Comparing native versus immigrants' occupational choices of the Italian labour force: a generalized linear mixed model approach

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In this paper a short-term analysis of the occupational behaviour of the Italian labour force is proposed by analysing official Istat micro-data of 2006 through a logit model with subject-specific intercept. The aim is to compare the labour choices of autochthon workers to those of immigrants also considering the native country. Many national and international authors have been dealing with this interesting topic mainly in an economic key, treating the problem of defining the phenomenon of labour migration as a cost or as a benefit for the destination Country. Moving from the assumption that the complexity of the phenomenon and the lack of qualitatively acceptable data create such big limitations and delays in the formulation and the elaboration process of meaningful solutions, our proposal is an "a posteriori" analysis of labour choices taking into consideration the intrinsic demographic characteristics of native and non native individuals. The idea is to clarify if native and non-native workers share the same labour choices and expectations in terms of qualification grade as a proxy of their satisfaction. To this extent, in this paper firstly the hypothesis that native and non native workers show the same expectation will be tested, secondly the occupational behaviour of immigrants and autochthons will be compared on the basis of derivation country.

Keywords: Immigrants, labour, mixed model

1. Introduction

This contribution analyses the sample of the Italian Labour Force with specific emphasis on the distribution of workers per country of origin. The goal is to highlight the presence of systematic relations between the socio-demographic characteristics of workers and their occupational choices; each research question of the study is investigated, underlying the differences in the behaviours of immigrant and autochthons.

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Migration is one of the most urgent phenomenons as demonstrated by the most recent data issued by Istat on the international presence in the Italian labour population, showing once again in 2008 and in the first three months of 2009, the decrease in autochthon workers and the increase in immigrants. Although, the study of this social phenomenon recalls definitional and motivational questions. The first ones regard the difficulties in the individuation of the definition of "migrants" (Willekens 1984) mainly due to the following factors: quality of data; system of data collection; differences among countries; missing and unknown information (Kuijsten 1995). Moreover, different kinds of problems occur when dynamic (Natale - Strozza 1997) or stock data are analysed; in fact both approaches face meaningful limits whose nature changes on the basis of the specific object of analysis.

Many researchers have been dealing with the topic of international migration and their implications on local occupational levels. Those studies are mainly directed towards the analysis of income with the goal of analysing the effect of immigrants on local level of employment and the question point is if their presence can be considered as complementary or competitive. Even the estimation of the salary differentials and the determinants of the relative causes has been treated by several international (Borjas 1999) and Italian authors (Acocella - Sonnino 2003). Other studies concern the impact of the presence of international workers on the occupational opportunities of local population in terms of employment rates and living conditions and also the role of illegal immigration (Tronti 1995, Venturini 1996). The object of this contribution differs from those here reported; it can be contextualized in the demographic and economic research area of "migration theories" (Piore 1979, Massey 1990, Arango et al 1993). Those theories were formulated with the aim of specifying a socio-economic motivation with a scientific basis, towards the occurring of migration flows.

In this paper the definition of migrant is based on the concept of permanent or semi-permanent change of residence[5] (Lee 1965). The focus of the study relies on the analysis of the composition of the Italian Labour Force moving from the following assumption of the "Dual Labour Market Theory": foreign workers cover the shortages of the labour market of the receiving country in the lowest positions of the job hierarchy. For this reason, the main variable object of this analysis is the typology of profession and it was aggregated in two modalities: capital intensive and labour intensive professions. In order to explicit the socio-demographic factors influencing the decision to accept a capital intensive or a labour intensive profession, a specific preliminary descriptive analysis has been undertaken on the variables already tested in previous researches (Acocella - Sonnino 2003, Lutz 2008). The following variables were introduced in the analysis: gender, education level and age class. After the descriptive analysis of the socio-demographic variables included in

[5] Coherently with the Lee's definition, in this study, all foreigners (for birth or for citizenship) were considered immigrants for professional reasons.

the model as covariates, three models were estimated: the first is a classic logistic model aimed at investigating which socio-demographic variable, among those considered, has an affect on the probability to be involved in a labour intensive profession (which is complementary to the probability of a capital intensive job); the second and the third models add to the previous information the explicative function of the random intercept and the random slope respectively. Those models are aimed at observing the intra-clusters variability. The goal of the generalized mixed model estimation is to observe if the effect of the covariates on the dependent variable changes when the origin of workers is used as variables of aggregation.

