

THE EMPLOYABILITY OF MEXICAN UNIVERSITY STUDENTS: AN ANALYSIS BY GENDER AND TRAINING AREAS

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Abstract

This article describes the human capital determinant of the employability of Mexican university graduates, in order to identify the differences in employment by gender and training area. Data from the National Survey of Occupation and Employment in 2010 and from 12 groups ranked in the careers coding catalogue of the National Institute of Statistics and Geography are used. *Logit* model is applied to show the probability of being occupied based on certain characteristics of the individuals being studied. The distribution of employment by gender in each professional area is determined by the Dissimilarity Index Duncan.

Keywords: employability, university graduate, gender, area of training, heads of the family

JEL Codes: J24

1. Introduction

The constant and progressive changes in the labour market require greater professional specialization. These changes modify the conditions for employability, understood as the set of knowledge, skills, experiences, attitudes and values belonging to individuals, which they offer businesses and labour market institutions.

This new scenario of rapid technological change and innovation creates situations of social inequality, which are more acute in the young, the unemployed, women and persons with handicaps. This is a great challenge for educational institutions because they must implement new educational programs that are at the forefront of changes in the labour market to protect social differences and boost the economy.

This article presents the results of the analysis, according to gender and area of training, of human capital participating in the Mexican labour market. The results are a continuation of the research project entitled "Workplace Integration, training needs assessment and training". This research project is a continuation of the work by Contreras *et al.* (2010: 1255), which concluded that regardless of gender, work experience and being the head of the family positively influences the probability of having a job. They also showed that the level of education and, especially, some areas of university education, promote the entry of women into the labour market.

These results suggest three main aspects concerning the labour market to be taken into account in this study: 1) training and specialization, 2) the experience of the worker and 3) the social and personal factors (age, sex, marital status and position within the household). This approach agrees with the ideas of Mincer and Polachek (1974).

According to these authors, the investment in human capital, both in education and training is a key factor for the individuals to obtain additional earnings. Moreover, investment in human capital leads to greater economic benefits, which can be identified by the average internal rates of return of education, and this is turned into information that is important for economic analysis.

This can be expressed as follows:

$$[1] \quad y = y(s, t)$$

Where s is the years of schooling and t is work experience.

The variables proposed by Mincer and Polachek (1974) are expanded in this study to determine income (years of study and experience) when including the social factors. It is to be expected that participation in the labour market is similar in both groups (men and women). This participation allows the contextualization of employment opportunities and income levels for men and women with similar characteristics.

This study is not intended to perform a social or behavioural analysis of men and women as heads of households. In this regard, there are useful studies concerning the case of Mexico, in which stereotypes of households are analyzed. The studies of Chant (1988 and 1999) show that households headed by women are usually smaller and disposable income is higher because women bring home everything they earn and invest in goods and services that benefit all the family members, unlike the male-headed households, where the man tends to keep around 50% of income. González de la Rocha (1999), however, found that households headed by women have lower disposable incomes as women have lower incomes in the labour market. Unlike the results obtained by Chant, the children have, on average, less schooling compared to all households, because children enter the labour market as an alternative means to obtain more income.

In summary, the model underlying this study is essentially the theory of human capital and new theories that refer to employability.

The analysis was applied to data from the National Survey of Occupation and Employment 2010 (ENOE in Spanish) and the training areas considered are the 12 general groups in classification of the careers coding catalogue. This information is prepared by the National Institute of Statistics and Geography (INEGI in Spanish) of Mexico. The analysis was performed with the logit model to determine, by training area, the probability of being employed and the Duncan Index was used to detect gender differences in participation in the labour market by professional area.

The paper is structured as follows; the theoretical framework is developed in the second section and the objectives, assumptions and methodology are described in the third section. The fourth section contains the results of the applied statistical analysis. The conclusions are summarized at the end.

2. Theoretical Framework

As a starting point it is important to define the concepts involved in this research, such as human capital, employability and segregation.

