of migration. These results refer to various situations. The towns in context 1 are more densely populated and are the ones where families have a smaller area of agricultural land. This aspect, together with the fact that they are well-connected and close to the urban markets in the region, stimulated and favored earlier contact and migrations. Part of these migrations, which ended in definite installation in the cities in the region, have become support networks and have had the effect of attracting recent migrants from these towns, mainly family members.

There is only a significant family determinant in migration to traditional markets, the existence of migratory antecedents (without antecedents the risk decreases 35.2% respect with antecedents). This fact is related with previous experiences and possible contacts in the family. This does not mean that there are no differences in the migrations according to the family situation when starting out. Thus, for example, according to the data in the 1999 MORESO survey, it is observed that members of families without land who migrate to these markets mainly work in the agricultural sector or in construction (63% in the families of *avecindados* and 62% in the families of *pobladores*), whereas migrants from families in better conditions join the services sector (78% in the families of *colonos* and 54% in the families of *ejidatarios*). These differences in the work they do are associated with different levels of salary and different professional prospects. Thus, it is deduced that movements to one same market conceal different objectives: the first are movements guided by immediate needs, those of the migrant and his/her family, whereas in the second there is the idea of long term work for the migrant.

Finally, as regards the personal determinants that affect the probability of migrating, age, sex and marital status must be seen as characteristics that favor movement rather than as causes. Being a young, single man increases the probability of movement to these nearby places, although in these markets there is also an important presence of female migration, of married people and of people of different ages.

**Table 3: Probability of migrating to traditional markets**

VARIABLES	Three- level Multinomial Logistic Regression	
	Coefficients (Standard error)	Relative Risk
Intercept	-3.486** (0.463)	
<b>CONTEXT VARIABLES:</b>		
Size of the population in the agricultural nucleus in 1995	0.000 (0.000)	1.000
Population growth rate between 1990-95	-0.031 (0.024)	0.969
Percentage of population economically active in the primary sector in 1990	0.003 (0.004)	1.003
Socio-historical context (ref. cat. Context 3)		
Context 1	0.484* (0.167)	1.623
Context 2	-0.039 (0.162)	0.962
Agricultural nucleus (ref. cat. Non-ejido)		
Ejido	-0.266 (0.172)	0.766
Local indigenous condition (ref. cat. Indigenous)		
Non-indigenous	-0.339 (0.196)	0.713
<b>FAMILY VARIABLES:</b>		
Nº of males aged 14 and over in household	-0.029 (0.050)	0.971
Family migratory history before 1995 (ref. cat. with antecedents)		
Without antecedents	-0.434** (0.137)	0.648
Agricultural family condition (ref. cat. Non-owners)		
Owners: ejidatarios	-0.268 (0.166)	0.765
Owners: colonos	-0.218 (0.176)	0.804
<b>INDIVIDUAL VARIABLES:</b>		
Age groups (ref. cat. 40 and more)		
< 20	0.299 (0.266)	1.349
20-29	1.603** (0.222)	4.967
30-39	1.104** (0.225)	3.017
Education Level (ref. cat. Primary and more)		
Less primary	-0.194 (0.138)	0.824
Marital status (ref. cat. Non-single)		
Single	0.666** (0.170)	1.946
Sex (ref. cat. Female)		
Male	0.959** (0.131)	2.609

**Source:** 1999 MORESO survey (IRD-CIESAS)

The -2 Log Likelihood decreases from 4036.18 for the model with constant only to 3371.65 for the model with covariates.

\*\*significant at 1 per cent, \*significant at 5 per cent, - significant at 10 per cent.

### **3.3 The determinants of migration to the northern border**

In migration to the border, the local variables also play an outstanding role (Table 4). The population growth rate appears as one of the variables that affects the risk of migrating. The greater growth of the areas between 1990-1995 is associated with greater migration to the border between 1996-1999.