2. "Dual labour" migration theory

The "Dual labour" theory proposes a different approach for the explanation of international migration in alternative to neo-classical theories. Its basic assumption is that demographic and social changes currently affecting modern societies of developed countries - such as the decline in t birth rates, the increase in divorce and legal separation, the ageing phenomenon, educational expansion, the economic level of development and the well-being of people - generate job vacancies in the lower positions of the job hierarchy (Piore 1979).

The dual labour theory describes the occurring of the migration phenomenon as the effect of such demographic and social dynamics. More precisely the decrease in fertility levels in industrialized countries might have led to smaller inflows of teenagers who are more willing to accept less satisfying job positions; the increase in the emancipation of women and the rise in divorce rates could have led to the increase in female employment rates causing the lack of workers able to substitute the female role in the household services. Finally, a higher instruction level created an increase in the supply of more qualified personnel profiles and, as a consequence of a higher perception of the life social status, the decrease in the availability to accept economically and socially less satisfying jobs.

This theory divides the labour market into a primary segment, characterized by a capital-intensive method of productions and a secondary segment characterized by labour intensive production process. By consequence, it states that skilled workers, holding social status, higher income and employment conditions in higher consideration, are in the first segment; on the contrary, unskilled ones are in the secondary segment. The "dual labour" theory hypothesizes that foreign workers migrate for the dual labour market structure of the receiving country where they are pulled to cover the lower positions of the job hierarchy. By using the Labour Force Istat Dataset this paper aims to test this basic assumption of the "Dual Market Theory" and, at the same time, to clarify the effects of some demographic characteristics on the final job decision of workers. This methodological approach

moves from the consideration that this specific database gives us *a-posteriori* information on employees' choices. In this sense our final considerations on the one hand can be or cannot be a confirmation of the hypothesis of the cited theory, on the other hand could add some other interesting points of research.

3. Informative instruments of the analysis

The study was conducted on the data of the Istat database of Italian Labour Force survey of the third trimester of 2006. The statistic unit of this survey is the family of the interviewed worker, for this reason the database also contains data of the other members of the worker's family and the observations refer to each family member in professional conditions and currently working. The final database[6] contains 57866 cases. The variables and the relative modalities included in the model are reported here.

The dependent variable:

1. profession (dichotomised) having the following modalities:
   - labour intensive;
   - capital intensive.

The following variables are included in the model as covariates and are reported here with the relative modalities:

2. age classes:
   - 15 – 24 years old;
   - 25 -34 years old;
   - 35 - 44 years old;
   - 45 – 54 years old;
   - 55 – 64 years old;
   - 65 – 74 years old;
   - 75 and over;
3. gender:
   - male;
   - female;
   - level of education:
   - none or primary school;
   - middle school or High school graduation;
   - academy for Fine Arts and Bachelor's degree;
   - degree studies;

[6] The database obtained after the elimination of all the units with at least one missing value in the analysed variables.

- master post graduate or doctorate.

Finally the last variable is the classification variable used for the aggregation of the observations in clusters. It aggregates the observations on the basis of Country of birth and Country of citizenship and counts the following eight modalities:

4. origin;
    - Italians;
    - born abroad and Italian citizenship;
    - Italian birth and foreign citizenship
    - born abroad and European citizenship (except Italy);
    - born abroad and Asian citizenship;
    - born abroad and African citizenship;
    - born abroad and North and Central American citizenship;
    - born abroad and South American citizenship.

4. Description of the sample

In this section, a brief description of the analysed sample on the basis of the distribution of the socio-demographic variables is proposed, in order to trace a first representation of the relations tested in the models. The demographic composition of the analysed sample provenance and citizenship is illustrated in the following table 1. It shows that the presence of immigrants in the sample is around 6.3%, 2.5 of which could be defined as “long term immigrants” being immigrants with Italian citizenship. The remaining percentage summing up to 3.9 %, is represented by “ more recently immigrated people”; this definition derives from the fact that they are those immigrated that still did not acquire the Italian citizenship. This last typology of immigrants was disaggregated by country of birth in order to observe if their behaviour differs throughout the clusters.