The human capital theory (Becker, 1993; Mincer, 1958; Schultz, 1961; Wößmann, 2003) considers that education is an investment that has a positive effect on income, employment, economic growth and social equity. Education is an effective way to reduce the differences between individuals in gaining access to a particular type of employment

and in receiving certain income levels. It believes that people with more education are more productive and enables them to have better jobs with higher incomes. That is why those who aim to join the labour market, even having the same academic level and profile, have different qualifications, which depend not only on formal education and their innate abilities, but also on other qualities that have helped to strengthen their capacities and skills thereby increasing their qualities as human capital. This situation is accentuated in today's knowledge economy (De la Fuente and Ciccone, 2003; OCDE, 1996).

Another school of thought, the institutionalist school, builds its approach from the point of view of demand for labour. It is based on two premises: 1) to the extent that jobs are the scarce, competition exists mainly for those posts and not over pay because the job itself imposes working conditions and defines features of the worker who performs those jobs (Thurow, 1983) the labour market is segmented and is not homogeneous, there are differences based on gender, geographical location, cultural identity, legal requirements, etc., which is why there are administrative units of recruitment and promotion within which the allocation of labour and remuneration (Doeringer and Piore, 1971) is determined.

The hypothesis of duality or segmentation of the labour market and, in particular, the analysis developed by Doeringer and Piore (1975), defends the existence of a market divided into two sectors. The primary sector are composed of better-paid and stable jobs with better working conditions and opportunities for promotion, usually offered by companies with large market shares and high yields with strong unions. The secondary sector includes lower paid jobs occupied by discriminated groups in the labour market; they are unstable jobs with few opportunities for promotion and high turnover, not only because of the insecurity of the job, but also because the worker feels there are few reasons to stay in the job. If we examine the primary sector, one could also define two subsectors, the lower and upper parts, which are a function of autonomy in employment relations, which is very limited in the lower segment (Cain, 1976; Leontaridi, 1998; Reich *et al.*, 1973).

From the point of view of the theories related to human capital, the analysis of the participation of women in the labour market highlights the discrimination suffered by this group which is still true, even in the most advanced economies (Boeri *et al.*, 2005; Polachek, 1975 and 1981) and in developing countries (Fields, 2011). Wage differences are reflected in the decisions women make, affecting not only the choice of studies but also other employment decisions. In the latter case, the woman makes the decision to participate or not in the labour force in terms of her life cycle, in order to combine work and family. A woman also decides to join the workforce on a part time or full time basis, which in the former case means there is a depreciation of her human capital (Sepúlveda Mato and Algarra Paredes, 2012). This group mainly finds jobs in the secondary sector or the lower part of the primary sector.

From the perspective of theories of comparable work, women suffer systematic discrimination in a sexist market that devalues activities as being "typically female" or the fact they are performed by women. This segregation is based on stereotypes. When hiring is based on personal abilities, the participation of women increases. This feeds back into the process because once the woman works in a particular activity and demonstrates her qualities, the existence of stereotypes softens or even disappears (Bertrand *et al.*, 2005; European Commission, 2009).

A focus of employability with different formulations has recently been developed from the perspective of the supply of labour (Forrier and Sels, 2003; McQuaid and Lindsay, 2005). In a narrow sense, this focus refers to the employability skills of a person to work. Nowadays, employability does not only depend on personal characteristics but also on the context. In a broader sense, employability is the active initiative of a person to adapt to market needs, to identify opportunities along with the creation of those opportunities by the labour market itself and the mechanisms and institutions that facilitate interaction between workers with employers (Andrews and Higson, 2008; Brown *et al.*, 2003; Forrier and Sels, 2003; Fugate *et al.*, 2004; Harvey, 2000; McQuaid and Lindsay, 2005).

Using this approach, Fugate *et al.* (2004) identify three dimensions of employability: degree course, personal adaptability and the human and social capital available. Andrew and Higson (2008) make a distinction between softs skills (interpersonal skills) and hard – business knowledge and skills (related to human capital, the knowledge acquired in education and experience gained in learning programs based on experience). Finally, in the opinion of McQuaid and Lindsay (2005), employability depends on supply, demand and interaction factors and they emphasize education along with other personal characteristics (initiative, motivation) among the individual supply factors. However, employability also depends on demand factors (types of jobs created, technology, employer preferences), along with personal circumstances (direct responsibilities, culture, access to resources). Therefore, it can be said that:

$$[2] \quad Pe = F(i, e, p, c)$$

The probability of getting a job (Pe) = function (individual factors (i): level of education, type of study; external factors (e): demand factors, modes of recruitment, support policies; personal circumstances (c): responsibilities, culture, access to resources).