This relation refers to the absence or smaller volume of previous migration that could have led to definite settlement and hence, the lack of local migratory antecedents in the region. Currently, saturation of the resources in the area and the need to migrate have led these populations to favor migration to the northern border instead of within the region, for two reasons: first, the difficulty in finding a job in the region (lack of jobs and of contacts for obtaining the few there are) and secondly, the greater earnings offered by the cross-border assembly plants.

The other significant variable that affects migration to the border, and is related to the place of residence, is the socio-historical context. In this case, unlike migration to the traditional markets, there are no differences between contexts 1 and 2, but there are with context 3. In the latter is where there is greater availability of land, hence it is migration that also highlights the different conditions of the place of residence in relation to the means of production. That is, where there is greater availability of land, regional migration and even migration to the border lose their attraction. The border and the cross-border assembly plants offer good work prospects for migrants to improve their living conditions, but they lack the potential of generating sufficient savings to be able to modify the production conditions of the better-off families.

On the family scale, the only significant variable in migration to the border is the existence of migratory antecedents. Since it is a far-off destination, beyond the space of family control, the fact that one of the family members or the migrant himself has migratory experience favors movement to the border, even more so the further back the antecedents are (the relative risk is 65.9% lower in families without antecedents than in families with antecedents). In the traditional markets, since they are generally known spaces the antecedents are less important in the development of migratory flow.

The specialization of the border in cross-border assembly plants requires a minimum level of skill from the workers. Hence, educational level appears as the main conditioner for migrating and the higher the educational level the better the work prospects and therefore, the greater the risk of migrating. Young, single men are those with the greatest risk of migrating, there being a greater selectivity according to individual characteristics than in migration to the traditional markets.



**Table 4: Probability of migrating to the northern border**

VARIABLES	Three- level Multinomial Logistic Regression	
	Coefficients (Standard error)	Relative Risk
Intercept	-6.555** (0.771)	
<b>CONTEXT VARIABLES:</b>		
Size of the population in the agricultural nucleus in 1995	0.000 (0.000)	1.000
Population growth rate between 1990-95	0.208** (0.035)	1.231
Percentage of population economically active in the primary sector in 1990	0.002 (0.005)	1.002
Socio-historical context (ref. cat. Context 3)		
Context 1	0.604* (0.258)	1.829
Context 2	0.309 (0.245)	1.362
Agricultural nucleus (ref. cat. Non-ejido)		
Ejido	0.278 (0.248)	1.321
Local indigenous condition (ref. cat. Indigenous)		
Non-indigenous	0.037 (0.298)	1.038
<b>FAMILY VARIABLES:</b>		
N° of males aged 14 and over in household	0.103 (0.070)	1.109
Family migratory history before 1995 (ref. cat. with antecedents)		
Without antecedents	-1.077** (0.231)	0.341
Agricultural family condition (ref. cat. Non-owners)		
Owners: ejidatarios	-0.303 (0.221)	0.739
Owners: colonos	-0.142 (0.312)	0.868
<b>INDIVIDUAL VARIABLES:</b>		
Age groups (ref. cat. 40 and more)		
< 20	0.689 (0.514)	1.991
20-29	2.447** (0.464)	11.556
30-39	2.133** (0.466)	8.442
Education Level (ref. cat. Primary and more)		
Less primary	-0.732** (0.212)	0.481
Marital status (ref. cat. Non-single)		
Single	0.968** (0.242)	2.632
Sex (ref. cat. Female)		
Male	1.471** (0.218)	4.353

**Source:** 1999 MORESO survey (IRD-CIESAS)

The -2 Log Likelihood decreases from 4036.18 for the model with constant only to 3371.65 for the model with covariates.

\*\*significant at 1 per cent, \*significant at 5 per cent, . significant at 10 per cent.

### 3.4 The determinants of migration to the United States

In *pioneer* migration to the United States from the Sotavento region, unlike that of the previous markets, appears primarily conditioned by the capability to migrate rather than by the population's situation of need.