Table 1. Number and percentages of workers per country of provenance and citizenship

Origin/citizenship	**N. of presence**	**% of presence**
1 Italian	54195	93,7
2 Foreign born and Italian citizenship	1427	2,5
3 Born in Italy and Foreign citizenship	6	0,0
4 Born abroad and European Citizenship (except Italy)	1238	2,1
5 Born abroad and Asian citizenship	313	0,5
6 Born abroad and African citizenship	495	0,9
7 Born abroad and North and Central American citizenship	32	0,1
8 Born abroad and South American citizenship	160	0,3
Total	**57866**	**100,0**

Source: own creation

Table 2 illustrates a cross classification of the units on the basis of the following two variables: age class and the Country of origin and of citizenship. It shows that the largest proportion of workers concentrates in the central classes. The survey collects data on the national labour forces: by consequence, most of the units refer to workers not younger than 15 and not older than 64 , which is the conventional occupational age interval.

Table 2. Percentages of workers by classification of origin and age class

Origin	**15 - 24**	**25 - 34**	**35- 44**	**45- 54**	**55- 64**	**65- 74**	**75 and over**	**Total**
1 Italian	6	21	31	28	12	2	0	100
2 Foreign born and Italian citizenship	4	21	44	23	7	1	0	100
3 Born in Italy and Foreign citizenship	33	33	17	17	0	0	0	100
4 Born abroad and European Citizenship (except Italy)	10	33	32	21	4	1	0	100
5 Born abroad and Asian citizenship	7	24	40	23	5	0	0	100
6 Born abroad and African citizenship	7	28	46	18	2	0	0	100
7 Born abroad and North and Central American citizenship	9	28	28	28	6	0	0	100
8 Born abroad and South American citizenship	4	31	33	22	10	1	0	100
Total	6	21	31	28	12	2	0	100

Source: own creation

Table 3 shows the male presence ratios that refers to the percentage of males out of the females. It is very interesting to notice that immigrants from South and North America are mostly female, on the contrary, Italians, Europeans, Africans and Asians immigrated workers are more often males .

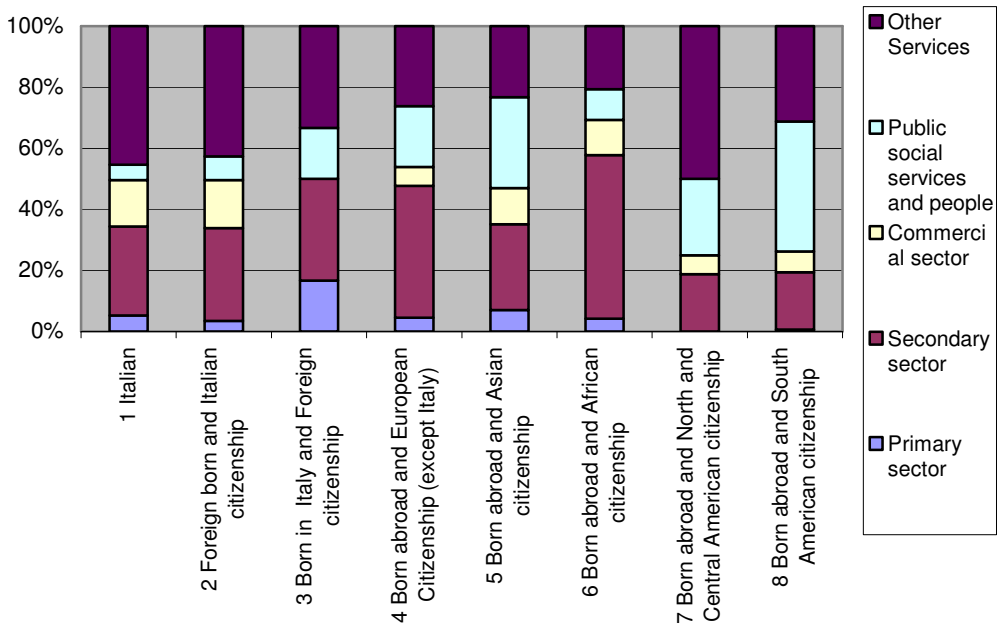
Table 3. Percentages of workers per Country of origin and citizenship

