

*An Analysis of the Occupational Trajectories of Youth
in Brazilian Metropolitan Areas according to Gender*

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1 - Introduction

The general aim of this research is to investigate the topic of occupational trajectory in metropolitan areas in Brazil by identifying sex differences in the 20 to 30 age group, where there is a greater chance of important personal decisions being made: leaving school, entering labour market, getting married and having children.

Generally speaking, trajectory is analysed by focusing on the combination of the successive occupational states and the transitions between these states in the labour market over time. This analysis seeks to respond to the following specific questions: What are the typical occupational trajectories of young adult men and woman in the large Brazilian metropolitan areas? Are there changes in this profile considering that woman's participation is undergoing consolidation? To what extent are these trajectories associated with factors specifically associated with sex?

The analysis of trajectories makes it necessary to use longitudinal data, such as that contained in the *Pesquisa Mensal de Emprego* - Monthly Employment Survey (PME/IBGE) in Brazil. The PME is a rotating panel which observes the same household for four consecutive months and, after an eight-month interval, observes it for four more months. After a total of eight interviews, the household leaves the sample permanently. However, the PME only includes income from employment and does not take into account any other sources of income, such as retirement and other pensions, unemployment insurance, investment income and payments from other social programs. To overcome this problem, we used the database of imputed household income proposed by Elbers, Lanjouw e Lanjouw (2003) for the period March 2002 to May 2007¹

The Grade of Membership (GoM) method was used to produce a typology. The GoM is based on fuzzy set theory, according to which it is possible for an element to not belong completely to one single set. The traditional set theory - crisp set -, on the other hand, is based on the notion of fundamental dichotomy: of either belonging or not belonging. GoM then identifies two or more reference profiles (or extreme profiles) among the individuals in the sample and each person's grade of belonging to each extreme profile according to the extent to which the individuals in the database possess the characteristics described by the variables,. For these profiles, 100% represents an individual with all the characteristics of the profile and 0% the opposite, and a score between 100% and 0% means that the individual has characteristics from more than one extreme profile. Based on five hypotheses, the probability model for producing the procedure for estimation of maximum likelihood can be formulated. The probability model for a random sample is the product of the multinomial model and the probability of each individual according to a specific variable. This method also requires the researcher to define the number of extreme profiles at the outset. We selected three extreme profiles which, by means of combinatory analysis, generated ten profiles for us (although some of these profiles were empty sets).

In order to produce these ten profiles, we used more than twenty string variables and, among them, the key variables designating the groups are: occupational status¹, position in the family², level of education and per capita household income. The results show that there are five profiles that take in almost 100% of the sample. Analysing the individuals' characteristics in each profile, we can classify them as "person excluded from work", "precarious occupied workers", "vulnerable occupied workers", "hard workers" and "promising youth". This article is divided into six sections, including this introduction. In the following section there is a brief review of the literature on the relationship between the labour market and insertion according to gender. The data sources, production of the database, the GoM method and the analyses of transition make up the third section. The descriptive analysis of the typological categories according to selected variables is carried out in the fourth section. In the section after, which is still to be included in the final version of the article, we analyse the transitions in the labour market related to the occupational categories defined in the typology and, finally, in the sixth section, some considerations about the main results of the study are presented.

2 – Motivation

There is a very wide research agenda on sex differences in the Brazilian labour market. This literature can be subdivided, essentially, into three important themes: female participation in the labour market, income differentials, focussing on discriminatory processes, and occupational segregation.

The studies which seek to explain the increase in female participation, especially among the married women in the 1990s, by emphasising the role played by other persons in domestic work, stand out from the studies on the determinants of female labour market participation. Such is the case with Soares (2002) and Conelly and DeGraff (1996), who point out that this growth in labour market participation results from the mother's domestic labour being replaced by that of older female daughters. Sedlacek and Santos (1991), in their analysis of spouses' decisions, and Scorzafave and Menezes-Filho (2001), in their analysis of women's decisions in general, show that there is a greater probability of women entering the labour market in the following situations: when they have a higher level of education and a lower number of children; when the age of these children is higher and the non-work income (husband's income in Sedlacek e Santos (1991) or per capita household income less the woman's income from work in Scorzafave and Menezes-Filho (2001)) is lower. However, Scorzafave and Menezes-Filho (2003) show that the "pure" impact of the husband's income on the wife's economic activity decreased between 1982 and 1997. In their analysis of metropolitan areas in Brazil, Fernandes and Felício (2002) conclude that the effect of women on the labour market in order to compensate for the husband losing his job ("additional worker effect") is positive and more significant than is normally recognized in the United States.

Although Leme and Wajnman (2000) and Soares and Izaki (2002) use different techniques, they reach a consensus regarding the positive impact of educational level on female labour market insertion. Pazello e Fernandes (2004) also show, by means of a comparison between women who have or do not have children, that motherhood reduces women's

¹ Occupational status refers to if the person is economically occupied, unemployed or inactive.

² Position in the family express the individual's relation to the person considered "the head of the family". In this study, the positions considered are "head", "spouse", "child" or "other".

participation, as does the length of the working day. Other studies of female participation show that the poorest households have a lower tendency to supply labour (RAMOS E SOARES, 1994).

There are studies where interest is focused more on dynamics, i.e., growth in the rate of activity. These results indicate that the rate of increase in female insertion in the labour force has greatly accelerated since the 1950s and that the younger the cohort, the greater the involvement of women in the labour market, although this pace has dropped from the late 1990s onwards (WAJNMAN e RIOS-NETO, 2000; SOARES e IZAKI, 2002).

Concerning income differentials, studies show that there has been a reduction in the gap between men and women and that this has not been restricted to Brazil. International literature has also shown that this decrease is particularly important for younger generations and that there is a tendency for an even greater reduction if one takes into consideration the fact that older cohorts will leave the labour market (BLAU, FERBER and WINKLER, 1998). Leme and Wajnman (2000) as well as Machado, Oliveira and Wajnman (2005), have also noted this effect in Brazil. By means of different techniques, both of these studies show that there is a tendency for men's and women's income to converge, given that older persons, who have the lowest educational level, and, therefore, more precarious occupational insertion, are being replaced by a female workforce with a higher educational level and, therefore, more capable of commanding a higher price in the labour market. In a comparative study of gender-based income differentials in Brazil and the United States, Giuberti e Menezes-Filho (2005), concluded from a Oaxaca decomposition that the ratio of female to male income in Brazil went from 68% in 1981 to 80% in 1996, while, in the United States, during the same period, the reduction was from 66% to 78%. They noted that average female characteristics (especially educational level) are better than male's but that the returns by age led to an increase in differentials. This suggests that women's intermittent labour market participation during their lifetime creates an unfavourable situation as regards income.