The decision that people choose to invest in their education will depend on their expectations and the benefits they produce for them, as opposed those who prefer to join the labour market without questioning the benefits and opportunities they could capitalize on.

As regards occupational segregation, there is a large amount of literature which describes occupational segregation in its various dimensions: occupational, by sector, horizontal, hierarchical (European Commission, 2009) and especially gender segregation (Anker, 1998; Boeri *et al.*, 2005; Rubery and Fagan, 1993), all of which limit the employability of women.

Occupational segregation by gender has been explained from both the perspective of the supply of and the demand for labour. The supply side perspective of supply offers two approaches to sex discrimination: 1) women invest less in human capital than men (Mincer and Polachek, 1974; Polachek, 1975), although, as England (1982) points out, the human capital theory does not explain all gender segregation cases, and 2) women have preferences for certain working conditions (flexibility) (Bender, 2005). It is believed that people try to maximize a utility function, which includes wages and other working conditions. The literature on entrepreneurship as a lifestyle emphasizes this aspect in other factors, besides the monetary ones, in preferences of individuals.

Gender segregation by sex against women workers may also occur, either because men prefer segregation (Becker, 1971) or because the information on the employment

characteristics of women is imperfect (Bergman, 2005) or because of the existence of entry barriers and discriminatory organizational practices (Grimshaw and Rubery, 2007).

3. Related Literature

The topics of insertion or integration into the labour market, training and its evaluation have been analyzed in many empirical studies from various approaches (social, psychological and economic).

Planas (2011: 1056) performed an analysis of the historical evolution of education and described three periods. The first corresponds to the first half of the twentieth century, in which experience and knowledge are acquired at work. The second, starting in the sixties, arises from the expansion of education, this stage is characterized by formal education having a very important role in terms of recognition. Finally, third, began in the late twentieth and early twenty-first century, with the increase and diversification of the opportunities and mechanisms to acquire job skills, including virtual competences, meaning that life-long training is more complex. Planas (2011) finds that the main protagonists of educational expansion have been women, because they have attained higher educational levels than men and their participation in the labour force is growing quickly, even in the highly skilled segments (Iglesias Fernández *et al.*, 2012; McQuaid and Lindsay, 2005; Petrongolo, 2004; Polachek, 1975; Rubery and Fagan, 1993). However Cañada Vicinay (2012) argues that, in the case of Spain, inequality still persists, especially for married women. This study notes that family - work conciliation occurs in all age groups and educational levels, since 80% of inactive Spanish women say they do not participate in the labour market for family reasons.

The studies of Iglesias Fernández *et al.* (2012) in Spain show that sectorial - occupational differences are attenuated when the woman has higher education, participates in training and works in a relatively large sized company. Being an immigrant, working at home, having dependent persons at home and having a temporary contract are linked to female segregation. This indicates that segregation is a result not so much of human capital as of the social situation in which it is found (personal characteristics, business organization and structure).

In the case of Latin America, studies on the inclusion of women in the labour market in the last quarter of the twentieth century have shown the predominance of women in occupations with low pay, qualifications and promotion, in activities related to commerce, personal services, with not very dynamic branches of the industry and not very important administrative tasks. Women predominate in the informal economy, with discontinuity of their participation in the labour market and low union presence (Candia, 1993). These characteristics of the jobs held by women in Latin America confirm the fact that this group can be placed in the secondary sector of the dual market.

In Mexico, Contreras Cueva *et al.* (2010: 71) conclude that, in general, the increase in educational level is more beneficial for women than for men. After estimating rates of return to education by gender it turned out that, in the case of Mexican women, the rate of return was 10.2%, while that for men was 8.4%. Therefore it is beneficial to promote women's access to higher education because is possible to reduce the differences in the labour market, especially in areas of study in expansion within the labour market.

