



LUND UNIVERSITY

School of Economics and Management

Master in Economic Development and Growth

## Forced Displacement and Labor Market Access for Women in Colombia, 2001-2011.

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*Abstract: Among the multidimensional effects that forced displacement has on population welfare, the economic ones may be measured in various ways: one of them is assessing the effect of being a forced migrant in the probability of accessing the labor market in the destination communities in Colombia. This is obtained through the estimation of a logit model which uses data from the "Survey in marginalized areas: sexual and reproductive health, forced displacement and poverty" made by Profamilia and it focuses particularly on females. According to theory, the forced migrants are in disadvantage with respect to other groups, especially in the women case; which is confirmed by the empirical results: the forced displaced women have a lower probability of getting a job with respect to the other types of migrants and the native population.*

*Key words:* Displacement, forced migration, women, labor market access.

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## 1. Introduction

Internal forced displacement is a type of forced migration that occurs inside the borders of a given country. In the case of Colombia, this kind of migration is one of the most harmful effects of its armed conflict. The relevance of this problem is made clear by its humanitarian and social aspects; but when it comes to the economic sphere, forced migration is highly relevant because there is not an optimal resource and factors allocation, which represents losses both at the individual/household level as for the whole economy. Inside the migration theory, this disequilibrium has been proved to bring many welfare reductions for the displaced population, some of them coming from the wrong labor force allocation (Silva & Guataquí, 2006), higher poverty, inequality and polarization in the receiving communities (Ibáñez & Moya, 2006). Besides of this household perspective, there are other harmful effects of this violent context: the goal of achieving a good level of economic growth and sustainable development may be at risk because of the armed conflict's negative effects (Justino, 2009); since important aspects such as poverty increase or infrastructure destruction may jointly reproduce the conditions for a civil conflict vicious circle (Collier, 1999).

According to the Internal Displacement Monitoring Centre (2011), at the end of 2011, Colombia was the country with the largest internal displaced population – IDP's – in the world (3.9 – 5.3 million)<sup>1</sup>, higher than Iraq and Sudan, resulting from facing an intense armed conflict and human rights violation. In relative terms, Colombia has a share of 8.6 – 11.2% of its total population in forced displacement situation. Besides, around 90% of the Colombian municipalities have been population senders, and 10% of them have lost around a quarter of their total population (Ibáñez, 2008). This crisis has been preceded by a long-duration internal armed conflict, which is partly responsible for the fact that the

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<sup>1</sup> The two estimations are made by different entities: The first one is the IDP's number reported by the official Government source ("RUPD" -Registry of Displaced Population-), starting in year 1996. The second one is the IDP's number reported by a nongovernmental organization ("CODHES" -Consultancy for Human Rights and Displacement-) and is cumulative since 1985.

country has one of the highest levels of poverty and inequality in Latin America (43% of poverty of its population according to the Economic Commission for Latin America and the Caribbean -ECLAC-). The previous facts can draw a quick overview of the magnitude of this crisis in Colombia, and then is a good argument by itself of why is important and relevant to do deeper research on this, in order to understand and have a more comprehensive view on this phenomena.

Even though there has been a growing literature on the empirical determinants and consequences of civil conflict and forced displacement impacts on individuals, households and municipalities, it is also interesting to highlight that there is a considerable lack of development on the economic theory that has to do with the forced migration topic. This lack in theory has been tried to be filled by authors like Silva & Guataquí, (2006), doing specific adaptations and additional assumptions on the existing migration theory. In the case of Colombia, there are not many empirical-based studies following the situation of this displaced population, mainly because of poor data availability. Despite this, the existing literature makes use of the available official data, while some others also conduct their own surveys. In this research, a demographic and health household survey made by a Colombian NGO is used, with the particular feature that is made for the displaced and marginalized female population in the country.

The main contribution of this research is considering the gender perspective during the analysis of one of the multiple dimensions that can account for the impacts that forced displacement has on the community welfare: the migrant women probability of accessing the labor market. Such labor market analysis has been done in the literature for Colombia, but with different surveys and without having the displaced female perspective as the core point of departure. The point of view is especially relevant because the forced migrant community is composed by a majority of female population, which is considered as a group

with the highest degree of vulnerability to the effects of this kind of violent conflict and displacement (Meertens, 2010). Given this, the research question would be: what is the effect of being a forced displaced woman on the probability of accessing the labor market in the destination community?

In order to do this analysis, the female probability for accessing the labor market is estimated by a logit model, which takes into account the traditional factors outlined in the literature: the occupational status, the effect of age, educational level, civil status and, for the case of the female participation, also includes the total live births in the household. This conventional model will also consider, as another contribution of this paper, the migratory status according to its nature: if it is an endogenous or exogenous decision; this is, there would be a consideration of the forced displaced, the migrants and also the native/non-migrant women.

This paper is developed in five sections. The first one contains a review of the forced migration context in Colombia, followed by literature review and a conceptual framework. Second section presents the data: begins by explaining the used source, followed by a description of the variables of interest by making a mean comparison between migration categories. The third part describes the proposed methodology used to contrast the research question. The fourth section shows the empirical results of the proposed logit model. Finally, in fifth place, the general conclusions and recommendations are presented.

## **2. Literature review and conceptual framework**

Without ignoring the multiple dimensions involved in forced displacement analysis and its effects, this conceptual chapter contains a review of the problem from a more general socioeconomic framework. From this focus, it is analyzed how far the economic science, and its concepts, can account for the explanation of forced migration. However, during this work some references to other knowledge areas in what it has to do with the diverse effects of forced displacement are also made.

The aim of this chapter is to present, first, the contextual information about the forced migration phenomena in Colombia, explaining the dynamics of the relevant variables during the period of interest. After doing this, the section continues by doing a brief review of the previous research made on the mentioned topic. Finally, the theoretical framework that supports the proposed empirical analysis is presented before the relevant data is analyzed.

### **2.1. Contextual information on forced displacement**

Migration dynamics in Colombia have been changing over the last 50 years. At the mid 20<sup>th</sup> century, it was part of the country's normal demographic transition, when there was a change from a predominantly rural composition into an urban country, being spread uniformly across the country's main cities (Flórez, 2000 cited by Silva & Guataquí, 2006). In this period, the migrants were mostly economic migrants who were looking for better opportunities in the cities. Nevertheless, it is also important to highlight that Colombia has had a history of continuous armed conflict since mid 20<sup>th</sup> century, which worsened at the end of that century and starting the 21<sup>st</sup> century. At the beginning of this last

decade, the illegal armed groups<sup>2</sup> started to intensify their territorial expansion and control operations combined with the rent capture resulting from the drug trafficking activities (Ibáñez, 2008).

This violent conflict changed the migratory scene in the country because the dramatic increase in the armed actions produced higher human rights violations and other violent practices towards civilians, which forced them to migrate, most notably from the rural areas. To deal with this situation, the Colombian government created the “Registry of Displaced Population” –RUPD– in order to have a record of the victims and to be able to offer assistance plans<sup>3</sup>. However, authors like Ibáñez (2008) consider that there are around 30% of the victims that are not register in this official record because they are afraid of being identified by their offenders or simply because they do not have the proper information about the governmental programs. Taking this into account, the “Consultancy for Human Rights and Displacement” –CODHES– offers an alternative registry of the displacement population based on its NGO operation.

The dimension of the forced displacement problem in Colombia is considerable: having a comparative idea with respect to the rest of the world, according to the “Internal Displacement Monitoring Centre” –IDMC–, Colombia has the higher number of internally displaced population –IDP’s– with 3.9 – 5.3 million people inside its borders<sup>4</sup>. This number represents around 8.6-11.2% of its total population. Additionally, this phenomenon has been gradually distributed across the national territory, but with special impact in some strategic regions for the armed actors. This fact calls attention to the fact that forced displacement is something that affects the whole country and has harmful

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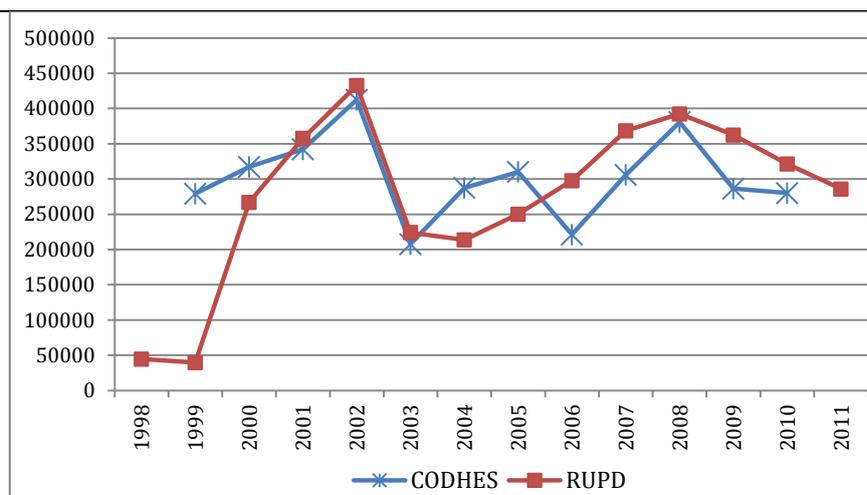
<sup>2</sup> The armed actors in the conflict are: Guerrillas, Paramilitares and Neoparamilitares, This last group results from the violent activity of some paramilitary groups after their demobilization process during 2003-2006.