Still on the topic of income differentials, other studies have concerned themselves with the "position in the household"³ and its effect on salary differentials. Madalozzo (2002), separated married and single women and found that the differential favours single women and that marriage, therefore, constitutes a penalty. Taking this same approach, Gomes e Wajnman (2005) also emphasized the household situation when they assessed the differential according to sex. Their results showed that, between 1992 and 2003 the salary differential between men and women decreased but the rate of decrease varied according to "position in the family". In the case of "children" and "single head of the family with no children" the income differential favoured women over the period studied, even with the discrimination component working against the women. Their analysis of spouses and single heads of family shows that women are the most penalized group, upon which the effects of discrimination is even stronger.

The other aspect of the economic research on gender differences concerns occupational segregation. This concept holds that men and women are located in different and unequal types of occupations and that men have a better distribution in the occupational structure while women tend to be concentrated in fewer occupations which, in general, are those of the lowest quality in terms of salary levels and the protection afforded by labour legislation and with the least prospects for upward career mobility. For example, Wajnman e Perpétuo (1997) and Wajnman, Queiroz and Liberato (1998) show that women have a significant presence in paid domestic

³ Similarly to "position in the family", "position in the household" describes the individual's relation to the person considered "head of the household". The alternatives of responses are the same: head, spouse, child and so on.

labour and informal activities. In addition to this, Machado, Oliveira e Wajnman (2005) show that segregation has been decreasing since the 1980s but that it was still high in 2003, since nearly half the Brazilian labour force would have to change occupations in order to achieve total integration.

There is, however, a gap in this wide field of research concerning the labour market and gender. It exists in studies on the dynamics of men's and women's trajectories. To a large extent, this gap is due to the limited sources of longitudinal and retrospective data, principally those with a longer historical series.

Among the few studies which take up the question of trajectories, we can mention those by Watanabe and Brandão (1997), Guimarães (2004) and Melo (2006). Watanabe e Brandão (1997) use data from the *Pesquisa de Emprego e Desemprego (PED), na Região Metropolitana de São Paulo-RMSP* - Employment and Unemployment Survey of the Metropolitan Region of the City of São Paulo - to produce a typology of occupational trajectories, which combines time interval and change in status variables in an attempt to understand the unstable nature of individuals' labour market insertion. By using data from RAISMIGRA, an official database, to create typologies of occupational trajectories of persons who had left industrial jobs, Guimarães (2004) attempted to associate these transitions with the question of industrial reorganisation.

None of these studies make the question of gender the main focus of attention, except in the case of Melo (2006), who produced a typology based on the Occupational Mobility Supplement from PED-RMSP from April to December 2001 and, by means of this classification, analyses the differences in transitions according to gender². This typology was obtained by the Grade of Membership (GoM) method, which attributes grades of membership in specific groups to individuals on the basis of their characteristics in such a way that more homogenous groups are created. In a very general way, the results show that three types of trajectory predominate: Precarious, Unstable and Stable. Almost 70% of women and 80% of the men in the City of São Paulo labour market were concentrated in these three trajectories during the period under analysis. Moreover, women were more likely to have Precarious trajectories than men.

Without producing typologies but by analysing occupational mobility according to sex, as well as other variables such as colour and educational level, Oliveira e Machado (2000) and Jannuzzi (2002) found that, in the 1990s, women were less likely to move upward socio-economically. According to Oliveira e Machado (2000), between 1991 and 1996³, there was a higher probability of white men moving up the hierarchy from middle-ranking occupations in comparison to black men, white women and black women, in that order of preference.

Therefore, in this study, it is intended to contribute to the analysis of occupational trajectories by focussing on the question of young residents in large Brazilian metropolitan areas in the recent period between 2002 and 2007

3 – Methodology

3.1 – Source of Data and Variables

As already mentioned, a typology was produced based on the PME with imputed household income. We selected the households **in the first month** that they were in the sample and applied the GoM method to the characteristics that were reported in this interview. The selected variables were as follows: year; sex; position in the family; colour; age group; school attendance, length of working day; Social Insurance contribution; educational level; economic

activity status⁴; occupational status; occupational position⁵; branch of activity, presence of children from 0-7 years of age; presence of children from 8 to 14 years of age; presence of adolescents (15-17); presence of elderly persons; employed head of family; presence of unemployed persons in the family; per capita family income; metropolitan region. The sample was restricted to the six Brazilian Metropolitan Regions covered by the PME⁴, totaling 121,106 observations, which refers to the individuals whose interviews were identified in the four consecutive months of the first rotation of the panel.

3.2 – The GoM Method

The Grade of Membership (GoM) Method is a branch of Fuzzy Set theory and uses the maximum likelihood method to estimate the probable attributes of the extreme profiles and the grade of "proximity" (or association) of each element to them (MELO, 2006). The number of extreme profiles (or reference profiles) must be decided a priori and this results in the final dimensions of the typology, i.e., the total number of categories, including pure and mixed types. The mixed types combine characteristics of two or more pure types which, in turn, correspond, in essence, to the extreme profiles.

According to Manton, Woodbury and Tolley (1994), there is a grade of membership (g_{ik}) for each element (in this case, each individual) in a fuzzy set and it represents the degree to which the element i belongs to the set/profile k , assuming values between 0 (zero) and 1 (one) inclusively. If g_{ik} equals zero then the element does not belong to the set. When a value of one is assumed then the element belongs completely to the set. When g_{ik} has value greater than zero and less than one then the individual is a partial member of more than one reference profile.

The scores g_{ik} are subject to the following restrictions:

$$\begin{aligned} 0 \leq g_{ik} \leq 1 \text{ for each } i \text{ and each } k \\ \sum g_{ik} = 1 \text{ for each } i . \end{aligned}$$

The parameter lambda λ , which is important for discriminating which attributes are related to each reference profile, is given by the probability of response from the j -th attribute by the element with the k -th extreme profile. λ_{kjl} is defined from this form and should comply with the following assumptions:

$$\begin{aligned} 0 \leq \lambda_{kjl} \leq 1 \text{ for each } k, \text{ each } j \text{ and each } l ; \\ \sum \lambda_{kjl} = 1 \text{ for each } k \text{ and each } j . \end{aligned}$$

The probability of response l for the j -th variable by the element i , adjusted according to its grade of membership score g_{ik} , is given by:

$$\Pr (Y_{ijl} = 1) = \sum g_{ik} \lambda_{kjl}$$

⁴ Activity status refers to if the individual is economically active or inactive.

⁵ Occupational position comprises the kind of labor relation the worker assumes. Considering that Brazilian labor market is a very heterogeneous one, it makes a big difference, if the work is "employee officially registered in the Social Security", "employee without official registration", "employee in the public sector", "self-employed", "domestic worker", "non-remunerated worker" or "employer".

And the maximum likelihood function to be estimated is:

$$L(Y) = \prod_i \prod_j \prod_l (\sum_k g_{ik} \lambda_{kjl})$$

In this paper, we selected three extreme profiles which, by means of combinatorial analysis, generated ten profiles/categories that are defined as either pure or mixed, according to their grades of membership in each of the extreme profiles.