Segundo Ramírez (2009) performed an analysis evaluating the effects of educational and institutional policy on the insertion of the graduates from the Autonomous University

of Ciudad Juarez (UACJ in Spanish), which studied the time required to find a job and income using the tracking of UACJ graduates as information. The analysis is based on the neoclassical theory of the labour market and uses the logistic model in two situations: firstly, to detect whether there is a high concentration of graduates in a few areas of knowledge and, if so, to assess whether this affects the employability of graduates, and secondly to estimate the relationship between the sex of the graduates and their insertion in the jobs market. Among its key findings, the author concludes that there are no differences in how UACJ graduates are inserted in the labour market, however, a wage gap does exist.

In more recent studies, such as Cepeda Emiliani and Baron (2012) which focus on the wage gap by gender in individuals with university studies in Colombia, observe that there is still a wage gap in favour of men which is explained, in a relatively large number of cases, by the study area chosen. The woman is under-represented in highly remunerated areas (Engineering, Architecture, Town Planning) and over-represented in areas with lower average wages (Education Sciences). Moreover, even when women are over-represented in highly remunerated areas (Economics, Management, Accounting and related areas), they only earn 87% of the average male salary. In general, in all areas except Fine Arts, the average compensation varies between 87% and 94% of that of men.

These results are similar to those obtained by McDonald and Thornton (2007). These authors use the annual surveys of the National Association of Universities and Employers in the United States to analyze the first salaries earned by university graduates. They conclude that the study area accounts for 95% of the gender gap in this variable. In the same vein, the Chevalier (2007) work reports that the study area accounts for 25% of the gender wage gap among recent university graduates in the UK, even controlling for personal and job characteristics, occupation and the job expectations. More recent studies such as Legewie and DiPrete (2014) follow similar results despite the significant investment to reduce the gender gap.

These differences are invisible barriers to the professional advancement of women, although there are no visible working standards or codes for it to happen like this (Guil, 2008). Therefore it is important to analyze the study areas chosen by women to plan lines of public action to help reduce disparities and barriers to its incorporation into the labour market.

4. Objectives, hypothesis and methodology

This study primarily examines the role that human capital has as determinant of employability in the Mexican labour market. The objectives are the following: 1) to estimate the probability that an individual is employed as a function of the number of years in education, the area of training, experience acquired in the labour market, gender and marital status, 2) to check for differences employability of individuals, based on gender and the branch or area of training.

The following hypotheses are considered:

Hypothesis 1. Investments in education is the main determinant of employability; this could be called the human capital hypothesis.

Hypothesis 2. Certain areas of training enhance women's employability (Education, Health Science) as opposed to the traditional male areas (Engineering, Architecture).

Hypothesis 3. Work experience is of great importance in employability: the more work experience, the greater the employability.

Hypothesis 4. In equal human capital conditions (education level and work experience), gender influences the employability of the individual and women are at a disadvantage.

Hypothesis 5. Other social factors are also determinants of employability such as being head of the family.

Data from ENOE 2010, obtained from INEGI, are analyzed for the purposes of this study. This survey was applied to households and contains information on 400,977 people aged 14 and older, representing 93.1 million people after applying the expansion factor. This expansion factor represents people with the same characteristics, this variable is called the FAC variable in the ENOE, and when this variable is applied to each indicator the result reflects the representativeness of the sample.

The economically active population (EAP) was used for the analysis of the employability of university graduates. The EAP is composed of persons who performed an economic activity (employed population) or actively sought employment at some time in the month prior to the day of the interview (unemployed population) during the reference period. The employed people in the EAP account for 57% of the total. The analysis was performed with data from 44,919 individuals in the ENOE with university studies accounting for 15.5% of the total EAP and 46% of these are women.