Origin	**Male gender ratio**
1 Italian	150,4
2 Foreign born and Italian citizenship	113,3
3 Born in Italy and Foreign citizenship	500,0
4 Born abroad and European Citizenship (except Italy)	113,4
5 Born abroad and Asian citizenship	192,5
6 Born abroad and African citizenship	358,3
7 Born abroad and North and Central American citizenship	52,4
8 Born abroad and South American citizenship	61,6
Total	149,1

Source: own creation

Figure 1 represents the distribution of the Italian labour forces per sector of activity; it shows that the larger proportion of immigrants are in the sectors of services to the persons and in the secondary sector. Both the sectors regard intensive labour jobs and the higher frequency of the variable has probably to be read considering the professions of cleaning ladies, old and baby sitters, and, in the secondary sector, mainly those in the construction services.

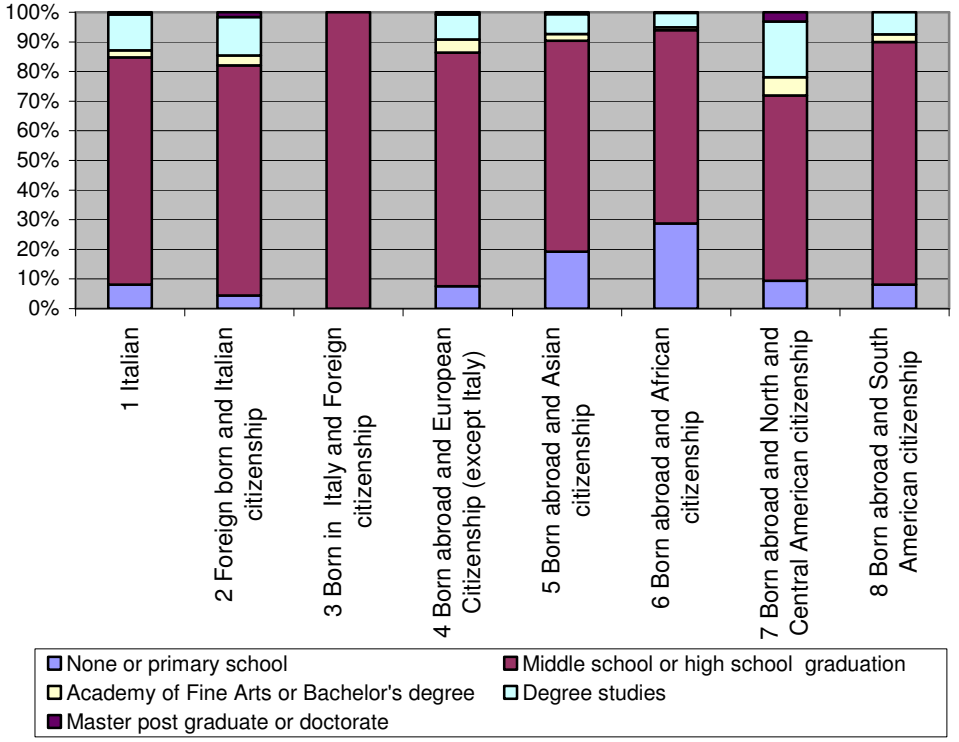
Figure 1.Percentages of workers per Country of origin and citizenship and economic sector of activity



Source: own creation

The following graph shows that the proportion of workers with lower education level is bigger in the clusters of immigrants, among which especially African and Asians show the most considerable percentages associated to the modality "none or primary school" instruction level. On the contrary, immigrants particularly from North and Central America are characterized by the biggest percentage of graduated and post-graduated workers.