In this way, the extreme profiles resulted from estimation by maximum likelihood, while at the same time, the final categories of the typology, pure and mixed, are defined according to the intensity of grade of membership or by their localization in relation to one of the extreme profiles. The mixed profile 0 is where none of the extreme profiles predominate.

3.3 – Analysis of the Labour Market Trajectories

In this section we intend to investigate the transitions in the labour market for persons between the ages of 20 to 30, classified according to intervals of employment, unemployment and inactivity during the period when the individual was observed in the PME/IBGE panel.

The choice of this age group was made on the understanding that it is in precisely this phase of a person's life-cycle that the most important decisions regarding labour market are taken (ALON & TIENDA, 2000). In this phase, as well, for the majority of people, especially the female sex, decisions are made about leaving school, getting married and having children, which are strongly associated with participation in the labour market.

The definition of the trajectories should cover the period during which the person was in the PME sample, taking into account periods of employment, unemployment and inactivity he or she experienced⁵. For this reason, those persons who had **responded to the first four** interviews in the PME were kept in the database.

The typology generated in 3.2 made it possible to analyse the profile of these trajectories in the six metropolitan regions covered by the PME. By means of Markov matrixes, we investigated the transitions in the categories in the first four months, taking the first month as the initial state. The reference here is the work carried out by CLARK and SUMMERS (1990).

4 – Analysis of the Profiles

The features of the extreme profiles were specified by analysing the ratio of probabilities to each response of the variable used (*lambda*) and the marginal frequency of the responses. In other words, it was considered that a specific response discriminates the profile when the ratio between the lambda and the marginal frequency of each response is higher than 1.2 (MELO, 2006). The summary table can be found in the Appendix (Table A1) where the shaded cells indicate the features where the ratio between the lambda and the frequency is higher than the cut-off point used. Figure 1 below (used as a reference in Table A1) presents the description of the probable features of the extreme profiles.

Figure 1 – Extreme Profiles according to Greatest Probability of Response to the Variables

Variable	Profile 1	Profile 2	Profile 3
Year	Not Specified	Not Specified	Not Specified
Sex	Male	Not Specified	Female
Position in the Family	Head and Spouse	Children and Others	Spouse
Colour	Non - White	White	Not Specified
School Attendance	No	Yes	Not Specified
Working Day	1 to 20 hours, 21 to 30 hours e 41 hours or more	1 to 20 hours, 21 to 30 hours e 31 to 40 hours	N/A
Social Security Contribution	No	Yes	N/A
Educational Level	0 years, 1 to 3 years, 4 to 7 years and 8 years	11 years and 12 years or more	0 years, 1 to 3 years, 4 to 7 years, 9 to 10 years
Age Group	25 to 27 years and 28 to 30 years	20 to 24 years	Not Specified
Activity Status	Economically Active Population	Economically Active Population	Inactive
Occupational Status	Occupied	Unoccupied	Unoccupied and Inactive
Occupational Position	Employed - No Official Registration Employer, Self-employed, Unremunerated and Domestic Service	Employed - Official Registration Employed - No Official Registration; Armed Forces and Public Service Worker	N/A
Branch of Activity	Industry, Construction, Commerce and Repairs Domestic Service and Other Services	Industry, Commerce and Repairs Housing and Financial Admin, Public Admin, Education and Health, Other Services	N/A
Metropolitan Region	Salvador	São Paulo	Recife
Presence of Children (0 to 7 years)	Yes	No	Not Specified
Presence of Children (8 to 14 years)	Yes	Not Specified	Not Specified
Presence of Adolescents (15 to 17 years)	Not Specified	Yes	Not Specified
Presence of Elderly	Not Specified	Yes	Not Specified
Occupied Head	Yes	No	No
Presence of Unemployed Person in the Family	Not Specified	Not Specified	Yes
Per capita Family Income	1 st e 2 nd Quartile	3 rd e 4 th Quartile	1 st Quartile

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Applying the grades of membership algorithm to the extreme profiles in Table 1 produced ten typological categories (Table 1). The categories defined are “Mixed without

Predominance” (0.01%); “Pure 1” (34.34%); “Mixed 1 and 2” (0.01%); “Mixed 1 and 3” (0.26%); Mixed 2 and 1 (0%); “Pure 2” (16.95%); “Mixed 2 and 3” (12.63%); “Mixed 3 and 1” (0%); “Mixed 3 and 2” (13.66%); and “Pure 3” (22.14%).

Table 1 – Distribution of Individuals by Pure and Mixed Categories

Categories	(%)
Mixed	0.01
1	34.34
Mixed 1 e 2	0.01
Mixed 1 e 3	0.26
Mixed 2 e 1	0.00
2	16.95
Mixed 2 e 3	12.63
Mixed 3 e 1	0.00
Mixed 3 e 2	13.66
3	22.14
Total	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Since there are very few observations for some profiles (Mixed, Mixed 1 and 2, Mixed 1 and 3, Mixed 2 and 1 and Mixed 3 and 1), it was decided to consider only half of the categories (Pure 1, Pure 2, Mixed 2 and 3, Mixed 3 and 2 and Pure 3), because these added up to almost 100% of the individuals.

The analysis of the composition of the categories by the chosen variables suggests that the characteristics which distinguish the profiles are: sex, position in the family, educational level, age group, occupational status, and quarters of per capita household income. Based on these findings, in the Appendix we present the graphs of these distributions for the categories which are significant in terms of their presence in the sample, as noted in the previous paragraph.

Pure 1 is made up mainly of ‘women’ (70%). 47.5% of the individuals in this group are ‘children’ and 30% are ‘spouses’. 60% declare themselves to be ‘non-white’ and a little over half (54%) are between ‘20 and 24 years old’. 77% do not attend school. The composition of this group as regards educational level places it in the second worst position compared to the other five profiles. The great majority of persons are not occupied; 65% are ‘economically inactive’ and 32% are ‘unemployed’. In view of this result, information about their job is not applicable. A substantial number of the households where these individuals live have children from 0 to 7 years of age (46%). 40% of the households have members who state that they are unemployed and a greater proportion (61%) of family heads are to be found in this situation. This low level of economical activity and occupation probably explains why 46% of these individuals are in the first quarter of per capita income distribution. In short, Profile 1 is composed of younger women with a low educational level who are unoccupied and belong to poor families. This profile was termed “people excluded from work”.

The Pure 2 Type consists of 60% ‘men’ and 54% ‘heads of family’. In the same way as in Profile 1, 60% declared themselves to be ‘non-white’. More than 90% do not attend school and this profile is the one with the lowest educational level, since 45% have, at the most, ‘7 years of schooling’ and 62% have till ‘8 years’. There is a tendency for concentration in the oldest age group of the sample: 40% are between ‘28 and 30 years of age’. 94% of those in the category are ‘economically occupied’, 51% do not make any Social Security payment and 52% work more than 41 hours per week. 35% are ‘employees officially registered’, 20% are ‘employees not

registered', 21% are 'self-employed' and 14% are 'domestic workers'. Within this sample, domestic service is the branch of activity which stands out. This profile is the category which has the closest correspondence with the presence of children from 0 to 7 years old (75%) and from 8 to 14 years old (31%). The level of occupation in these households is high, since 90% of the heads of family are occupied and only 14.6% of the households have unemployed persons. However, the level of education and occupational precariousness put 80% of this group below the median level of per capita household income. This category is, therefore, made up, predominantly, of male heads of family, who are occupationally very vulnerable, when educational level and occupational position are taken into account, and who belong to poor families. This type of profile was described as "occupied workers in a precarious situation".