Apart from individual characteristics, the main determinant in international migration is the family's agricultural property: the more means the family has, the greater the risk of migrating (Table 5). The high cost of the journey to the United States first means that movement is marked by the availability of means in the family for financing the journey (Quesnel and del Rey 2004, Léonard, Quesnel and del Rey 2004). There is not difference between *ejidatarios* and non-owner (they do not can use the land as a resource to migrate), but private owner have a relative risk 2.6 times higher than non-owner (they do). In this case capability prevails over the need or desire to migrate.

The family's migratory history is another main determinant in international migration, with much greater impact than in migration to the border (greater relative risk means that families without antecedents have a relative risk 76.8% lower than families with antecedents, face 65.9% in the migration to the northern border). This is a space that entails greater risks and uncertainties, hence migratory experiences form a capital that facilitates and/or favors these movements. Almost all the pioneers have prior migratory experiences in the region or outside it.

Among the local determinants that affect migration to the United States we have, in first place, the type of agricultural area, the risk of migrating being higher in areas of private ownership than in those of social ownership (72.6% lower in ejidos). The type of tenancy of the land in the area has the same effect as that seen with respect to family agricultural property: on the one hand, it indicates the different material capability to cope with costly migration and, on the other hand, it refers to particular antecedents of production and reproduction that imply a social capital that also favors the development of a migration that entails great risks.

**Table 5: Probability of migrating to the US**

VARIABLES	Three- level Multinomial Logistic Regression	
	Coefficients (Standard error)	Relative Risk
Intercept	-6.327** (1.608)	
<b>CONTEXT VARIABLES:</b>		
Size of the population in the agricultural nucleus in 1995	0.000- (0.000)	1.000
Population growth rate between 1990-95	0.088 (0.061)	1.091
Percentage of population economically active in the primary sector in 1990	0.002 (0.009)	1.002
Socio-historical context (ref. cat. context 3)		
Context 1	-0.046 (0.426)	0.955
Context 2	0.182 (0.326)	1.199
Agricultural nucleus (ref. cat. Non-ejido)		
Ejido	-1.294* (0.600)	0.274
Local indigenous condition (ref. cat. Indigenous)		
Non-indigenous	-1.903** (0.647)	0.149
<b>FAMILY VARIABLES:</b>		
Nº of males aged 14 and over in household	-0.050 (0.108)	0.951
Family migratory history before 1995 (ref. cat. with antecedents)		
Without antecedents	-1.460** (0.398)	0.232
Agricultural family condition (ref. cat. Non-owners)		
Owners: ejidatarios	-0.378 (0.440)	0.685
Owners: colonos	0.967* (0.381)	2.631
<b>INDIVIDUAL VARIABLES:</b>		
Age groups (ref. cat. 40 and more)		
< 20	0.390 (0.700)	1.474
20-29	2.227** (0.565)	9.270
30-39	2.018** (0.550)	7.525
Education Level (ref. cat. Primary and more)		
Less primary	-0.954* (0.342)	0.385
Marital status (ref. cat. Non-single)		
Single	-0.014 (0.367)	0.986
Sex (ref. cat. Female)		
Male	4.338** (1.014)	76.518

**Source:** 1999 MORESO survey (IRD-CIESAS).

The -2 Log Likelihood decreases from 4036.18 for the model with constant only to 3371.65 for the model with covariates.

\*\*significant at 1 per cent, \*significant at 5 per cent, · significant at 10 per cent.

The private ownership areas respond to individual logics of functioning, where each family is responsible for managing its own resources and affronting its needs. Many of these areas were created in the middle of the 20<sup>th</sup> century during the process of agricultural distribution under the modality of farm colonies, with population coming from other regions and other states in the Republic. Hence they have migratory antecedents, as well as family relations and contacts outside the region. The common lands, however, were created in already existing towns, and those benefiting were mainly natives of the region; hence, they lack migratory antecedents.<sup>10</sup> Furthermore, since their creation, the common lands have worked as collective units, where the common land authorities have managed the local resources and have had the responsibility of coping with the demands of the population (De Janvry et al. 1999, Gordillo, De Janvry and Sodoulet 1999, De Janvry et al. 2001, Warman 2001, Quesnel 2003). Thus, the families lack experience in managing their own reproduction for setting in motion new family strategies through migration to new markets.