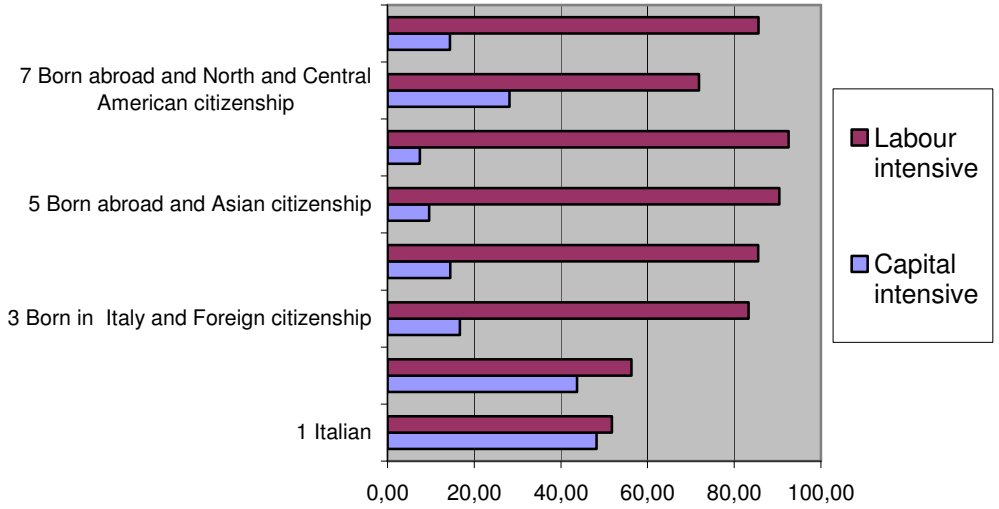
Figure 2. Percentages of workers per Country of origin and citizenship and education level



Source: own creation

The last figure shows that Italian workers strongly differ from immigrant workers considering the intensity of labour or capital: Italian native and citizens mainly work in capital intensive jobs.

Figure 3.Percentages of workers per Country of origin and typology of profession



Source: own creation

The descriptive analysis pointed out that more than one third of the immigrated workers has Italian citizenship. Moreover, the composition of the sample shows that immigrants without citizenship behave in a different way with respect to the country of origin; on the contrary immigrants with Italian citizenship have more similar characteristics to Italian workers. Such differentiations are investigated in the second part of this paper with particular attention to the role of the level of instruction.

5. The professional choices of Italian Labour Forces

The challenge of determining the relations between migration and labour market is ambitious and hard for several reasons, among which, limitations due to informative and methodological nature prevail. In this contribution the effort to avoid the problem of the absence of data was reached by using stock official data; the methodological efforts to use a model able to give a robust and wide interpretation of the social problems deriving from the occupational structure of the Italian labour market, was attempted by the use of multilevel analysis. It is a specific methodology for the analysis of data with complex patterns of variability, with a focus on nested sources of variability.

5.1. Research hypothesis

The logistic model tests the hypothesis that age and education level have a negative effect and male gender a positive effect on the probability to perform a labour intensive job

The research question of the multilevel models relies on the hypothesis formulated on the basis of the "dual labour market theory". This principle asserts that the probability of being involved in labour intensive jobs is bigger for foreign workers than it is for autochthon workers. In addition, the study has the goal to investigate to what degree, having Italian birth and citizenship, or being immigrated (and from where), changes the effect of socio-demographic characteristics on the probability to perform a capital intensive or a labour intensive job.

5.2. Methodological description of the models

The methodological part of this research consisted on the estimation of three models:

- a simple logistic model;
- a logistic model with a random intercept effect;
- a logistic model with a random intercept and a random slope effect.

It is supposed that there are k independent observations $(y_1; \dots; y_k)$, and that the $i-th$ observation can be treated as a realization of a random variable Y_i. It is assumed that Y_i has a binomial distribution

$$Y_i \sim B(n_i; \pi_i) \qquad (1.1)$$

with binomial denominator n_i and probability π_i. This defines the stochastic structure of the model. The distribution of Y_i is a *Bernoulli* distribution with parameter π_i, and can be written in a compact form as $\Pr\{Y_i = y_i\} = \pi^{y_i}(1-\pi)^{y_i}$.