Mixed Profile 2 and 3 is also predominantly male (63.5%). Regarding position in the family, 36% are 'children' and 35% 'heads of family'. 56% declare themselves to be 'non-white'. They have a better educational profile than the two previous categories because 37.2% finished secondary/high school and 13% still attend school. Occupied persons (94%) dominate strongly. 45% of the individuals in this group are 'employees officially registered', 25% are 'not registered' and 16% are 'self-employed'. Almost half of the persons (49.5%) in this category work more than 41 hours per week and 53.% make Social Security payments. 47% of the households have children from 0 to 7 years of age, 26% from 8 to 14 years of age, and 17% have adolescents. Almost 80% of the heads of family are occupied and 18% of households have unemployed members. Approximately 60% of the persons in this profile have below median per capita income. These persons were classified as "occupied in a vulnerable situation".

In the case of the Mixed 3 and 2 category, 60% are male and 48.7% are 'children'. Half of the persons declares to be 'white' and 47% are in the '20 to 24 year age' group. Almost 18% attend school and more than 60% have gone further than secondary education. 96% are also occupied. 52.9% are in officially registered employment and 21% without registration. Almost two thirds of these persons make Social Security contributions and around 45% work for longer than 41 hours per day. 28.7% of the households have children between the ages of 0 and 7, 18% have children from 8 to 14 years of age and 19% have adolescents. Nearly 75% of the heads of family are occupied and there are unemployed persons in 16.5% of the households. As to the per capita household income distribution, 60% are above the median. This profile tends to be the one of the not vulnerable occupied children, considering the high levels of education and household income. This type of profile was identified as "hard workers".

There is no differentiation by sex in the Pure 3 Profile. 80% are 'children' and they are predominantly 'white' (64.6%). This is the best category as regards educational level because 32% still attend school, probably tertiary education, given that 89% have been studying for more than 11 years. Approximately 60% are between '20 and 24 years' of age. Almost 99% are 'occupied' and 66% are in officially registered jobs. They have a relatively shorter working day, since 48.9% work for 31 to 40 hours per week. 79% make Social Security payments. The persons in this category have a noticeable presence in the Public Administration (24.5%) and Financial Institutions (22%) branches of activity. This profile has the households with the largest number of adolescents (21%) and elderly people (15%). 15% of the households have unemployed persons and 63% of the heads of family are occupied. Since we are dealing with children in families where 40% of the heads are not occupied, it probably is the case that these children still live at home with parents who have retired. Evidence of this is further corroborated by the rank held by these households in the per capita distribution of household income: nearly 80% are above the median. This category, therefore, consists of children in formal employment

with a high educational level and per capita household income. This profile was given the name of “promising youth”.

A clear-cut difference according to gender emerges from these results. Women are relatively better represented in the samples of the two extreme categories: “excluded from work” and “promising youth”. It is possible in this case, even though we are dealing with young people, that we are witnessing the effects of discrimination. The poorest persons are either inactive or unemployed and those from the richest families have a favourable labour market situation.

Now that the typology has been described, we will analyse the transitions from these categories in the first four-month period of the PME interview rotation, with the aim of identifying those which are the most subject to transitions which indicate improved or worsened occupational status.

5- Transition Analysis according to occupational profiles

In this section, we examine the trajectories by the profile categories considering two criteria: first, the individual transitions, month by month, between the conditions of unemployed, occupied, inactive in PME first round, i.e., in the first four months when the household is interviewed⁶; second, the individual transitions from the first to the fourth month. All the transitions are analyzed for men and women separately, because the labor market participation is strongly influenced by gender, as already shown in the literature review.

Markov Matrix Transition was the technique used to verify the occupational dynamics of the individuals put together in each profile. This technique assumes that individual behavior can be characterized by a matrix of probability that an individual is in the state k in the period $t+1$, conditioned to the fact that he/she was in the state j in the period t . As a matter of fact, we have the observed frequencies for each state in two points of time.

Since the probability is not an observable variable, we have supposed that the transitions between the states occur as a Markov process, in which the future process depends only on the state where the individual is and not on the trajectory by which he gets to the state. This hypothesis is not a weak one, because the period is short and, therefore, less subject to an erratic trajectory. The use of Markov Matrix involves also the assumption that the decisions of individual transitions do not depend on how long he/she spend in the state.

5.1 – Results of month by month transitions

Tables 2 and 2A show the transitions between occupational statuses (unemployed, occupied and inactive) of the individuals in the profile “people excluded from work” for women and men, respectively. Although the tendency is the immobility along all the four months, there are differences by gender. Women tend to maintain the original status in a larger proportion than men, especially as inactive individuals. Men move from unemployment to occupation in a higher rate than women. From the first to the second month, men’s rate transitions is 7.22%, decreasing to 5% in the other months. Women’s rate transition is below 3% in the whole period.

As time goes by, the proportion of occupied persons in the “people excluded from work” profile increases as much to women as to men. This proportion, however, gets just to 13.42% for

⁶ We have considered just the data that were identified as referring to the same individuals who were living in the household during all first round (which encompasses four months).

women and 31.43% for men. On the other hand, occupied men and women's rates in the other profiles always exceed 80%.

Table 2 – Markov Matrix for women “excluded from work” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	18.42	2.84	7.97	29.23
Occupied	0.00	0.00	0.00	0.00
Inactive	8.60	4.96	57.21	70.77
Total	27.02	7.80	65.18	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	17.11	2.40	7.52	27.02
Occupied	1.06	4.99	1.75	7.80
Inactive	7.57	3.48	54.12	65.18
Total	25.74	10.87	63.39	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	15.73	2.56	7.44	25.74
Occupied	1.06	7.69	2.12	10.87
Inactive	7.22	3.16	53.00	63.39
Total	24.02	13.42	62.56	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Table 2A – Markov Matrix for men “excluded from work” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	26.08	7.22	8.44	41.73
Occupied	0.21	8.74	0.16	9.11
Inactive	9.41	6.65	33.10	49.16
Total	35.69	22.61	41.70	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	22.89	5.74	7.06	35.69
Occupied	2.31	17.78	2.52	22.61
Inactive	7.83	4.26	29.61	41.70
Total	33.02	27.79	39.19	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	20.98	4.97	7.08	33.02
Occupied	2.58	22.63	2.57	27.79
Inactive	6.88	3.84	28.47	39.19
Total	30.44	31.43	38.13	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

In the “occupied workers in a precarious situation” (Tables 3 and 3A), in contrast to the previous profile, women are more subject to mobility. In this case, the transition from occupation to inactivity is the most frequent. Between the first and the second month, this transition represents 6.58% of the women and, from the third to fourth month, 3.51%.