<sup>3</sup> In order to be part of this registry, the victims have to testify under oath what kind of attack they suffered and by which armed group. All this must be done in the Public Ministry of Colombia.

<sup>4</sup> As explained in a previous note, the lower limit is reported by the official source (RUPD), while the upper limit is reported by CODHES.

effects on a large part of the national economy. In Annex A there is a map with the intensity of expelled population by each municipality in Colombia, which allows analyzing the gradual change on the geographic dimension of this problem.

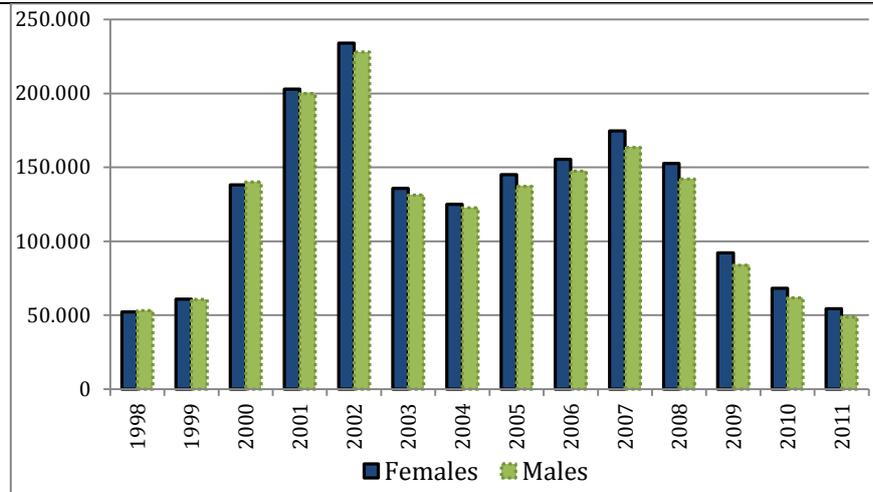
**Figure 1.** Forced Displacement dynamics in Colombia. Number of expelled persons.



Source: Departamento para la Prosperidad Social –RUPD– and CODHES.

Now, the dynamics of forced migration in the last years are showed in Figure 1, which reports the available sources in the country. In this graph is evident how the conflict has an upsurge period after 1999, until the Government’s armed confrontation to the illegal groups increases and demobilization processes begin after 2003. Those confrontations and negotiations decreased around 2006, which is reflected in a temporary increase in displacement. At the end of the period there is a slight decrease in the number of IDP’s, but it is worth noticing that the number of victims is still very high and the problem is present and requiring a prompt solution.

**Figure 2.** Forced Displacement dynamics in Colombia by Gender.



Source: Departamento para la Prosperidad Social –RUPD–.

Regarding the special focus of this research, it is relevant to show how the female population is the predominantly affected by the forced migration phenomena. In Figure 2 there is the quantity of displaced population by gender, and in almost all the considered years, there are more female victims in Colombia. This is one of the main reasons why it is considered important to make a particular analysis on this population, because in this way there would be a better understanding of the gender group that should receive targeted assistance policies.

## 2.2. Previous research

There are many different ways in which the forced migrants may be harmed by forced displacement. This is why the literature on the topic seeks to improve the problem understanding and then recommend policies that can be beneficial for this population. Regarding the general impacts view, Kirchhoff and Ibáñez (2001) point out that there are really diverse effects of this phenomena in the implied population, like marginalization in the destination communities, family breakdowns, traumas, psychological problems, asset losses, social capital losses reflected on the destruction of the social networks and the imminent possibility

of falling in poverty and lower living standards, compared to the situation in which the households were in the origin communities. In the empirical part of that study some of these variables are replaced by their instruments, but not all of them mainly due to the lack of measurements for some.

In what it has to do with the economic impacts of forced displacement, Ibáñez *et. al* (2006) estimated the welfare losses through some social indicators like yearly labor income for equivalent adult, which is found to be reduced in 2004 from \$1.8 millions of Colombian pesos to a earnings level of \$1.1 million of Colombian pesos in the destination municipality<sup>5</sup>. Besides, this reduction is also reflected in a decrease of 54 percentage points on the aggregated consumption level and the unemployment rate arises from 1.7% before displacement to a 16.1%. These facts clearly show how large the losses associated to the displacement are.

However, it is also important to highlight that, despite all the negative effects of forced displacement, there are some improvements for the forced migrants once they reach the destination municipality. Ibáñez & Moyá (2006) show how some indicators of education and health access, public services and security tend to improve after displacement. This may happen because there are scale effects in the public goods provision and, as stated by the authors, the security levels are better because the sources of threats and harassment from the armed groups decreases significantly.

Regarding the labor market access and earnings determinants, there are two empirical researches that measure how this market is affected in the case of forced migrants. In the first place, there is the paper by Flórez (2003) that analyzes the change of the labor supply in the main cities after the migration process from the urban to the rural area, and how such process can affect the

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<sup>5</sup> In euro it would be more or less equivalent to a reduction in 2004 from 780 € in the origin municipality to 480 € income in the destination one.

labor market. The author concludes that there is a change in the migration profile in Colombia during the decade from 1992 to 2000, which coincides with an increasing access of forced migrant males into the informal labor market. In the case of women, it is stated that this group mainly entry to the destination's market in an unemployment state.

In this sense, Silva & Guataquí (2006) do an empirical study on the force migrants situation, doing a comparisson with the voluntary migrants. The study includes a measure of the labor market access probability by each kind of migrants and time since migration. Besides, the authors do a estimation of the labor income determinants for the same groups and conditions. This research uses household data available from the Continous Household Survey made by the Colombian National Department of Statistics -DANE-, available for the 10 larger Colombian cities during 2001-2005. However, this study uses a proxy of forced displacement that is not as accurate as directly asking for the displacement reason. The author concludes that there is a disadvantage for the forced migrants in terms of the labor market access and income levels.

### **2.3. Conceptual framework**

When thinking on the forced displacement problem, beyond the clear and urgent humanitarian needs, it becomes also necessary for economists, as part of social sciences, to understand and give a better dimension to the effects and impacts of forced displacement, both for the victim population and the receiving communities. In this process of finding a theoretical framework that may account for the forced migration problem, the migration theory appears as a possibility to explain one of this problem's dimensions.

So, doing a quick review of the main available concepts inside migration theory, it is found the push-pull theories, which are based on the existing conditions in the origin location and the destination place. Then, there is the neoclassical

migration framework, which basically states that the main reason to migrate is in the wage differentials between places that may maximize the expected income. In the third place there is the Keynesian migration framework, arguing that the differences in the unemployment rates are the main reason behind migration, until the overall equilibrium is reached. After this, there is the institutional view for migration with the New Economics of Migration, that attributes to the institutional failures (which creates uncertainty) the difference between the developed and developing countries. There are also theories like the Segmented Labor Market Theory, the World Systems Theory and the Network theory, among others, which try to explain the reasons behind these movements<sup>6</sup>.

However, once that the traditional migration theories are reviewed, and its possible modifications and contributions to the explanation are considered, the ultimate causes of this kind of forced displacement come to mind again: The forced displacement is not an alternative for this population. Given this, it is relevant to mention the recognized migrants' categories: Labor Migrants, Temporary Migrants, Refugee Migrants and Family reunification migrants. Here, the forced displacement could be considered as a form of refugee migrants, but with the specification that their migration process occurs inside the borders of a given country. Keeping this in mind, it is relevant to say that the traditional migration theory would not be able to account for the forced migrant behavior.