The professions are listed in the ENOE with the variable cs_p14_c (code name of the degree course). This entry has 4 digits, the first two refer to the group of the 12 areas of training and the other two specify the name of the profession related to the group. The areas of training, according to Career Coding Catalogue INEG, are:

- | | |
|--------------------------------------|--|
| 1. Architecture | 7. Social Sciences |
| 2. Biology | 8. Fine Arts |
| 3. Agricultural and Fishing Sciences | 9. Economics and Administrative Sciences |
| 4. Health Sciences | 10. Education |
| 5. Humanities | 11. Engineering |
| 6. Chemical Sciences | 12. Pure Sciences |

The variables and values described were taken into account when performing the characterization of the population under study and applying the logit model:

Y- 1 Employed, 0 Unemployed.

Exper- Potential experience as determined by age - years of schooling - 6 (Average employed: 14.54 unemployed: 8.73).

Years_study- Number of years that a person required to complete the university levels (eg at least 16 years of study toward a bachelor's degree). 16 years minimum.

Gender- 1 male, 0 female.

Marital_status- 1 married, 0 single.

Area_training- The training area is not a dichotomous variable, it has $k = 12$ categories, which are defined in the model $k - 1 = 11$ dichotomous variables, each of which represents a category of the original variable. For example, the biology variable

takes the value 1 if the respondent belongs to that area of training and 0 if not, the same happens with the rest of the areas of training, except architecture, which is the reference variable, that is, if the 11 dichotomous variables take value 0, the data corresponds to a respondent from the architecture training area.

It is important to mention that the possible values that can take qualitative variables, they have no numerical meaning, they only indicate the presence or absence of the analyzed attribute, which in this case is being employed or not. For this reason, the value taken by the variable is just an identifier.

All estimates and statistical tests in this paper were performed using IBM SPSS Statistics 20.0.

The description of the variables used in the *logit* model can be found in Annex.

Specification of models:

i) *logit* model. The purpose of using the *logit* model is to estimate the probability of being employed from the explanatory variables mentioned above.

Discrete choice models, such as the *logit* model, explain the responses of individuals by analyzing their decision process. They are useful in situations in which the dependent variable is categorical, with dichotomous or fictitious cases being very common. The *logit* model is similar to the *probit* model: *logit* model uses a logistic type cumulative distribution function and *probit* model uses a normal distribution function.

Logit model coefficients do not coincide with the derivative of the function with respect to the corresponding variable, i.e., the interpretation of these coefficients is not similar to that of the linear regression model. However, it can be used to interpret the ratios of parameters associated with each of the independent variables that define the model.

Besides which, the independent or explanatory variables of the individual response or choice may be quantitative or qualitative. When the variables are qualitative, in order to introduce them in the model they need to be represented with a certain number of fictitious or design variables, namely, the said number is equal to the number of categories minus one. In this research, the dependent variable Y is a dichotomous variable indicating whether an individual is employed or not, in the following way:

$$[3] \quad Y = \begin{cases} (0)unemployed \\ (1)employed \end{cases}$$

Quantitative variables (years of schooling, experience) and qualitative variables (sex, marital status and 12 training areas) are used as explanatory variables.

In summary, the *logit* model allows the adjustment and calculation of the probability (p) of the individual, depending on the set of explanatory variables, belonging to one of the two groups specified in the dependent variable Y. These probabilities are given by:

$$[4] \quad p = \frac{e^y}{1 + e^y} \quad p = \frac{1}{1 + e^{-y}}$$

Y is the linear combination of [5]

$$Y = \beta_0 + \beta_1 \text{Exper} + \beta_2 \text{Years_study} + \beta_3 \text{Gender} + \beta_4 \text{Marital_status} + \beta_5 \text{Architecture} + \beta_6 \text{Bio log y} \\ + \beta_7 \text{Agriculturalandfishing} + \beta_8 \text{Health} + \beta_9 \text{Humanities} + \beta_{10} \text{Chemicalsciences} + \beta_{11} \text{Socialsciences} \\ + \beta_{12} \text{Finearts} + \beta_{13} \text{EcoAdmvas} + \beta_{14} \text{Education} + \beta_{15} \text{Engineering} + \beta_{16} \text{Puresciences}$$

ii) Dissimilarity Index (DI) Duncan (Duncan and Duncan, 1955). This index is used to evaluate differences in the proportional participation by gender in labour market for professional area. In this work the proportions of two groups (men and women) is compared. The minimum is reached with full integration (0) and the maximum is reached when all occupations are masculine (100) or all occupations are feminine (-100). Keep in mind that this index is very sensitive to the level of aggregation of occupations: the higher the aggregation of occupations, less segregation that is captured with the index.