Table 3 – Markov Matrix for occupied women in a “precarious situation” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	0.93	0.21	0.26	1.40
Occupied	2.64	86.28	6.58	95.49
Inactive	0.50	0.23	2.38	3.11
Total	4.07	86.72	9.21	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	1.77	1.31	0.99	4.07
Occupied	1.79	80.33	4.60	86.72
Inactive	1.03	2.49	5.70	9.21
Total	4.59	84.13	11.28	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	2.37	1.07	1.15	4.59
Occupied	1.59	79.02	3.51	84.13
Inactive	1.19	3.07	7.02	11.28
Total	5.16	83.16	11.69	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Table 3A - Markov Matrix for occupied men in a “precarious situation” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	1.89	0.45	0.62	2.96
Occupied	1.72	90.44	1.81	93.96
Inactive	0.57	0.30	2.22	3.08
Total	4.17	91.18	4.65	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	2.49	1.03	0.65	4.17
Occupied	1.73	88.07	1.38	91.18
Inactive	0.82	1.23	2.60	4.65
Total	5.04	90.33	4.63	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	2.85	1.38	0.82	5.04
Occupied	1.60	87.18	1.55	90.33
Inactive	0.80	1.27	2.56	4.63
Total	5.26	89.83	4.92	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

In respect of “occupied workers in a vulnerable situation” profile, whose transitions are presented in Tables 4 and 4A, there is not a great difference by gender, except for the first month, in which women move more frequently from occupation to inactivity, 4.87% against 2.36%.

Similar evidences to both genders are noted for the profile “hard workers” (Tables 5 and 5A) and “promising youth” (Tables 6 and 6A). Considering this last profile, the strong similarity between males and females’ transitions calls attention. These results show that the young people (no matter gender) with favorable socioeconomic characteristics, who are in the labor force, tend to be more alike than those who strive against vulnerable and precarious conditions. Among the poorest, the female trajectories are more unfavorable regarding the occupational activity.

Table 4 – Markov Matrix for occupied women in a “vulnerable situation” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	0.54	0.05	0.14	0.73
Occupied	3.12	89.55	4.87	97.54
Inactive	0.16	0.04	1.53	1.73
Total	3.82	89.64	6.54	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	1.91	1.16	0.75	3.82
Occupied	1.74	85.21	2.69	89.64
Inactive	0.95	1.82	3.78	6.54
Total	4.60	88.20	7.21	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	2.45	1.04	1.11	4.60
Occupied	1.66	83.47	3.06	88.20
Inactive	1.00	1.90	4.30	7.21
Total	5.11	86.41	8.48	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Table 4A – Markov Matrix for occupied men in a “vulnerable situation” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	2.88	0.61	0.91	4.40
Occupied	2.14	86.83	2.36	91.33
Inactive	0.86	0.59	2.82	4.26
Total	5.88	88.02	6.09	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	3.41	1.49	0.98	5.88
Occupied	1.63	84.50	1.89	88.02
Inactive	1.31	1.31	3.48	6.09
Total	6.35	87.30	6.35	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	3.62	1.44	1.30	6.35
Occupied	1.65	83.76	1.90	87.30
Inactive	1.25	1.60	3.50	6.35
Total	6.51	86.79	6.70	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Table 5 – Markov Matrix for female “hard workers” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	0.01	0.00	0.00	0.01
Occupied	2.06	94.56	3.32	99.94
Inactive	0.01	0.00	0.04	0.05
Total	2.07	94.56	3.36	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	0.75	0.88	0.44	2.07
Occupied	1.60	90.65	2.31	94.56
Inactive	0.54	1.42	1.40	3.36
Total	2.90	92.95	4.15	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	1.39	0.90	0.61	2.90
Occupied	1.04	89.33	2.57	92.95
Inactive	0.70	1.41	2.04	4.15
Total	3.13	91.65	5.22	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Table 5A – Markov Matrix for male “hard workers” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	1.68	0.50	0.49	2.66
Occupied	2.01	89.28	2.26	93.55
Inactive	0.63	0.49	2.67	3.79
Total	4.31	90.27	5.42	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	2.29	1.31	0.72	4.31
Occupied	1.86	86.63	1.77	90.27
Inactive	0.93	1.31	3.17	5.42
Total	5.08	89.25	5.67	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	2.72	1.41	0.96	5.08
Occupied	1.48	85.96	1.81	89.25
Inactive	0.84	1.40	3.43	5.67
Total	5.03	88.77	6.20	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Table 6 – Markov Matrix for young “promising women” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	0.00	0.00	0.00	0.00
Occupied	1.77	95.96	2.26	100.00
Inactive	0.00	0.00	0.00	0.00
Total	1.77	95.96	2.26	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	0.64	0.78	0.35	1.77
Occupied	1.17	95.96	2.26	100.00
Inactive	0.39	1.15	0.73	2.26
Total	2.20	95.08	2.72	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	1.19	0.55	0.46	2.20
Occupied	1.07	92.20	1.82	95.08
Inactive	0.38	1.05	1.28	2.72
Total	2.64	93.80	3.56	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Table 6A – Markov Matrix for young “promising men” (%)

Occupational status in t-1	Occupational status in t			
	Unemployed	Occupied	Inactive	Total
Unemployed	0.39	0.09	0.18	0.66
Occupied	1.68	93.93	1.90	97.51
Inactive	0.17	0.12	1.54	1.83
Total	2.24	94.14	3.62	100.00
Occupational status in t	Occupational status in t+1			
	Unemployed	Occupied	Inactive	Total
Unemployed	0.99	0.96	0.29	2.24
Occupied	1.17	91.50	1.47	94.14
Inactive	0.51	1.05	2.06	3.62
Total	2.66	93.51	3.82	100.00
Occupational status in t+1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	1.43	0.76	0.48	2.66
Occupied	1.17	90.69	1.66	93.51
Inactive	0.61	1.01	2.21	3.82
Total	3.20	92.46	4.34	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

5.2 – Results of transitions from the first month to fourth month

Considering the transition from the first to the fourth month (Tables 7 and 7A), we can see that men in the “people excluded from work” profile, comparing to women in the same profile, are mostly in unemployment or occupation in both months or moving from unemployment to occupation. Females remain out of labor market.

In the “occupied workers in a precarious situation” type, there is a difference by gender, indicating higher frequency of men in occupation and bigger rate of women moving from the occupied status to inactive status.

As to the rest of the profiles, there are no relevant differences between genders.

Comparing the types, we can identify that just “people excluded from work” (women and men) and females of the “promising youth” increased the proportion of occupied persons between t-1 and t+2.