Given this, it is necessary to find a conceptual framework that may offer the necessary elements for analyzing the economic consequences of both the voluntary migrants and the forced displacement. This is when the George Borjas (1987) work comes out as an alternative, because it offers conceptual elements that allow including the migration determinants according to its nature (forced

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<sup>6</sup> This information is based on the "Advanced Topics in Economic Demography - Migration and Integration" lecture taught by Professor Jonas Helgertz at Lund University on spring semester, 2012.

or voluntary). By doing this, this framework also allows the possibility of differentiating between each category's economic consequences.

According to Borjas (1987), there are two different categories of migrants: the economic migrants, or voluntary, and the non-economic migrants, which are involuntary. In the case of the first category, the timing of the migration decision is endogenous; while it is exogenous for the second one. This last situation can be later reflected on irregular labor market outcomes and achievements in the destination place. Borjas presents the possible economic outcomes across the origin and destination places, and shows three interesting categories according to the selection bias. The first one is the positive selection bias category, in which the more able people are the ones who migrate and are able to overcome the native's labor performance in the destination place. The second group contains the negative selection: here the destination place attracts low-skilled migrants, which may result having lower performance in the destination place with respect to the native population. The third category is the involuntary migrants' selection, in which the migration decision is exogenous and is not related with the skill levels. In this last category, Borjas considers that this population group manages to overcome the native's labor performance, which is clearly not the case for the forced displaced population in Colombia, as suggested by the results showed in the literature review.

Given this issue, Silva & Guataquí (2006) made a particular adaptation of Borjas' migrant groups composition, which now can be summarized as:

- *Positive self-selection*: The migrants are high-skilled and overcome the natives labor performance.
- *Negative self-selection*: The migrants are low-skilled and have a lower labor performance compared to natives.

- *Positive selection of the involuntary migrant:* The forced migrants reach a better performance with respect to other migrants and the natives.
- *Negative selection of the involuntary migrant:* The forced migrants reach a worse performance with respect to other migrants and the natives.

Then, this conceptual framework can account for the possible outcomes that different migrant groups could obtain in the destination place, keeping present the nature of the migration decision and the individual characteristics. Knowing this, now it is possible to present the used data and the proposed model for the empirical analysis, which in this case, is going to measure women's probabilities to access the labor market in the destination communities, according to their migration group.

### **3. Data**

In the current chapter there is an introduction to the used data for making the empirical labor market access probability model, according to the woman immigration status in Colombia. In order to do this, the content is divided in two parts: in the first section the households survey is described as well as its source; furthermore, some relevant data related to the employed database are introduced. In the second section, the relevant descriptive statistics are presented, which complement the contextual information explained in the previous chapter. These statistics are an important input for the analysis performed in the following chapter.

#### **3.1. Source material**

Most of reviewed papers, that perform a micro-level analysis for Colombia, use datasets that are typically collected from surveys performed by the authors and their research groups in a private way. In other cases, the used data is collected by different NGO's and church organizations, which are of restricted publication and are not of easy access in the country. In the particular case of this research, the used data comes from surveys done by the "Asociación Probienestar de la Familia Colombiana" –Profamilia–, which is a good quality non-governmental organization in charge of performing the demography and health surveys for Colombia since the 80's until now. In the previous decade, and with the support of the "United States Agency for International Development" –USAID–, Profamilia has been doing a special monitoring, besides the performed surveys of national representativity, to the populations living in marginalized areas and belonging to the lower socioeconomic status of the country. As a result of such work arises in particular the "Survey in marginalized areas: sexual and reproductive health, forced displacement and poverty".

The surveys in marginalized areas are done to account for the sexual and reproductive health of the displaced and vulnerable women in Colombia. Those surveys were thought at the beginning as a tool for Profamilia to evaluate the effect of the various projects implemented with the support of USAID; after this, they also are a source of valuable information for measuring the impact of both the internal armed conflict and the forced displacement on the affected household's welfare. In the project's first year –2000– there was presence in 21 out of 32 states of the country and 212 municipalities which, through mobile health brigades, provided information and health services access with emphasis on sexual and reproductive health<sup>7</sup>.

In 2006 the survey is performed once more, although this time with an increased coverage of 25 states, 165 municipalities and the implementation of a plan which offered education to trainers, that was thought as a way to achieve a educational “multiplier” effect in the population in displacement situation; all this in order to promote, inform and guarantee the access rights for those populations. For the third survey, which starts in the year 2010, there is a final evaluation of the 10 years in which the project has been executed, now in 235 municipalities on 25 states. It was found that it brought benefits through health services to 546405 individuals and through education to 852902 (Profamilia, 2011). These surveys also took into account the changes in law and in government's public policies supply for the displaced population in the whole period; a fact that is worthy to point out when thinking about evaluating the dynamic situation of these marginalized communities.

In this paper, once the existing national literature is considered, the use of the above mentioned micro-data provided by a highly recognized source as Profamilia is presented as a contribution, which despite that does not have a structure that allows to follow the evolution of households and individuals in

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<sup>7</sup> Furthermore, through educative processes the goal was to strengthen communitarian networks between the vulnerable and displaced populations as well as informing about the supply of social policy that the Colombian government would have for such cases.

time, it still can provide valuable information on the situation of the displaced population and the expelling and receiving communities. Another component which differentiates this research from the previous empirical ones is the special consideration of the female population immersed in the forced displacement context, which has not been done before in the Colombian case. This is achieved by considering two surveys types: the first one for households and the second one applied to women living on that household aged between 13 and 49 years. In such way there is detailed information about the health status, socio-demographic characteristics, economic conditions and access to the labor market; all of this for a number of women with national representativeness of the marginalized areas.

In contrast to other studies that make comparisons between the forced migrants with respect to the destination communities or the communities of origin, the available data allows to make a comparative analysis by current migratory status: whether the person is a forced migrant, or whether the person migrates for other reasons. This distinction, together with the fact that the surveyed population belongs to vulnerable areas, allows performing a comparative analysis for each women's group situation; all this controlling by their socioeconomic status. These particular characteristics make this case different from the studies based on the Continuous Household Survey conducted by the Colombian National Statistics Department -DANE-, since for the last one, researchers such as Silva & Guataquí (2006) have employed a proxy to determine which part of the population is in a forced displacement situation, measuring this by a variable denominated as "Due to Public Order"<sup>8</sup>. This variable is employed as an instrument, but it does not accurately reflect the obligatoriness of the migratory decision that the forced displacement implies, which in this case is not voluntary. Once having taken these details and particularities, that build one of the contributions of this research, into account

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<sup>8</sup> "Public Order" here refers to the security situation in terms of armed confrontations between various illegal armed groups and the national army.

the paper follows with the descriptive statistics considered as relevant for the analysis.

### **3.2. Descriptive statistics**

In this section, the main goal is to present a descriptive analysis of the variables that measure the socioeconomic and housing conditions, as well as the individual characteristics of women when it comes to accessing the labor market for the three available years: 2001, 2005 and 2011. To do this, a comparative analysis is made according to the endogenous or exogenous nature of the migration decision; which includes three categories: the forced migrants, the ones who migrate for other reasons (economic and familiar ones) and the non-migrant or native inhabitant. This analysis is aimed to contrast the expected theoretical differences between the mentioned groups, which can be related with variables such as the time since migration, adaptation to the new context, the destination place specific knowledge, and the formation of both formal and informal economic and social networks; which may jointly determine a more or less successful adaptive process to the new environment.

In this section there is also a contrast between the variables that are considered relevant when it comes to evaluating the female population probability of accessing the labor market which, in this particular research, also include additional female-contextual variables to those traditionally analyzed on male probability of accessing the labor market research.

#### *3.2.1. Sociodemographic characteristics by migration groups*

The first group has to do with socioeconomic characteristics of Colombian women for 2001-2011. This section's main goal is to describe the change of the sociodemographic variables in the mentioned period, and to have a clear idea of

how such change distinguishes itself, or not, according to the migrant status in the receiving municipality.