$$[6] \quad DI = (1/2) \sum_{i=1}^N [h_i - m_i] * 100 \quad -100 \leq DI \leq 100$$

$$m_i = M_i / M$$

M_i = number of women employed, M = total number of women in the EAP

$$h_i = H_i / H$$

H_i = number of men employed, H = total number of men in the EAP

5. Results

Logit model coefficients do not have a direct interpretation, but its signs and size do. The results shown in Table 1 show that, with respect to the years of study, the older the individuals are the more likely they are to be employed. As regards gender, men are more likely to be employed. Married people are more likely to be employed than single people. Finally, the training areas with higher probabilities of employment with respect to the reference variable (Architecture) are: Health Sciences Education (both significant at 5%), and Pure Sciences (significant at 10%).

Logit model also provides odds ratios and they are shown in Table 1 as Exp (B). This ratio compares two opposing probability quotients, for example, In the case of the Education and Health Sciences, the possibilities of being employed are 1,734 and 1,621 greater, respectively, than if they are from the reference category which, in this case, is Architecture; o, with respect to the individual's gender, being male has an advantage of being employed of 1,283 times, compared to women.

Table 2 shows the values of two statistics that quantify the goodness of fit through the value between 0 and 1. The first statistic, the Cox and Snell R squared is based on comparing the plausibility of the model with the initial model that only includes the constant, the result is 0.601. The second statistic, the Nagelkerke R squared (0.870), includes all the variables, and in this case indicates that the logit model explains the behaviour of the dependent variable Y (1 employed; 0 unemployed) as 87%. As for Table 3, this shows that the percentage of correctly classified cases is 97% and, therefore, the prediction is high.

Table 1. Logit model results to estimate the probability of being employed

	B	E.T.	Wald	gl	Sig.	Exp (B)
Exper	.014	.003	26.109	1	.000	1.014
Years_study	.526	.008	4817.695	1	.000	1.692
Gender(1)	.249	.058	18.526	1	.000	1.283
Marital_status(1)	-.547	.066	68.172	1	.000	.579
Area_Training			49.196	11	.000	
Biology	-.314	.262	1.431	1	.232	.731
Agricultural and Fishing Sciences	.172	.214	.652	1	.420	1.188
Health Sciences	.483	.168	8.252	1	.004	1.621
Humanities	-.177	.160	1.233	1	.267	.837
Chemical Sciences	.111	.200	.309	1	.579	1.117
Social Sciences	-.029	.137	.045	1	.831	.971
Fine Arts	.124	.367	.115	1	.735	1.132
Economics and Administrative Sciences	.055	.131	.178	1	.673	1.057
Education	.550	.160	11.885	1	.001	1.734
Engineering	.014	.135	.011	1	.917	1.014
Pure Sciences	.908	.496	3.350	1	.067	2.480
Constant	-5.262	.189	772.001	1	.000	.005

SOURCE: Taken from SPSS with data from ENOE 2010 Register.

Table 2. Model Summary

Step	-2 log -likelihood	Cox and Snell R squared	Nagelkerke R squared
1	11468.402	.601	.870

Source: Taken from SPSS with data from ENOE 2010 Register.

Table 3. Classification Table

Observed	Predicted		
	Y		Right Percentage
	Unemployed	Employed	
Y Unemployed	10934	1350	89.0
Employed	0	32635	100.0
Overall Percentage			97.0

Source: Taken from SPSS with data from ENOE 2010 Register.

Table 4 presents the results of the total DI for the analyzed base and for the selection of data in equal conditions (only individuals who are heads of households). The DI takes values between 100 and -100. If the DI = 0, there is no difference in regarding the professional employment. DI = 100 shows that the employment is entirely taken up by men and DI = -100 is an occupation performed entirely by women.