If one considers that a transition from unemployed or inactive status to occupied status is a positive movement, we verify that only among the “promising youth” type the females’

transitions are more favorable than males' ones. In all others profiles, men either transit more to occupation ("people excluded from work") or move out of occupation less frequently (in "occupied workers in a precarious situation", "occupied workers in a vulnerable situation" and "hard workers").

Another way of analyzing gender differences, in each profile, could be the comparison between the proportions of "immobility". If we sum the diagonals (i.e., the proportions of individuals that remain in the same status – either as unemployed or occupied or inactive person), the data reveal that there are no relevant differences of immobility between men and women in the "occupied workers in a vulnerable situation", "hard workers" and "promising youth". But males in the "people excluded from work" type transit more frequently and they do it from the unemployment to occupation. In the "occupied workers in a precarious situation" profile, women make transition in higher intensity, mainly from occupied status to out of labor market.

We conclude that there are more differences in the month by month transitions than in a four month basis. Another relevant evidence is the gender differences in the worse profiles. Even considering young people (20 to 30 years old), inactive status and transitions to inactivity are still mainly reserved to women.

Table 7- Markov Matrix for women, according to status occupation, by profile

Excluded from work Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	total
Unemployed	15.02	5.41	8.79	29.23
Inactive	8.99	8.01	53.77	70.77
Total	24.02	13.42	62.56	100.00

Occupied workers in a precarious situation Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	total
Unemployed	0.77	0.30	0.32	1.40
Occupied	4.01	82.41	9.06	95.49
Inactive	0.37	0.44	2.30	3.11
Total	5.16	83.16	11.69	100.00

Occupied workers in a vulnerable situation Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	total
Unemployed	0.51	0.09	0.12	0.73
Occupied	4.34	86.27	6.93	97.54
Inactive	0.26	0.05	1.42	1.73
Total	5.11	86.41	8.48	100.00

Hard workers Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	total
Unemployed	0.01	0.00	0.00	0.01
Occupied	3.11	91.65	5.17	99.94
Inactive	0.01	0.00	0.04	0.05
Total	3.13	91.65	5.22	100.00

Promising youth Occupational status in t-1	Occupational status in t+2	
	Occupied	Total
Unemployed	2.64	2.64
Occupied	93.80	93.80
Inactive	3.56	3.56
Total	100.00	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

Tabela 7A - Markov Matrix for men, according to status occupation, by profile

Excluded from work Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	Total
Unemployed	20.59	12.92	8.23	41.73
Occupied	0.38	8.33	0.39	9.11
Inactive	9.47	10.18	29.51	49.16
Total	30.44	31.43	38.13	100.00

Occupied workers in a precarious situation Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	total
Unemployed	1.69	0.65	0.61	2.96
Occupied	2.97	88.57	2.42	93.96
Inactive	0.59	0.61	1.89	3.08
Total	5.26	89.83	4.92	100.00

Occupied workers in a vulnerable situation Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	total
Unemployed	2.46	1.06	0.88	4.40
Occupied	3.28	84.88	3.17	91.33
Inactive	0.77	0.84	2.65	4.26
Total	6.51	86.79	6.70	100.00

Hard workers Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	total
Unemployed	1.45	0.79	0.42	2.66
Occupied	3.03	87.26	3.26	93.55
Inactive	0.55	0.72	2.52	3.79
Total	5.03	88.77	6.20	100.00

Promising youth Occupational status in t-1	Occupational status in t+2			
	Unemployed	Occupied	Inactive	total
Unemployed	0.36	0.17	0.13	0.66
Occupied	2.64	92.09	2.78	97.51
Inactive	0.21	0.19	1.44	1.83
Total	3.20	92.46	4.34	100.00

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.

6 – Final Remarks

This paper describes the young adults' trajectory in the labor market, using PME database from 2002 to 2007. By means of *Grade of Membership* (GoM) technique applied to more than twenty string variables, we identify four that are key variables to assign the types: occupational status, position in the family, educational level and *per capita* family income. The results show that five of ten profiles, selected by GoM, comprise almost 100% of the sample. Taking into account their characteristics, they are nominated “people excluded from work”, “occupied workers in a precarious situation”, “occupied workers in a vulnerable situation”, “hard workers” and “promising youth”.

Young women predominate in the worst status profile (“people excluded from work”) and are in the same proportion in the best type (“promising youth”). Even analyzing the transitions, the female condition does not improve. In the exit towards occupation status, coming from unemployment and inactivity, there is a majority of men. Women, when moving, pass to inactive status. Only in “promising youth” profile, women transit more frequently into occupation than men. Probably, this more intense mobility derives of the higher educational level attained by women. Inasmuch as they are in the position of (female) “children” in the family and have higher educational level, they can allocate time to labor. However, in the other profiles, particularly in the worst, women tend to be “spouse” or “head of the family”, fact that leads them to inactivity probably in order to combine children care and household chores, especially considering the kind of job and wage they could expect to find in the labor market.

As far as these individuals are in the beginning of their active life cycle, they require special attention from the public policies. To the “people excluded from work”, “occupied workers in a precarious situation” and “occupied workers in a vulnerable situation” profiles, it is necessary to stimulate them to attend to “Educação para Jovens e Adultos” Program (EJA)⁷ and professional qualification courses. Besides, the government should promote small businesses, by means of credit access, since there is higher degree of informality in the worst types. In the specific case of female, it is crucial to generate conditions for entering in the labor market, enlarging the supply of day care centers.

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⁷ “Educação para Jovens e Adultos” is an educational program to assist people who are older than the adequate age to attend primary and secondary level of schooling.

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Appendix

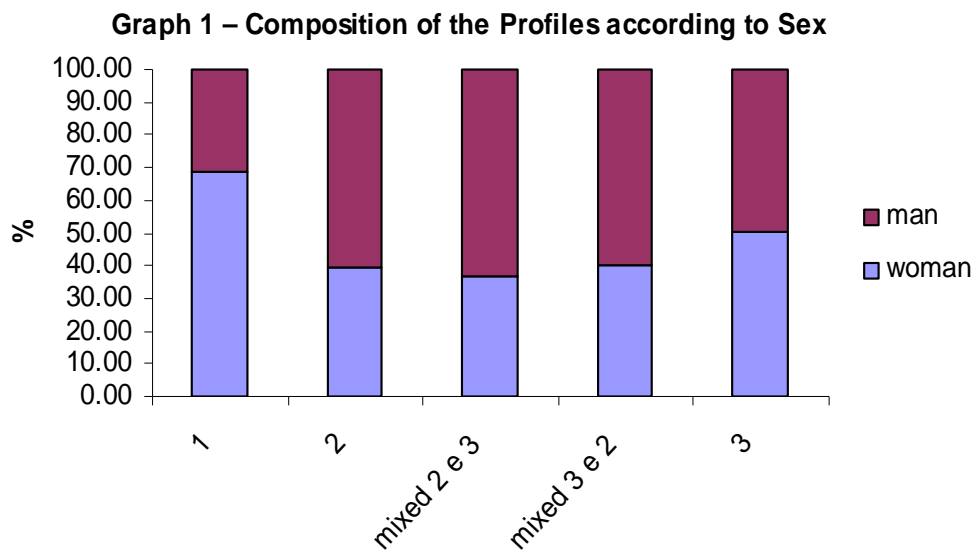
TABLE A1 – Marginal Frequencies, Estimated Probabilities and Descriptive Factors for the Extreme Profiles according to the Responses to the Personal Variables