**Table 1.** Sociodemographic characteristics: Mean comparison by migration categories and year.

Variables	2001				2005				2011			
	Mean		Diff.	Mean Native	Mean		Diff.	Mean Native	Mean		Diff.	Mean Native
	Migrant	Displaced			Migrant	Displaced			Migrant	Displaced		
Household size	5.413	6.532	-1.12***	5.541	5.206	5.621	-0.42***	5.118	4.888	5.467	-0.58***	5.053
Nr. females 13-49	1.721	1.865	-0.14**	1.860	1.764	1.780	-0.02	1.950	1.756	1.817	-0.06	1.898
Total live births	2.526	3.326	-0.80***	1.821	2.298	3.013	-0.72***	1.441	2.054	2.759	-0.71***	1.490
Residence time	8.354	2.411	5.94***	---	10.247	4.567	5.68***	---	9.938	7.831	2.11***	---
Has social security	69.17%	41.70%	0.27***	80.6%	83.61%	79.60%	0.04***	90.7%	83.51%	86.69%	-0.03***	92.7%

Source: Survey in Marginalized Areas (2011) - Profamilia Social and United States Agency for International Development (USAID).

Statistically significant differences: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

From Table 1, it can be seen that household size for the forced migrants is bigger than for other migrants and the native population, and the difference between migrant categories is significant. This fact may be consistent with the idea that IDP's come mostly from rural areas, and they still have a larger household composition. The number of females in the household is only significantly different in the first period; but in the case of total live births the difference is larger in the first period: whereas a forced migrant has 3.3 children in average, the rest of the migrants have 2.5 and the natives only have 1.8 children. This trend continues in 2005 and 2011, but with a slight decrease in this fertility indicator.

In the case of the residence time, it can be seen that is lower in the case of forced migrants than for the others, being such difference statistically significant as well. This difference reduces slightly between 2001 and 2005, and even more by 2011. This behavior may exist because, at the beginning of the period, the displaced population is just starting to find places to settle down, and, as pointed out by Ibáñez (2008), they also have several initial residence changes.

This residence time increases gradually and reduces the gap with the other group of migrants since, altogether, the displaced people already have more time living in the destination communities.

Finally, a variable was considered that can somehow reflect the State's institutional presence and the vulnerability level in health terms for the different population groups: having social security. This variable is particularly interesting since it is one of those that present larger changes in the three periods. Particularly in 2001, it can be seen how migrant groups have a lower access to health services: 69.1% for migrants and 41.7% for forced displaced. This difference is statistically significant and close to the 27%, which is already wide; but when compared with natives it is even larger, since they present a health access of 80%. However, by 2005, those indicators improve notably, by rising up to 83.6% for migrants and 79.6% for displaced. The difference of 4% between groups continues being statistically significant, as well as the distance with respect to the natives with a 90.7%. By the last year of analysis, the displaced have surpassed the access to health services level of other migrants, with 86.6% when compared to 83.5%, achieving a significant difference of 3%. In this year both groups did not converge to the access of health services for natives, which in this case is 92.7%.

### *3.2.2. Household characteristics by migration groups*

In this section it is intended to compare the general conditions in which the different population groups live. For this purpose, it has been considered some household characteristics, an overcrowding indicator and the socioeconomic status. In the home conditions it was taken into account the access to public services such as electricity, gas, drinking water, sewerage and garbage collection.

In what respects to the SES, displaced households are in disadvantage even if it is consider that the whole sample belongs to marginalized areas with SES levels of 0, 1 and 2; with a significant difference of 0.12 points. In the next period differences between groups are reduced, and are not significant anymore. In what respects to public services, households present a good coverage in electricity, only with a magnitude notably inferior for the displaced community in the year 2001, with 86.7% in comparison to a 95.6% of the other migrants and a 98.8% of the natives. In the two successive years this difference shortens noticeably, becoming insignificant in 2005 and 2011; besides, the coverage in this last period almost universal.

**Table 2.** Household characteristics: Mean comparison by migration categories and year.

Variables	2001				2005				2011			
	Mean		Diff.	Mean Native	Mean		Diff.	Mean Native	Mean		Diff.	Mean Native
	Migrant	Displaced			Migrant	Displaced			Migrant	Displaced		
SES	---	---	---	---	1.10	0.98	0.12***	1.14	1.52	1.56	-0.04	1.41
People x Bedroom	3.75	5.08	-1.33***	3.61	3.54	4.15	-0.61***	3.24	2.84	3.30	-0.46***	2.81
<i>Household has:</i>												
Electricity	95.66%	86.74%	0.09***	98.86%	97.51%	96.79%	-0.01	98.50%	99.47%	98.56%	-0.01	99.04%
P. gas network	---	---	---	---	27.57%	9.86%	-0.18***	32.83%	40.44%	32.02%	-0.09***	42.87%
Drinking water	---	---	---	---	62.98%	54.87%	-0.08***	65.08%	84.21%	81.72%	-0.01	85.87%
Sewage system	---	---	---	---	43.67%	38.84%	-0.05*	48.61%	61.93%	56.13%	-0.05*	64.43%
Garbage collection	---	---	---	---	76.70%	70.71%	-0.06**	72.43%	90.79%	88.53%	-0.02	89.46%

Source: Survey in Marginalized Areas (2011) - Profamilia Social and United States Agency for International Development (USAID).

Statistically significant differences: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

The gas network coverage is very low for all the population groups, but in the last two considered years the difference of the displaced groups is significantly larger and closer to 18% compared with the other migrants. With respect to the other services, it is particular to find how in all of them, the forced displaced have a significantly lower coverage with respect to the other migrants. However, it is also noticeable to see the large improvement that all the groups present in terms of drinking water, sewerage and garbage collection. This leads to think that, in general, the displaced community has received assistance that has allowed them to improve its condition; or that they have entered into an

adaptive process for the new context and have converged, in aggregate, with the levels of other groups.

### *3.2.3. Labor market access characteristics by migration groups*

This last section compares the variables that are considered important in the determination of the female probability of accessing the labor market. Among the variables traditionally mentioned in the literature there are: the occupational status, education years, marital status, education level of the partner and other variables such as age and the number of children (analyzed in Table 1).

When analyzing the group means in the case of the “years of education” variable, in 2001 it is found a significant difference of 1.18 years between the displaced and the other type of migrants; at the same time, it is confirmed that years of education is larger for natives, with an average education time of 6 years. By the next period, the average levels of education of the three groups improve, but the differences between the displaced and migrants for other reasons is kept and slightly widens up, as well as the distance with respect to the native population. However, in the 2011 period there is a new improvement in educational levels which allows that differences between the groups are less, although significant.

Respecting women occupational status, it is found that there are only significant mean differences between the two types of migrants in 2001, being the occupation of the displaced women less, with 24.5%, while for the other migrants is 35.1%. From this period, two things draw attention: the first one is that female participation in the group of natives is the lesser of the three groups, with 23.65%, which may indicate that this population group would not have the same need of participating in the labor market, given that it has a lesser number of births and may have the economic backup of the partner at home. The second

thing that draws attention is the fact that there is an overall low female participation, probably due to an incompatibility in terms of the migrant's experience or human capital when they arrive to the receiving labor market. This may happen because most of these women could have been doing household duties or agriculture in their rural contexts. By years 2005 and 2011 the differences did not seem significant, and the percentage means rose up for displaced and native women in 2005; however, in 2011 they are slightly reduced in such groups.

**Table 3.** Labor market access characteristics: Mean comparison by migration categories and year.

Variables	2001				2005				2011			
	Mean		Diff.	Mean Native	Mean		Diff.	Mean Native	Mean		Diff.	Mean Native
	Migrant	Displaced			Migrant	Displaced			Migrant	Displaced		
Years of education	5.12	3.94	1.18***	6.02	6.08	4.88	1.20***	6.65	6.59	5.83	0.76***	7.07
Has work	35.17%	24.58%	0.11***	23.65%	34.58%	34.22%	0.01	31.33%	35.53%	33.28%	0.02	29.14%
Worked (12 months)	37.65%	32.62%	0.05	23.44%	30.98%	29.36%	0.02	21.92%	34.60%	33.10%	0.02	29.94%
Marital status = United	59.96%	62.03%	-0.02	57.55%	58.64%	55.26%	0.03	42.86%	59.82%	57.18%	0.03	47.78%
Partner-Years of Educ.	5.15	4.60	0.55***	5.99	7.22	5.75	1.47*	6.76	6.57	5.95	0.62***	6.80

Source: Survey in Marginalized Areas (2011) - Profamilia Social and United States Agency for International Development (USAID).

Statistically significant differences: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Respect the marital status of the surveyed women, there were not significant differences between groups, with some variations in the percentage of united women in the case of displaced and native. In the case of the displaced, the percentage of union went down between the first and second period, but then it rose again. In the case of native women there is volatility in the unions on the three years. Finally, when analyzing the partner's years of education, it is found that the differences are significant in the three periods and that, such as in the women case, men in displacement situation have less educational years when compared with the other migrants and the natives. However, it is worth mentioning that in each of the migrant groups, educational years in average are always higher in men than in the surveyed women; only among natives the educational levels between genders are more equal.