The results of the DI for the entire database show that the employment by professional area is favourable to men in most cases, except for the areas of Fine Arts and Pure Sciences. It should be stressed that some DIs are close to 0, which shows that women are highly involved in the labour market. It is the case of Education, Humanities, Health Sciences and Economics and Administrative Sciences.

Table 4. DI for the area of professional training

Area of training	DI total	DI equal conditions (only, householders)
Architecture	1.49	0.00
Biology	2.58	8.89
Agricultural and Fishing Sciences	2.15	0.00
Health Sciences	0.76	-0.18
Humanities	0.73	0.50
Chemical Sciences	2.54	-2.78
Social Sciences	0.88	1.12
Fine Arts	-1.02	0.00
Economics and Administrative Sciences	0.76	-0.12
Education	0.60	0.48
Engineering	1.12	9.30
Pure Sciences	-0.65	0.00

SOURCE: Data taken from ENOE 2010 register.

When analyzing the data in conditions of equality, i.e., those individuals who are the heads of the household (see second column of Table 4), women participation improves in most professional areas, especially Chemical Sciences, followed by Health Sciences and Economic and Administrative Sciences. Equal opportunities exist in Architecture, Agricultural and Fishing Sciences, Fine Arts and Pure Sciences. There are more opportunities for men in Engineering and Biology.

6. Conclusions

The results confirm that the participation of professional women in the labour market is important, although opportunities are still limited in certain areas of training in the Mexican labour market.

Specifically and in relation to the hypotheses put forward, the results suggest that:

- Hypothesis 1 is true, because it shows that the probability of being employed is higher as the number of years of study increases.
- Hypothesis 2 is relatively fulfilled because, in the *logit* model, the training areas of education, health sciences, and in a lesser extent, pure sciences, help to be employed. Certain areas considered as masculine by previous empirical studies appear to have a greater probability of being occupied by women.
- Hypothesis 3 appears to be relatively true as it has shown that the more work experience the people have, the greater is their probability of employability.
- Hypotheses 4 and 5 are relatively satisfied, as it has been found that the likelihood of men being employed is 1,283 times that of women. There are also training areas whose occupations give greater employment opportunities to women, as is the case of Fine Arts and Pure Sciences. However, when only considering individuals who say they are heads of household, the results change, moderately favouring women, especially in Chemical Sciences, Health Sciences and Economics

and Administrative Sciences. There are equal opportunities in the areas of Architecture, Agricultural and Fishing Sciences, Fine Arts and Pure Sciences.

It would be useful to analyze the trend over a long period of time to extend these results as this would allow the assessment of possible changes in the job market participation, in employment opportunities and in the behaviour of the DI.

It would be also interesting to further analyze the professions that make up the referred to training groups, as, for example, the area of Health Sciences consists of different degrees (medicine, nursing, dentistry, etc.). A breakdown of such a group may reveal the existence of different employment opportunities for men and women. This information would contribute to the knowledge of the educational institutions of higher education and to the vocational guidance of university applicants.

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Annex.

Characteristics of the population of university graduates		Population	
Variables		Employed	Unemployed
Years_study	16	45.80	95.40
	17	45.80	4.60
	18	5.50	0.00
	19	2.10	0.00
	20	0.40	0.00
	21	0.30	0.00
	22	0.10	0.00
Gender	Male	57.30	38.60
	Female	42.70	61.40
Marital_status	Married	49.80	36.30
	Single	50.20	63.70
Area_training	Architecture	4.3	5.10
	Biology	1.1	1.90
	Agricultural and Fishing		
	Sciences	3.4	2.20
	Health Sciences	8.8	12.60
	Humanities	5.1	6.60
	Chemical Sciences	2.9	4.00
	Social Sciences	15	14.80
	Fine Arts	0.6	0.80
	Economics and Administrative		
	Sciences	27.1	25.70
	Education	11.4	9.50
	Engineering	19.6	16.00
	Pure Sciences	0.7	0.80

SOURCE: Taken from SPSS with data from ENOE 2010 Register.