The other determinant element that differentiates between the different types of agricultural towns and which affects movement to the United States is related to the unequal capability of achieving resources through agricultural property: in the areas of private ownership, real estate can be sold, rented or mortgaged in order to obtain the necessary resources and migrate to the United States, whereas, in the common lands this capability was restricted until the certification of the common lands after the 1992 Reform and is still restricted in some. Also, the regulations prevented them from being away for a long time.

The other significant local variable in migration to the United States is the indigenous condition. Between indigenous populations usually the social relations are stronger than non-indigenous and this situation explains why the relative risk to migrate to the US is higher (85.1%): financing the journey, helping to find a job or appropriate accommodation, or by giving general information for travelling are the elements that explain a greater migration to the US in indigenous towns than in other towns.

Finally, in migration to the United States there is a greater selection according to personal characteristics than migration to the traditional markets or northern border (higher relative risk coefficients)<sup>11</sup>: in this pioneer migration the migration of women is

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<sup>10</sup> Of the current heads of family who live in the colonies in the sample, 67% are from other places, with an outstanding 22% from states other than Veracruz. In contrast, on the common lands, 66% of the current heads of family are natives of the town and only 8% are from other states (MORESO 1999).

<sup>11</sup> In migration to the United States until 1999 the mean age was 26, versus 24 in the case of border migration: no case was recorded of migration of minors (under 18) to the United States, whereas in migration to the border these comprised over 20% of the movements. In migration to the United States there were no cases of migrants aged over 50, whereas there were some cases recorded in migration to the border. There was only one case of female migration to the United States (MORESO 1999). However, 3 years later during in-depth interviews with families already surveyed in 1999 we found several cases of female migration, as well as of

exceptional, the migrants are in their twenties and thirties, there being few people with ages above or below this, with a minimum education level (illiterate people are excluded) and the marital status is not important.

In short, migration to traditional markets and to the border appears as a phenomenon generated by the precarious conditions of the places of residence, whereas in the case of international migration the determinants refer to the existence of the capability to put this migration into practice.

#### **4. Conclusion: family strategies in migration according to destinations**

Each case of migration appears associated with certain local and family situations, and favors certain characteristics of the migrants. In turn, each of the markets responds to different family strategies of reproduction, according to the different options it offers; hence the objectives sought are also different.

Mobility to the traditional markets represents the option that has been present for some time for the families and rural areas of Sotavento. This migration is mainly of survival and/or transitory in the sense that it is carried out during a specific stage of the person's life cycle (possibly while waiting to work the land or in search of a better opportunity, or before getting married and taking on new responsibilities). It is a mobility that does not break the family reproduction space, it rarely implies reorganization of the household, either in productive terms (they are migrations that are largely complemented by the production of the domestic group) or organizational ones (since a high density of contacts is maintained). It does not demand a strong economic cost for movement, but neither does it provide large earnings that will lead to a change in the conditions of production or that will displace agricultural production as the main economic activity. In general, it appears as a resource for guaranteeing own consumption or family survival.

Movement towards the manufacturing industry of exportation on the border responds to local needs, conditions of precariousness, but is in turn very demanding as regards the level of training of the migrants, which restricts the possibilities of migration for certain families. Nevertheless, for rural families with few resources insertion into the cross-border assembly industry offers a good alternative for improving their living conditions. On the other hand, for the better-off rural sectors, the

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minors (MORESO 2002). According to Lee the degree of selection increases with the difficulty of the intervening obstacles (Lee, E. S. 1975).

cross-border assembly plant does not entail an improvement in living and working conditions with respect to those they already enjoy in the production unit.