#### 4. The model

To accomplish the objectives pursued in this research, a probabilistic model is used. Following Silva & Guataquí (2006), there is a logit model which allows to estimate the probability for migrant woman of getting a job, and how much does the fact of being a forced displaced woman affect this goal; while additional variables (as education, age, marital status, etc.) are also used as in the fields' literature. With this in mind, the dependent variable is a binary outcome: if the woman is occupied or not. According to the above, it is possible to define  $y_i^*$  as the "expectation" for individual  $i$  to be occupied, which can be thought as a lineal function related to individual characteristics and also to other variables  $M_i$  and a not observed stochastic component  $\varepsilon_i$ :

$$y_i^* = \beta' M_i + \varepsilon_i \quad (1)$$

At first, pure  $y_i^*$  cannot be observed, but the fact of being part of the labor force (working or not working) is observable, so:

$$\begin{cases} y_i = 1 \rightarrow & \text{If individual } i \text{ is working} \\ y_i = 0 \rightarrow & \text{If individual } i \text{ is not working} \end{cases} \quad (2)$$

The above gives that the probability of being occupied is determined by:

$$\begin{aligned} P_o = \text{prob}(y_i = 1) &= \text{prob}(y_i^* > 0) = \text{prob}(\beta' M_i + \varepsilon_i > 0) & (3) \\ &\Rightarrow = \text{prob}(\varepsilon_i > -\beta' M_i) = 1 - F(-\beta' M_i) \end{aligned}$$

Where  $F$  is the cumulative distribution function for  $\varepsilon_i$ . To obtain the Logit Model, it is necessary to assume that  $F$  has a logistic form, which yields:

$$F(-\beta' M_i) = \frac{e^{-\beta' M_i}}{1 + e^{-\beta' M_i}} = \frac{1}{1 + e^{\beta' M_i}} \quad (4)$$

And the substitution of (4) in (3) gives the occupation probability:

$$P_o = \frac{e^{\beta' M_i}}{1 + e^{\beta' M_i}} \quad (5)$$

As already mentioned, the data needed to apply this logistic model is obtained from the surveys conducted by Profamilia in 2001, 2005 and 2011. The particular equation for this research is:

$$y_i^* = \alpha + \beta_{1i}A_i + \beta_{2i}A_i^2 + \beta_{3i}Ed_i + \beta_{4i}N_i + \beta_{5i} * MS_i + \beta_{6i}dM_i + \varepsilon_i \quad (6)$$

$$y_i^* = \alpha + \beta_{1i}A_i + \beta_{2i}A_i^2 + \beta_{3i}Ed_i + \beta_{4i}N_i + \beta_{5i} * MS_i + \beta_{7i}dN_i + \varepsilon_i \quad (7)$$

As used in labor literature, in this case the considered variables are: both *Age* ( $A_i$ ) and *Age-squared* ( $A_i^2$ ), which can be used to prove if there is decreasing marginal returns to age: as old as the person gets, the probability of being occupied would decrease. Additionally, an educational variable *Years of Education* ( $Ed_i$ ) is included in the model to control for the human capital idea that the more educated a person is, the easier would be for him/her to get a job.

In order to consider the gender implications on women probability of getting a job, another variable *Total live births* ( $N_i$ ) is considered in the model, in order to keep in mind the impact of big households and a higher dependency on woman probability to find a job. Related to this, *Marital status* ( $MS_i$ ) is also used to control its effect on the model.

Two different dummy variables related to *Type of Migrant* are considered; this in order to do a comparison between the three migrant groups analyzed in this study:

$$\begin{cases} dM_i = 1 & \rightarrow \text{If individual } i \text{ is forced displaced} \\ dM_i = 0 & \rightarrow \text{If individual } i \text{ is migrant} \end{cases} \quad (8)$$

$$\begin{cases} dN_i = 1 \rightarrow \text{If individual } i \text{ is forced displaced} \\ dN_i = 0 \rightarrow \text{If individual } i \text{ is native} \end{cases} \quad (9)$$

The first dummy (8) is constructed to assess the effect of being a forced displaced woman with respect to the other migration, which is not related to armed conflict but to socio-economic factors. The second dummy (9) express the effect of being a forced displaced, mainly due to the armed conflict that has affected Colombia, with respect to the native population in the destination community.

Given this, there are two models each year, depending on the migration nature: if it was exogenous or endogenous criteria. In each year the displaced women, which is the interest group in this research, would be compared with the other two migrant groups.

## 5. Empirical analysis results

In this chapter, the obtained results from the estimation of the predicted probability for women to access the labor market in Colombia are presented. To do this, the occupational status is regressed with the variables described in the previous section. After that, relevant statistics for assessing the model' goodness of fit are presented, as well as the percentage of correctly classified observations, in order to show how adequate its classification is.

**Table 4.** Logit model of women probability of accessing the labor market.

Variables	Estimated Coefficients (p-value)					
	2001		2005		2011	
	(1)	(2)	(1)	(2)	(1)	(2)
Age	<b>0.3354</b> (0.000)	<b>0.3963</b> (0.000)	<b>0.4150</b> (0.000)	<b>0.3892</b> (0.000)	<b>0.4782</b> (0.000)	<b>0.5098</b> (0.000)
Age-squared	<b>-0.0042</b> (0.000)	<b>-0.0051</b> (0.000)	<b>-0.0053</b> (0.000)	<b>-0.0051</b> (0.000)	<b>-0.0061</b> (0.000)	<b>-0.0067</b> (0.000)
Years of education	<b>0.0523</b> (0.008)	<b>0.0917</b> (0.000)	0.0218 (0.200)	0.0203 (0.319)	<b>0.0292</b> (0.062)	<b>0.0342</b> (0.043)
Total live births	-0.0226 (0.468)	-0.0474 (0.247)	<b>-0.0787</b> (0.010)	<b>-0.0705</b> (0.056)	<b>-0.0680</b> (0.022)	-0.0272 (0.409)
Marital status	<b>-1.0881</b> (0.000)	<b>-1.1323</b> (0.000)	<b>-1.0273</b> (0.000)	<b>-0.9991</b> (0.000)	<b>-1.1344</b> (0.000)	<b>-0.9397</b> (0.000)
Displaced vs Migrant	<b>-0.4742</b> (0.000)	---	0.0189 (0.859)	---	<b>-0.2059</b> (0.035)	---
Displaced vs Native	---	-0.1215 (0.485)	---	-0.1015 (0.478)	---	<b>-0.2966</b> (0.010)
Constant	<b>-6.0481</b> (0.000)	<b>-7.3937</b> (0.000)	<b>-7.0780</b> (0.000)	<b>-6.3975</b> (0.000)	<b>-8.1660</b> (0.000)	<b>-8.7497</b> (0.000)
LR chi2	223.09 (0.000)	141.01 (0.000)	291.83 (0.000)	190.50 (0.000)	452.85 (0.000)	405.69 (0.000)
Pseudo R2	0,1055	0,1127	0,1146	0,1002	0,1474	0,1563
Correctly classified	71,64%	76,68%	70,53%	71,09%	71,43%	72,12%
Area under ROC curve	71,67%	72,85%	72,13%	70,88%	74,98%	75,53%

According to the results reported in Table 4, the obtained age results coincide with the theoretical expectation given by labor economics, which states that age has a positive but also decreasing effect on women probability of having a job. This result is found to be significant in both models, for the 3 considered years. It is also possible to see that the women's human capital level also has a positive effect, as expected, on the probability of accessing the labor market; so women with higher educational level will have a higher probability of getting a job. Even more, the last result has a positive value in all years, but it is only significant for 2001 and 2011.

Now, related to the total live births case, the number of children has a negative impact in the women's probability of being employed, which is the result predicted by mentioned theory. This may be the case because of the childcare activities for the woman inside the households, which may reduce the available time for developing other type of activities, as being in the labor force. However, it is also important to highlight the fact that this is not the case for year 2001, neither it is for the second model of 2011. Regarding women marital status, it is possible to see that the expected theoretical results described by labor economics are fulfilled in this case, since it is clear how the united women have a lower statistically significant probability of accessing the labor market, maybe because they also acquire certain responsibilities and a specific role inside the household.