Variable	Frequencies		Lambda			Ratio		
	Absolute	Relative	Profile 1	Profile 2	Profile 3	Profile 1	Profile 2	Profile 3
Year								
2002	19.106	0.1580	0.1789	0.1355	0.1657	1.1323	0.8576	1.0487
2003	24.246	0.2000	0.2190	0.1819	0.2056	1.0950	0.9095	1.0280
2004	24.915	0.2060	0.2038	0.2064	0.2063	0.9893	1.0019	1.0015
2005	25.774	0.2130	0.1926	0.2295	0.2103	0.9042	1.0775	0.9873
2006	25.004	0.2060	0.1904	0.2278	0.1958	0.9243	1.1058	0.9505
2007	2.061	0.0170	0.0153	0.0189	0.0162	0.9000	1.1118	0.9529
Sex								
Feminine	62.500	0.5160	0.4057	0.4426	0.6781	0.7862	0.8578	1.3141
Masculine	58.606	0.4840	0.5943	0.5574	0.3219	1.2279	1.1517	0.6651
Position in the Family								
Head	29.150	0.2410	0.6362	0.0000	0.1539	2.6398	0.0000	0.6386
Spouse	24.842	0.2050	0.3638	0.0000	0.2945	1.7746	0.0000	1.4366
Children	58.567	0.4840	0.0000	0.8776	0.4823	0.0000	1.8132	0.9965
Others	8.547	0.0710	0.0000	0.1224	0.0693	0.0000	1.7239	0.9761
Colour								
Not White	62.603	0.5170	0.6465	0.3663	0.5756	1.2505	0.7085	1.1133
White	58.481	0.4830	0.3535	0.6337	0.4244	0.7319	1.3120	0.8787
Ignored	22	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
School Attendance								
No	96.097	0.7930	1.0000	0.6773	0.7638	1.2610	0.8541	0.9632
Yes	24.953	0.2060	0.0000	0.3227	0.2362	0.0000	1.5665	1.1466
N/A	56	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Working Day								
1 to 20 hours	5.231	0.0430	0.0770	0.0598	0.0000	1.7907	1.3907	0.0000
21 to 30 hours	6.154	0.0510	0.0681	0.0865	0.0000	1.3353	1.6961	0.0000
31 to 40 hours	30.604	0.2530	0.2328	0.5163	0.0000	0.9202	2.0407	0.0000
41 hours or more	35.255	0.2910	0.6222	0.3375	0.0000	2.1381	1.1598	0.0000
N/A	43.862	0.3620	0.0000	0.0000	1.0000	0.0000	0.0000	2.7624
Social Security Contribution								
No	27.480	0.2270	0.5829	0.1820	0.0000	2.5678	0.8018	0.0000
Yes	49.764	0.4110	0.4171	0.8180	0.0000	1.0148	1.9903	0.0000
N/A	43.862	0.3620	0.0000	0.0000	1.0000	0.0000	0.0000	2.7624
Educational Level								
0 years	2.192	0.0180	0.0235	0.0000	0.0334	1.3056	0.0000	1.8556
1 to 3 years	4.770	0.0390	0.0786	0.0000	0.0514	2.0154	0.0000	1.3179
4 to 7 years	23.625	0.1950	0.3969	0.0000	0.2357	2.0354	0.0000	1.2087
8 years	13.938	0.1150	0.2559	0.0000	0.1244	2.2252	0.0000	1.0817
9 to 10 years	10.862	0.0900	0.1011	0.0585	0.1144	1.1233	0.6500	1.2711
11 years	45.710	0.3770	0.1439	0.5832	0.3567	0.3817	1.5469	0.9462
12 years or more	19.953	0.1650	0.0000	0.3583	0.0840	0.0000	2.1715	0.5091
N/A	56	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Age Group								

20 to 24 years	58.873	0.4860	0.1780	0.6393	0.5523	0.3663	1.3154	1.1364
25 to 27 years	32.103	0.2650	0.3344	0.2386	0.2395	1.2619	0.9004	0.9038
28 to 30 years	30.130	0.2490	0.4876	0.1220	0.2082	1.9582	0.4900	0.8361
Activity Status								
Inactive	28.940	0.2390	0.0000	0.0000	0.6827	0.0000	0.0000	2.8565
Economically Active Population	92.109	0.7610	1.0000	1.0000	0.3173	1.3141	1.3141	0.4170
N/A	57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Occupational Status								
Unoccupied	14.865	0.1230	0.0000	0.0000	0.3419	0.0000	0.0000	2.7797
Occupied	77.244	0.6380	1.0000	1.0000	0.0000	1.5674	1.5674	0.0000
Inactive	28.940	0.2390	0.0000	0.0000	0.6581	0.0000	0.0000	2.7536
N/A	57	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Occupational Position								
Employed – Official registration	41.328	0.3410	0.3174	0.6971	0.0000	0.9308	2.0443	0.0000
Employed – No Official registration	16.523	0.1360	0.1990	0.2219	0.0000	1.4632	1.6316	0.0000
Armed Forces & Pub. Serv. Worker	3.110	0.0260	0.0000	0.0681	0.0000	0.0000	2.6192	0.0000
Employer	1.543	0.0130	0.0266	0.0129	0.0000	2.0462	0.9923	0.0000
Self-employed	9.529	0.0790	0.2955	0.0000	0.0000	3.7405	0.0000	0.0000
Unremunerated	586	0.0050	0.0181	0.0000	0.0000	3.6200	0.0000	0.0000
Domestic Service	4.625	0.0380	0.1433	0.0000	0.0000	3.7711	0.0000	0.0000
N/A	43.862	0.3620	0.0000	0.0000	1.0000	0.0000	0.0000	2.7624
Branch of Activity								
Industry	14.041	0.1160	0.1855	0.1805	0.0000	1.5991	1.5560	0.0000
Construction	4.972	0.0410	0.1585	0.0000	0.0000	3.8659	0.0000	0.0000
Commerce and Repairs	17.384	0.1440	0.2751	0.1953	0.0000	1.9104	1.3563	0.0000
Housing & Financial Admin.	11.449	0.0950	0.0000	0.2510	0.0000	0.0000	2.6421	0.0000
Public Admin.								
Education & Health	11.055	0.0910	0.0000	0.2423	0.0000	0.0000	2.6626	0.0000
Domestic Service	4.625	0.0380	0.1471	0.0000	0.0000	3.8711	0.0000	0.0000
Other Services	13.256	0.1090	0.2339	0.1309	0.0000	2.1459	1.2009	0.0000
Other Activities	462	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N/A	43.862	0.3620	0.0000	0.0000	1.0000	0.0000	0.0000	2.7624
Metropolitan Region								
Recife	16.880	0.1390	0.1566	0.0865	0.1826	1.1266	0.6223	1.3137
Salvador	17.964	0.1480	0.1809	0.1010	0.1736	1.2223	0.6824	1.1730
Belo Horizonte	23.381	0.1930	0.1773	0.2200	0.1764	0.9187	1.1399	0.9140
Rio de Janeiro	20.229	0.1670	0.1619	0.1699	0.1680	0.9695	1.0174	1.0060
São Paulo	26.996	0.2230	0.1880	0.2781	0.1908	0.8430	1.2471	0.8556
Porto Alegre	15.656	0.1290	0.1353	0.1445	0.1087	1.0488	1.1202	0.8426
Presence of Children (0 to 7 years)								
No	73.418	0.6060	0.0000	1.0000	0.5452	0.0000	1.6502	0.8997
Yes	47.688	0.3940	1.0000	0.0000	0.4548	2.5381	0.0000	1.1543
Presence of Children (8 to 14 years)								
No	94.781	0.7830	0.6265	0.9169	0.7548	0.8001	1.1710	0.9640