In the case of mobility to the United States, the first thing that stands out is the heavy financial investment it requires, owing to the current restrictions for crossing the border. This has led to a considerable rise in the price charged by the organized groups or “*polleros*” that take illegal emigrants across the border. Because of this heavy investment, it is a movement that entails staying several years so as to make it worthwhile, since it is necessary to pay off the cost of the journey<sup>12</sup> and accumulate sufficient savings for fulfilling the objectives proposed. It is a migration that offers all rural sectors, regardless of their material living conditions, a sphere for fulfilling the objectives proposed and which can easily displace agricultural activity as the axis of family reproduction.

Analysis of labor mobility in the south of the state of Veracruz highlights the fact that in the face of a lack of prospects for an important part of the new generations in their region of origin, owing to the scarcity of the land resource and the crisis in agricultural survival production, the resource of migration for rural families has gone from being an option to becoming a necessity for guaranteeing their reproduction. Under these conditions, new destinations of reference appear in labor migration, the northern border and the United States, which, on the one hand, have become destinations capable of satisfying the growing needs of the new generations, but, on the other hand, alter, modify and transform the conditions of production and reproduction of the rural families.

This new sphere of migration, capable of satisfying the demands of the new generations, can also become a serious threat for the older generations that stay in the country, inasmuch as it may break or modify the intergenerational agreements and bonds of solidarity within the family, fundamental in the family groups in more precarious conditions. The migrant who goes to the cross-border assembly plant is usually young, single and with a certain degree of training, hence he becomes inserted in a sphere of activity with good professional prospects. Furthermore, the urban setting allows him to gain access to levels of consumption and standards of living hard to imagine in his family and place of origin. This poses great uncertainty as regards a possible return, since it would mean renouncing this “new urban culture” (Pries 2000). In this case a movement that at first opens a new range of possibilities for the family can end up meaning a loss for the family, if it is not capable of establishing a “mooring line” between the migrant and the family that will make relations last.

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<sup>12</sup> In 1999 the cost ranged between 10,000 and 20,000 pesos –approximately 1,000 and 2000 euros- (MORESO 1999, 2002). The usual way of financing the journey is by asking for a loan in exchange for interest that ranges between 10% and 20% a month. Hence, the initial capital to be repaid is increased considerably by the interest so that a major part of earnings goes towards paying for the journey.

A similar situation derives from movements to the United States. This is a migration that can allow a strong capitalization of the family, but at the same time can mean an uprooting and dispersion of the migrant, inasmuch as migration does not lead to an ostensible improvement in the production conditions in the family and in the area. If this improvement is not achieved, the migrant is not likely to renounce the possibilities offered to him “on the other side”; hence, he may end up trapped in the migratory process, with many comings and goings and even in the future possibly becoming installed there, finally wanting nothing to do with the family group.

The economy of many rural families has been breaking down since the 1970s; the appearance of this new type of migration, with greater yield, is accentuating this process. The survival of an ever greater part of the rural smallholdings depends on resources gained outside agricultural production, but, in turn, this migration may entail the loss of support of the youngest members. Within this process of break-down and repair of rural economy, the dilemma posed is how the older agricultural generations can guarantee access to the resources gained by the migrants, especially by their migrant children, when the means for negotiating with their children are ever decreasing.

These new ways of mobility pose a new framework of parent-children relations, where the terms are clearly established by both parts, i.e., a “contractualization” of the relations. This new relationship involves the father’s intervention in the children’s mobility, so that the father ensures either the return of the migrant offspring or else a transfer of sufficient resources to guarantee his future. The ways of intervention are first to finance the journey, especially in the case of migration to the United States, taking charge of the migrant’s family, offering alternatives for re-installation (via inheritance or the construction of patrimony with the resources from migration), intervening in the investment of the remittances (looking for businesses or land to invest in or providing space on the site to build a house) or serving as a point and link for subsequent movements.

At the same time new ways of rural economic organization are in sight, according to which the father will be able to intervene in all the children’s paths—a situation we define as *archipelago family organization*- or in only one or in none (Quesnel and del Rey 2005).

Nowadays, in many rural families in Sotavento, we are witnessing a contradictory situation, since, while the older generations are incapable of ensuring the future of the new generations and of establishing it together with them, the depend more and more on the resources of these generations to ensure their future and that of the family unit.

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