Besides, in what it has to do with the main interest results in this research: the influence of the migratory decision nature on the probability of accessing the labor market for the displaced women, there is a significantly negative effect of being a displaced woman with respect of being a migrant woman in 2001 and 2011. In 2005 the effect is positive, but it is not significant. In the same way, there is a negative effect of being displaced on the occupation probability with respect to the native population, which only yields significant conclusions for

the last period<sup>9</sup>. Both mentioned results may suggest that there is a negative selection of the migrant, which is a conceptual result suggested in the previously mentioned theoretical framework.

In what it has to do with goodness of fit of the resulting models, a Wald test, conducted for all three models, was found to be significant and with good pseudo R<sup>2</sup>; besides, the predictive level was always superior to 70.5% of correctly classified observations. The marginal effects for each model were also estimated. In Annex D there is a table with the marginal effects resulting from each model.

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<sup>9</sup> This result may be explained by the fact that the native women have a lower employment rate with respect to the other groups, mainly because they do not have the same responsibility as the migrant women and they have an economic support from their partners.

## **6. Conclusions**

This study presents an estimation of the probability for forced displaced women of accessing the labor market during 2001, 2005 and 2011 using household surveys for marginalized and displaced population provided by Profamilia. It was done with a logit model according to a theoretical criteria made by Borjas (1987). According to this author, the migration flows can be characterized in accordance with the nature of the migration decision: If it is exogenous or endogenous to the population. In the case of the forced displacement, people does not have a choice and do not have a planning period before migration. This fact has a clear impact on the later probability of accessing the labor market. In order to find this effect, there are two different criteria: the first one is to compare the forced displaced women with the rest of the migrant women and the second one consists on comparing the displaced population with the native population living in the marginalized areas.

This study has its main contribution on having a gender perspective in the analysis of the determinants of the labor market access. This focus jointly with the fact of using a household survey for marginalized and displaced communities, makes this research an alternative source for comparing the multiple results obtained by (Ibáñez & Moya, 2006) (Silva & Guataquí, 2006) when it comes to measuring the welfare impacts that forced displacement has in the Colombian households.

To achieve this, firstly there was a brief description of the forced migration concept and its context in Colombia; afterwards, there was a literature review on the topic for the Colombian case followed by the conceptual framework. Secondly, the required data and its source were explained jointly with a comparative analysis between migration categories. Thirdly, there was a description of the proposed methodology. Finally, the general results were showed and compared with the theoretical expectations.

The general results of the empirical model were in accordance to the theory because variables like age had a positive but decreasing role on the probability of being employed. Besides, the education level also had a positive influence on such probability. In what it has to do with live births, women faced a negative and significant effect in 3 out of 5 models; but in the case of the marital status, they had a negative and statistically significant effect on their occupational probability in the three considered years. However, the main result of these models were the differential effects of being displaced versus being migrant: this effect was significant and negative for 2001 and 2011, which may suggest a negative selection of the forced migrant, as suggested in one of the theoretical possibilities. In the case of the second dummy, the comparison was between forced displaced and native women. The result was negative but only significant in the last year, indicating a lower probability for migrants than for natives. This fact may be due to the low female employment rate in the native group, as showed in the mean comparison on the descriptive statistics section.

Finally, as a discussion and future recommendation, it is important to highlight that Colombia has an important lack of data when it comes to studying and following the conditions of the displaced population. This could represent a problem at the time of targeting public policy or measuring the situation of this armed conflict victims, especially when it is a high-dimension problem. This is why it is suggested to build a common database with anonymous (but with proper codification) data about this kind of population, because here it is considered as a fundamental step when it comes to public policy formulations. With better data, there are better diagnoses, and with better diagnoses there is better policy targeting and better policy formulations and results.

Likewise, referring to public policy formulations and the gender based perspective, it is important to consider the possible women-targeted policy recommendations that could be made for Colombia, mainly because the forced

displacement women are the actual base of the vulnerable or displaced households in the country. Having this into account, it is important to highlight that, in order to grant higher policy efficiency, impact and sustainability, a higher percentage of the official and non-official budget allocated to the displaced population should be focused on women-led programs. So, for example, having specific education programs (ensuring better access to the labor market in both the origin or destination communities), sexual and reproductive health schemes (for reducing the dependency ratio and the subsequent poverty implications that this may cause) and ensuring a decent and stable work for women (which has a direct impact on welfare and reducing poverty) would be, as showed in the empirical results, a good and more efficient start of the improvement of the Colombian household's socioeconomic conditions.

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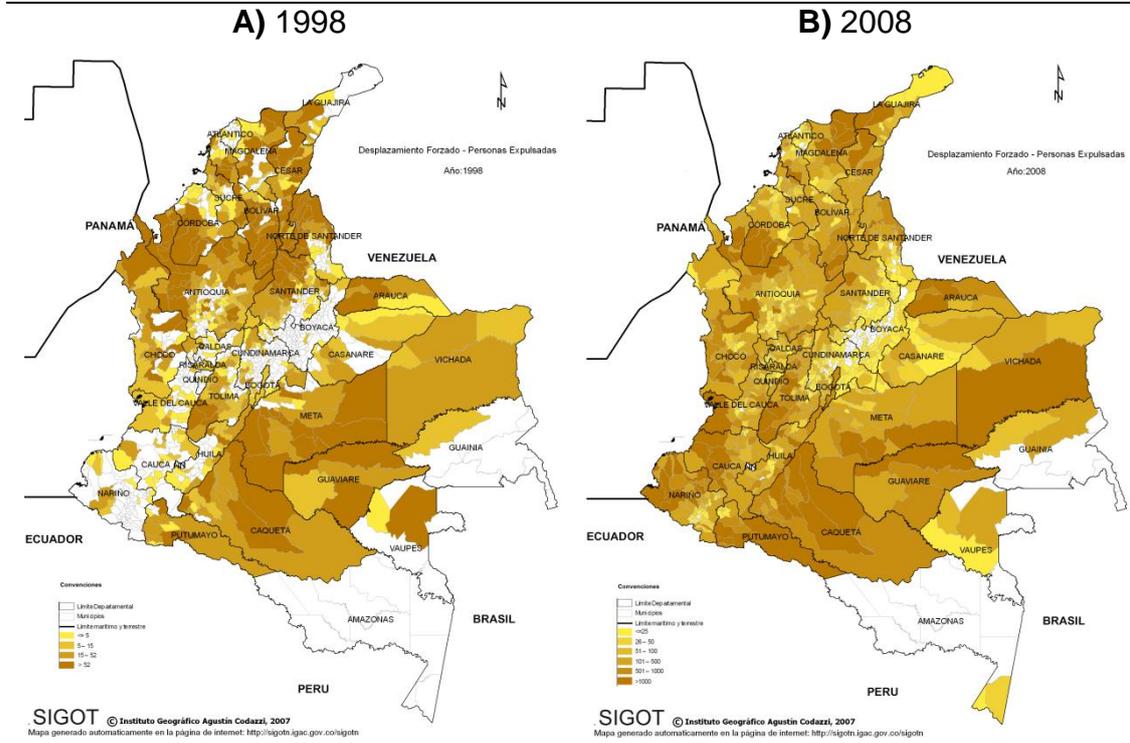
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## Appendix

### Annex A. Forced Displacement by expulsion Municipality.



Source: Medina (2011).

## Annex B. Descriptive Statistics - Factors influencing the occupational status

### 2001

Description	Obs	Mean	Std. Dev.	Min	Max	Expected Sign
Working	2072	0,292	0,455	0	1	DepVble
Age	2072	27,632	9,681	13	49	+
Age-squared	2072	857,208	567,941	169	2401	-
Displaced vs Migrant	1721	0,451	0,498	0	1	-
Displaced vs Native	1128	0,689	0,463	0	1	-
Years of education	2072	4,828	3,071	0	17	+
Total live births	2072	2,707	2,497	0	14	+ / -
Marital status	2072	0,603	0,489	0	1	+ / -

### 2005

Description	Obs	Mean	Std. Dev.	Min	Max	Expected Sign
Working	2377	0,339	0,473	0	1	DepVble
Age	2377	27,882	10,286	13	49	+
Age-squared	2377	883,180	612,585	169	2401	-
Displaced vs Migrant	1978	0,553	0,497	0	1	-
Displaced vs Native	1492	0,733	0,443	0	1	-
Years of education	2376	5,623	3,214	0	16	+
Total live births	2377	2,483	2,322	0	14	+ / -
Marital status	2377	0,544	0,498	0	1	+ / -