The response variable y_i is binary, assuming only two values that for convenience we code as one or zero. Note that if $y_i = 1$ the probability is π_i, otherwise if $y_i = 0$ the probability is $1 - \pi_i$.

The expected value and variance of Y_i are respectively: $E(Y_i) = \mu_i = \pi_i$ and $var(Y_i) = \sigma_i^2 = \pi_i(1-\pi_i)$. Note that the mean and variance depend on the underlying probability π_i. Any factor that affects the probability will alter not just the mean but also the variance of the observations. This suggests that a linear model

that allows the predictors to affect the mean but assumes that the variance is constant will not be adequate for the analysis of binary data.

Suppose further that the *logit* of the underlying probability π_i is a linear function of the predictors $x_i'\beta$ as follows:

$$logit(\pi_i) = log\left[\frac{\mu_i}{1-\mu_i}\right] = x_i'\beta \qquad (1.2)$$

where x_i is a vector of covariates and β is a vector of regression coefficients, where β_j represents the change in the *logit* of the probability associated with a unit change in the $j-th$ predictor holding all other predictors constant.

The model defined in equations (1.1) and (1.2) is a generalized linear model with binomial response and link function *logit* with only a fixed effect.

The model used in this work is a mixed model for categorical response data including a usual fixed effects for the covariates plus the random effects on the intercept.

It is assumed that the sample get from N different clusters. Let $i = 1, \dots, N$ and $j = 1, \dots, n_i$ are respectively the indicators of the $i-th$ cluster and the $j-th$ individual observation. Let n_{ij} denote the total number of observations within the $i-th$ group. The response variable y_{ij} is binary, it can take only two values one or zero according to the presence or absence of the phenomenon of study and x_{ij} are the covariate (explanatory) variables.

Assuming that the incidence of a case of study differs from groups, an appropriate model that takes account of a random effect on intercept is a model with varied intercept from clusters, as follows:

$$\Pr(y_{ij} = 1|b_i) = \mu(b_i + \beta' x_{ij}). \qquad (1.3)$$

This is the *logit model*, a conditional probability model where:

- μ represents the probability function of y, and it is $\mu = \mu(s) = e^s/(1+e^s)$, function defined for all $s \in (-\infty, \infty)$;
- $b_i = (a_i - \alpha) \sim N(0, \sigma^2)$, where a_i is the iid random variable of the intercept, is normally distributed $a_i \sim N(\alpha, \sigma^2)$ with both parameters of population average intercept α and intercept variance σ^2 unknown;

- β is the $1 \times m$ vector of parameters to be estimated using the data (y_{ij}, x_{ij}) and the first component of this vector is the average population intercept;
- x_{ij} is the $1 \times m$ vector of the explanatory variables and the first component is 1 due to the presence of the random intercept.

This model also implies that observations y_{ij} and y_{ik} are independent within a cluster.

The random effect represent the influence of subject (o cluster) i on its repeated observations that is no captured by the observed covariates.

Including the random effects, the expected value of the response variable y, which is related to the linear predictor via the link function, is given by: $\mu_{ij} = E\left(Y_{ij} \middle| b_i, x_{ij}\right)$. This is the expectation of the conditional distribution of the study variable given the random effects, that here equals $\Pr\left(y_{ij} = 1 \middle| b_i, x_{ij}\right)$ the conditional probability of a response given the random effects and covariates.

5.3. Results: Italian labour market. Comparisons between the behaviour of autochthons and foreigners

The following tables show the results of the statistical part of the analysis, where the research hypothesis has been tested. The logistic equation obtained in all the three models confirmed the expected relations of the effect of education, gender and age on the probability of employees to be involved in a labour intensive job. More precisely, higher instruction and age levels are negatively correlated to labour intensive jobs; on the contrary, being a male worker, increases the probability expressed by the dependent variable.