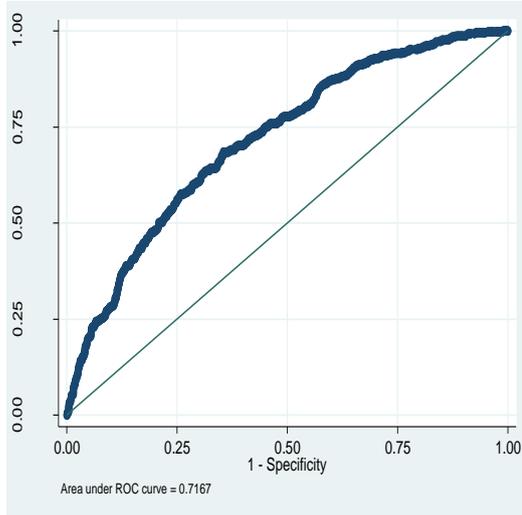
### 2011

Description	Obs	Mean	Std. Dev.	Min	Max	Expected Sign
Age	3222	27,93	10,41	13	49	+
Age-squared	3222	888,63	625,37	169	2401	-
Displaced vs Migrant	2387	0,52	0,50	0	1	-
Displaced vs Native	2082	0,60	0,49	0	1	-
Years of education	3221	6,42	3,26	0	11	+
Total live births	3222	2,18	2,15	0	20	+ / -
Marital status	3222	0,56	0,50	0	1	+ / -

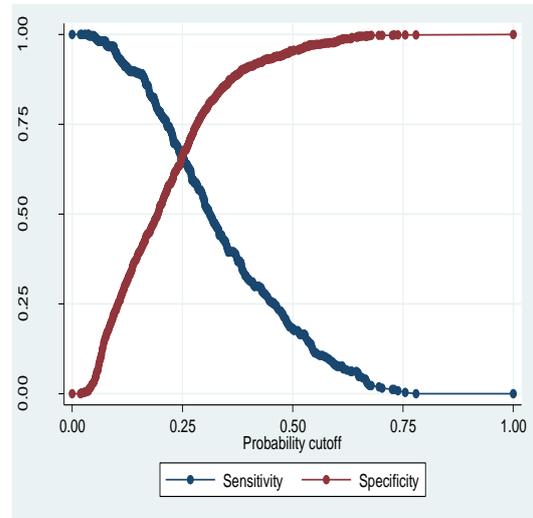
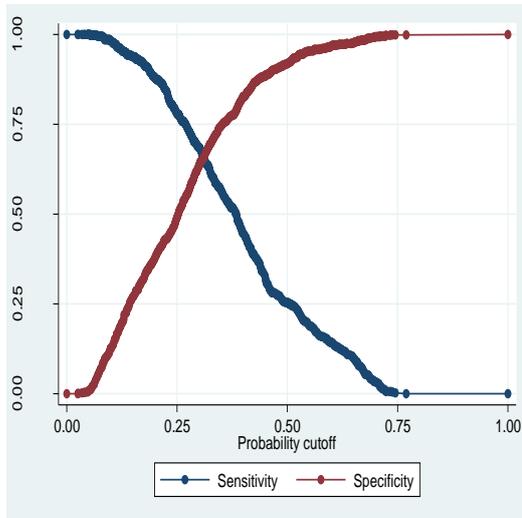
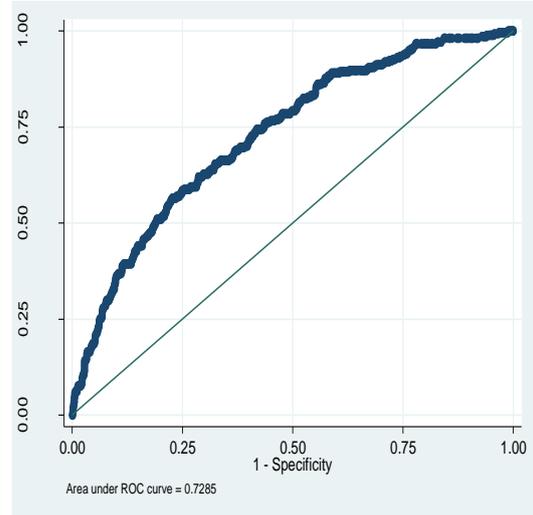
## Annex C. Goodness of fit measures

2001

Model 1

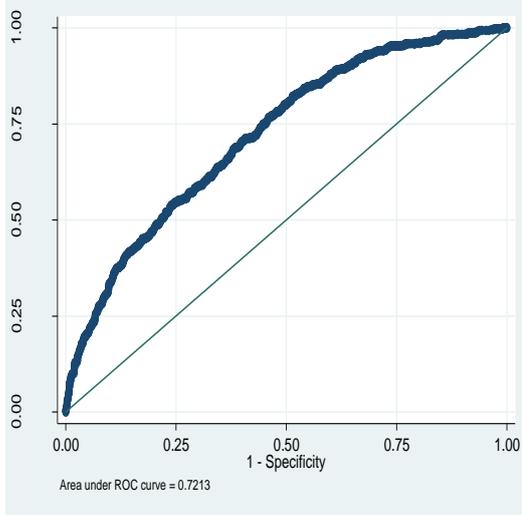


Model 2

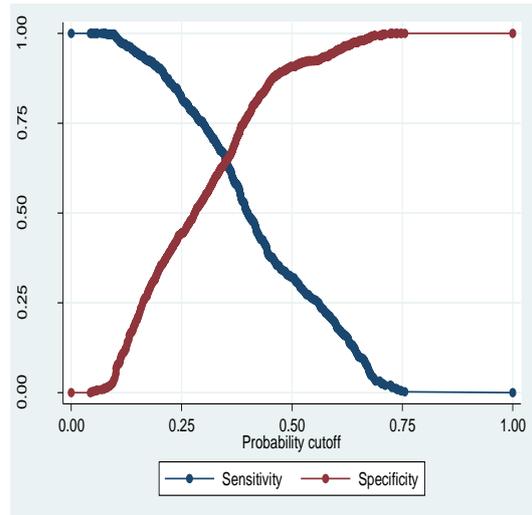
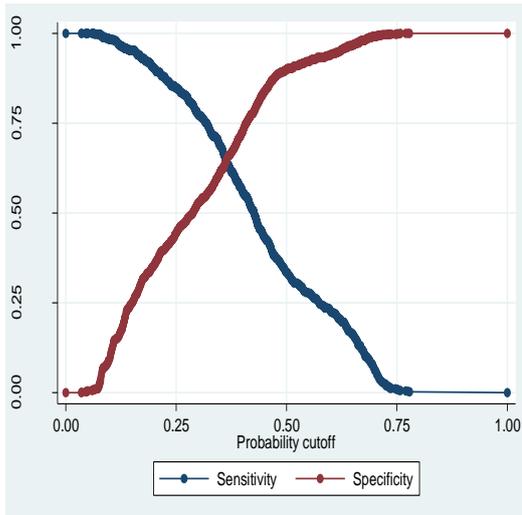
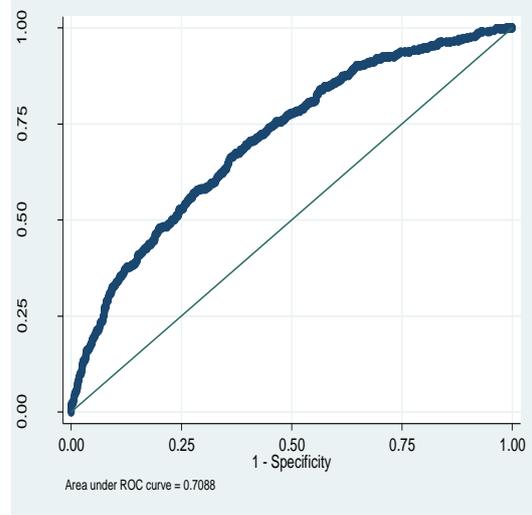


2005

Model 1

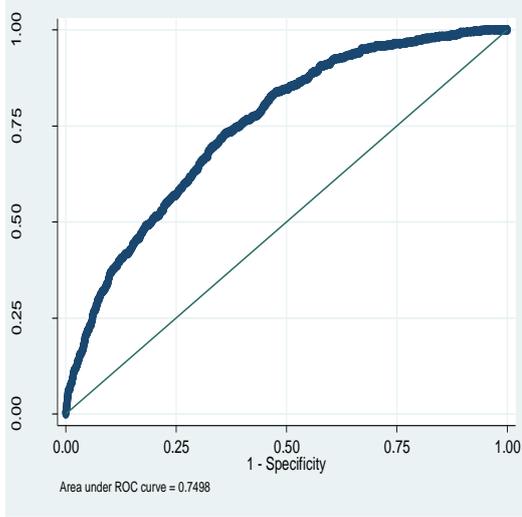


Model 2

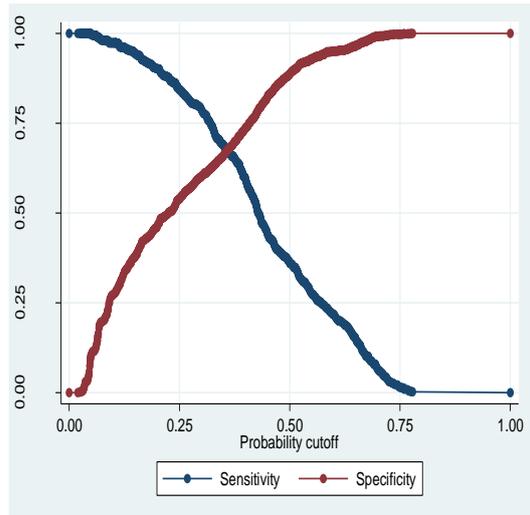
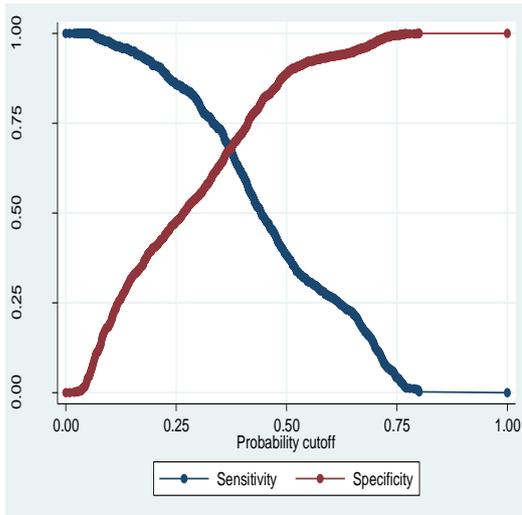
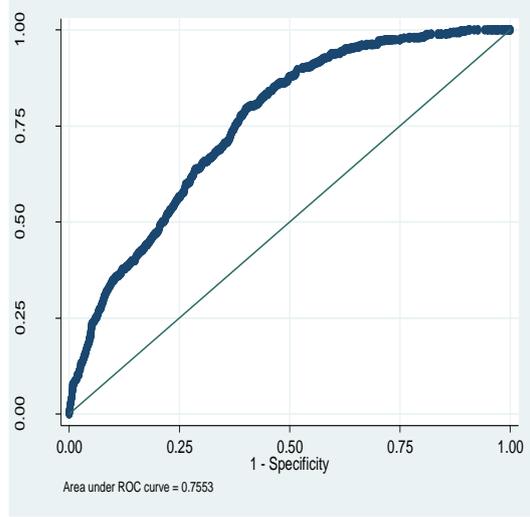


2011

Model 1



Model 2



## Annex D. Marginal Effects

### 1) Model 1

Marginal effects after  
logit 2001 (1)  
 $y = \text{Pr}(\text{trab})$  (predict)  
 = .27591799

Variable	dy/dx	Std. Err.	z	P>z	[ 95%	C.I. ]	X
Age	0,0670	0,0084	7,95	0	0,0505	0,0835	28,2865
Age_squared	-0,0008	0,0001	-6,26	0	-0,0011	-0,0006	891,3580
desplvs.Migr	-0,0936	0,0229	-4,09	0	-0,1384	-0,0487	0,4515
Years Educ	0,0104	0,0039	2,68	0,007	0,0028	0,0181	4,5851
Live births	-0,0045	0,0062	-0,73	0,468	-0,0167	0,0077	2,8873
Marital Status	-0,2257	0,0274	-8,25	0	-0,2793	-0,1720	0,6089

(\*) dy/dx is for discrete change of dummy variable from 0 to 1

Marginal effects after  
logit 2005 (1)  
 $y = \text{Pr}(\text{trab})$  (predict)  
 = .31673784

Variable	dy/dx	Std. Err.	z	P>z	[ 95%	C.I. ]	X
Age	0,0898	0,0080	11,22	0	0,0741	0,1055	28,6941
Age_squared	-0,0012	0,0001	-9,32	0	-0,0014	-0,0009	927,4220
desplvs.Migr	0,0041	0,0231	0,18	0,859	-0,0412	0,0494	0,5526
Years Educ	0,0047	0,0037	1,28	0,2	-0,0025	0,0119	5,4176
Live births	-0,0170	0,0066	-2,57	0,01	-0,0300	-0,0040	2,6931
Marital Status	-0,2246	0,0253	-8,89	0	-0,2741	-0,1750	0,5677

(\*) dy/dx is for discrete change of dummy variable from 0 to 1

. mfx compute 2011 (1)  
 Marginal effects after  
logit  
 $y = \text{Pr}(\text{trab})$  (predict)  
 = .30487297

Variable	dy/dx	Std. Err.	z	P>z	[ 95%	C.I. ]	X
Age	0,1014	0,0076	13,26	0	0,0864	0,1163	29,0930
Age_squared	-0,0013	0,0001	-11,07	0	-0,0015	-0,0011	952,3700
desplvs.Migr	-0,0437	0,0208	-2,11	0,035	-0,0844	-0,0030	0,5224
Years Educ	0,0062	0,0033	1,87	0,062	-0,0003	0,0127	6,1885
Live births	-0,0144	0,0063	-2,3	0,021	-0,0267	-0,0021	2,4223
Marital Status	-0,2449	0,0232	-10,55	0	-0,2904	-0,1994	0,5844

(\*) dy/dx is for discrete change of dummy variable from 0 to 1

## 2) Model 2

Marginal effects after  
logit 2001 (2)

$$y = \text{Pr}(\text{trab}) (\text{predict}) \\ = .20945247$$

Variable	dy/dx	Std. Err.	z	P>z	[ 95% C.I. ]	X
Age	0,0656	0,0092	7,13	0	0,0476 0,0836	27,1667
Age_squared	-0,0008	0,0002	-5,72	0	-0,0011 -0,0006	834,6510
desplvs.native	-0,0204	0,0296	-0,69	0,491	-0,0784 0,0376	0,6888
Years Educ	0,0152	0,0042	3,61	0	0,0069 0,0234	4,5860
Live births	-0,0078	0,0068	-1,16	0,247	-0,0211 0,0054	2,8573
Marital Status	-0,1998	0,0324	-6,17	0	-0,2633 -0,1364	0,6064

(\*) dy/dx is for discrete change of dummy variable from 0 to 1

Marginal effects after  
logit 2005 (2)

$$y = \text{Pr}(\text{trab}) (\text{predict}) \\ 0,31169662$$

Variable	dy/dx	Std. Err.	z	P>z	[ 95% C.I. ]	X
Age	0,0835	0,0088	9,45	0	0,0662 0,1008	27,4547
Age_squared	-0,0011	0,0001	-7,91	0	-0,0014 -0,0008	860,5430
desplvs.native	-0,0220	0,0312	-0,7	0,482	-0,0832 0,0393	0,7331
Years Educ	0,0044	0,0044	1	0,319	-0,0042 0,0129	5,3514
Live births	-0,0151	0,0079	-1,91	0,056	-0,0306 0,0004	2,5942
Marital Status	-0,2133	0,0281	-7,59	0	-0,2683 -0,1582	0,5198

(\*) dy/dx is for discrete change of dummy variable from 0 to 1

Marginal effects after  
logit 2011 (2)

$$y = \text{Pr}(\text{trab}) (\text{predict}) \\ = .26856178$$

Variable	dy/dx	Std. Err.	z	P>z	[ 95% C.I. ]	X
Age	0,1001	0,0076	13,27	0	0,0854 0,1149	27,5678
Age_squared	-0,0013	0,0001	-11,2	0	-0,0015 -0,0011	867,7780
desplvs.native	-0,0590	0,0230	-2,57	0,01	-0,1041 -0,0139	0,5995
Years Educ	0,0067	0,0033	2,02	0,043	0,0002 0,0132	6,3240
Live births	-0,0053	0,0065	-0,82	0,409	-0,0181 0,0074	2,2510
Marital Status	-0,1859	0,0237	-7,83	0	-0,2324 -0,1394	0,5337

(\*) dy/dx is for discrete change of dummy variable from 0 to 1