Table 4. Logistic model without random effects

Dependent variable: Labur Intensive Profession (y=1)					
Intercept and Covariates:	**Beta**	**S. E.**	**T-Value**	**Alpha**	**Pr >|t|**
Intercept	5.02	0.06	80.06	0.05	<.0001
Instruction level	-0.84	0.00	-95.20	0.05	<.0001
Gender (male)	0.47	0.02	23.26	0.05	<.0001
Age	-0.34	0.00	-37.46	0.05	<.0001

Source: own creation

Table 5. Logistic model with random intercept

Dependent variable: Labur Intensive Profession (y=1)

Intercept and Covariates:	Beta	S. E.	T-Value	Alpha	Pr >|t|
Intercept	6,80	0.41	16.29	0.05	<.0001
Instruction level	-0.86	0.00	-95.67	0.05	<.0001
Gender (male)	0.49	0.02	23.92	0.05	<.0001
Age	-0.33	0.00	-36.13	0.05	<.0001
Variance	1,17	0.61	0.09	0.05	0.09

Source: own creation

Table 6. Logistic model with random slope (level of education)

Dependent variable: Labur Intensive Profession (y=1)

Intercept and Covariates:	Beta	S. E.	T-Value	Alpha	Pr >|t|
Intercept	4.59	0.20	22.49	0.05	<.0001
Instruction level	-0.43	0.09	-4.76	0.05	0.0031
Gender (male)	0.49	0.02	23.68	0.05	<.0001
Age	-0.35	0.00	-37.44	0.05	<.0001
Error term on intercept random effect	0.15	0.10	1.45	0.05	0.19
Covariance	-0.06	0.04	-1.36	0.05	0.22
Between clusters variance	0.05	0.02	1.87	0.05	0.11

Source: own creation

As shown in the tables, the three equations show the same effects of the covariates on the dependent variable. Although, the second model adds some more information to the study: it includes a first element of distinction among the eight groups through which the units of the sample have been classified per country of origin and country of citizenship. With the introduction of the intercept random effect, the different positions of the intercepts of each of the eight clusters can be observed and compared with the average of the overall intercept value. Finally, with the introduction of the random slope effect, for each group, the intra-clusters difference in the effect of the variable "education level" (that is the so called "between effect") on the probability of belonging to the capital intensive or to the

labour intensive segment of the labour market, is expressed by the increase or decrease in the slope of the function associated to each of the eight clusters. The predicted values obtained in the estimated models are those reported in the table 7.

Table 7. Predicted intercept and slope values for each group

CLUSTERS	PREDICTED VALUE		
	Intercept (R.I.M.)	**Intercept (R.S.M.)**	**Slope Ed.L. (R.S.M.)**
1 Italians	-1,83	0,70	-0,49
2 Foreign born and Italian citizenship	-1,37	-0,29	-0,15
3 Born in Italy and Foreign citizenship	-0,42	0,02	-0,03
4 Born abroad and European Citizenship (except Italy)	0,85	0,14	0,07
5 Born abroad and Asian citizenship	0,98	-0,19	0,19
6 Born abroad and African citizenship	0,73	-0,23	0,21
7 Born abroad and North and Central American citizenship	0,35	-0,20	0,09
8 Born abroad and South American citizenship	0,52	0,03	0,09

Source: own creation

The estimations of the predicted values gave a useful comprehension key to the analysis, adding information in terms of differences of occupational choices among workers coming from different Countries of emigration. The first reflection comes from the evident difference between the first three groups and the others. The intercept values as well as the slopes decrease if compared to the average value (shown in table 5 and in table 6) : it means that, in general, the probability of being involved in labour intensive professions is highly effected by education levels in the clusters of Italians, immigrants with Italian citizenship and Italian natives with foreign citizenship compared to the effect on the groups of European, Asian, African and American immigrants. The sense of this result is that those workers, belonging to higher levels of education, are not attracted by less satisfying jobs like labour intensive ones. On the contrary, for all the groups of immigrants without citizenship or not Italian natives, the effect of the instruction level changes: even if, as expressed by the first model, it remains negatively correlated to the labour intensive professions, in those populations it seems to be less strong. Moreover, the introduction of the random slope on the education level, diminishes the variability caused by the random intercept. The last notation refers to the single values of the

predicted values of the random slopes: the negative effect of the education levels on the dependent variable is lowest for African and Asian workers (the slope passes from – 0.43 to – 0.22 for Africans and to -0.24 for Asians); it is still lower for North and Central and South Americans (the slope passes from – 0.43 to -0.34) and finally it is lower for European (mainly coming from the East, (the slope passes from – 0.43 to -0.36).These results seem to suggest a sort of hierarchic trend of the relations between instruction level and typology of profession passing from richer to poorer Countries. Moreover these numbers report important information on the different occupational decisions of immigrants offering useful instruments for the formulation of public policies and business strategies. To conclude, the hypothesis of the dual labour market theory was confirmed by the results of this study, suggesting that the division of the labour market into autochthon and immigrants opens an interesting and complex object of analysis.

6. Concluding remarks

Migration phenomenon has many common points of study with economic subjects like the socio-demographic composition of the Labour Force. This contribution tried to investigate one of those aspects consisting of the differences between natives and immigrant occupational behaviour. The methodological base from which this study moved is the "Dual labour Market Theory" which states that people from poorer countries are pulled to cover the bottom positions of the job hierarchy of richer countries. Moreover this theory motivates this assumption with some demographic trends characterizing richer countries in the last decades. In this paper some demographic variables are introduced in order to formulate the dual theory and to test it. The models have been estimated in order to test the relations between some demographic variables and the probability for a worker to be involved in a capital intensive or in a labour intensive profession and if such effects change between native and immigrated employees.

The results confirmed the initial research hypothesis consisting in the formulation of the assumption of the "Dual Labour theory" .Although, other innovative and interesting points of this contribution have arisen the first is the useful informative value of the mixed models in the study of the relations between migrations and labour market. In addition, the use of an economic database for a socio-demographic problem like the relations between migration and employment made it possible to deal with the migration phenomenon from a different perspective avoiding information limitations and ensuring the contents of the data. Another interesting result is the possibility to disaggregate labour forces in autochthons and immigrants: it showed the meaningful additive function of this demographic perspective especially when the origin of immigrants is also considered. To conclude, another interesting point to further explore is the difference in behaviour between

immigrated workers with Italian citizenship and other immigrants, especially for the interesting value of the study of their social integration and adaptation, after some years, to the occupational behaviour of autochthon workers.

References

Acocella - Sonnino 2003: Movimenti di persone e movimenti di capitali in Europa, il Mulino, Bologna.

Arango, J. – Hugo, G. – Kouaoci, A. – Pellegrino, A. – Taylor, J.E. 1993: Theories of international migration: a review and appraisal, Population and Development Review, Vol. 19 Issue 3.

Borjas, J. G. 1999: The Economic Analysis of Immigration. In Anshenfelter, O. - Card, D. (a cura di): Handbook of Labour Economics, vol. 3 A, North –Holland, pp. 1697-1760.

Kuijsten, A. C. 1995 : International Migrations: harmonization of data collection. In Collects et comparabilitè des donneés démografique et sociales en Europe, Chaire Quetelet 1991 : a cura di Institut de demografique dell'Universite Catholque de Luvain, Academia e L'Harmattan, Louvain-la-Neuve, pp. 593-624.

Lee 1965: Theory of migrations, University of Pennsylvania, USA.

Lutz, H. 2008: Gender in the migratory process, Conference on Theories of Migrations and Social Change, July.

Massey, D. 1990: The social and economic origins of immigration, Annals of the American Academy of Political and Social Science, Vol. 510, No. 1, 60-72 p.

Natale, M. – Strozza, S. 1997: Gli immigrati stranieri in Italia. Quanti sono, chi sono, come vivono?Cacucci Editore, Bari.

Piore, M.J. 1979: Birds of passage: migrant labour in industrial societies, Cambridge University Press.

Tronti, L. 1995: The effects of Immigrations on the Economic System. A Survey, mimeo.

Venturini, A., 1996: Extent of competition between and complementary among national and Third-World migrant workers in the labour market: an exploration of the Italian case, in AA. VV. , The jobs and the effects of migrant workers in Italy. Three essays, International Migration Papers, 11, Geneva, ILO, pp. 23-42.

Willekens, F. 1984: Comparability of Migration. Utopia or reality? Working paper, Nidi, 47, Voorburg.