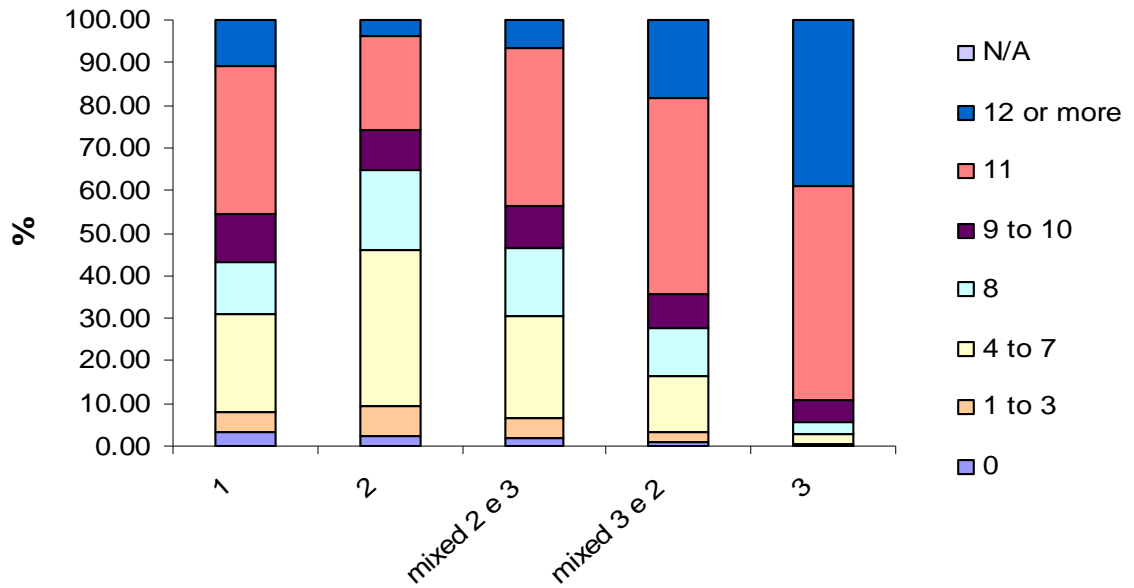
Yes	26.325	0.2170	0.3735	0.0831	0.2452	1.7212	0.3829	1.1300
Presence of Adolescents (15 to 17 years)								
No	99.991	0.8260	0.9085	0.7675	0.8237	1.0999	0.9292	0.9972
Yes	21.115	0.1740	0.0915	0.2325	0.1763	0.5259	1.3362	1.0132
Presence of Elderly								
No	109.213	0.9020	1.0000	0.8383	0.8959	1.1086	0.9294	0.9932
Yes	11.893	0.0980	0.0000	0.1617	0.1041	0.0000	1.6500	1.0622
Occupied Head								
No	35.597	0.2940	0.0000	0.4014	0.3956	0.0000	1.3653	1.3456
Yes	85.509	0.7060	1.0000	0.5986	0.6044	1.4164	0.8479	0.8561
Presence of Unemployed Person in the Family								
No	91.674	0.7570	0.8723	0.8399	0.5838	1.1523	1.1095	0.7712
Yes	29.432	0.2430	0.1277	0.1601	0.4162	0.5255	0.6588	1.7128
Per capita Family Income								
Missing	28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1 st quartile	35.265	0.2910	0.4623	0.0000	0.4965	1.5887	0.0000	1.7062
2 nd quartile	31.097	0.2570	0.4064	0.1515	0.2560	1.5813	0.5895	0.9961
3 rd quartile	28.678	0.2370	0.1312	0.3791	0.1577	0.5536	1.5996	0.6654
4 th quartile	26.038	0.2150	0.0000	0.4694	0.0898	0.0000	2.1833	0.4177

Source: produced by the authors from PME/IBGE Data, 2002 to 2007.



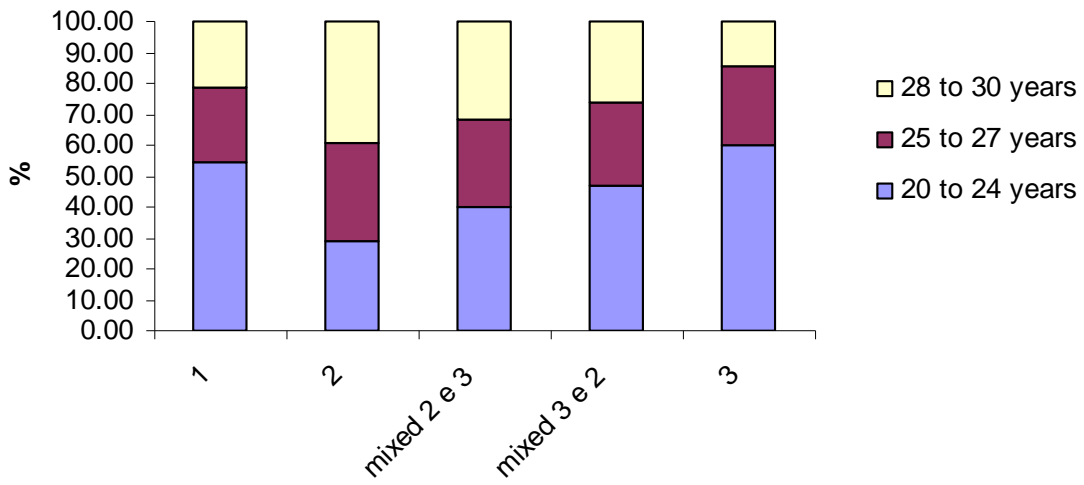
Source: produced by the authors from PME/IBGE Data, 2002 to 2007

Graph 2 – Composition of the Profiles according to Educational Level



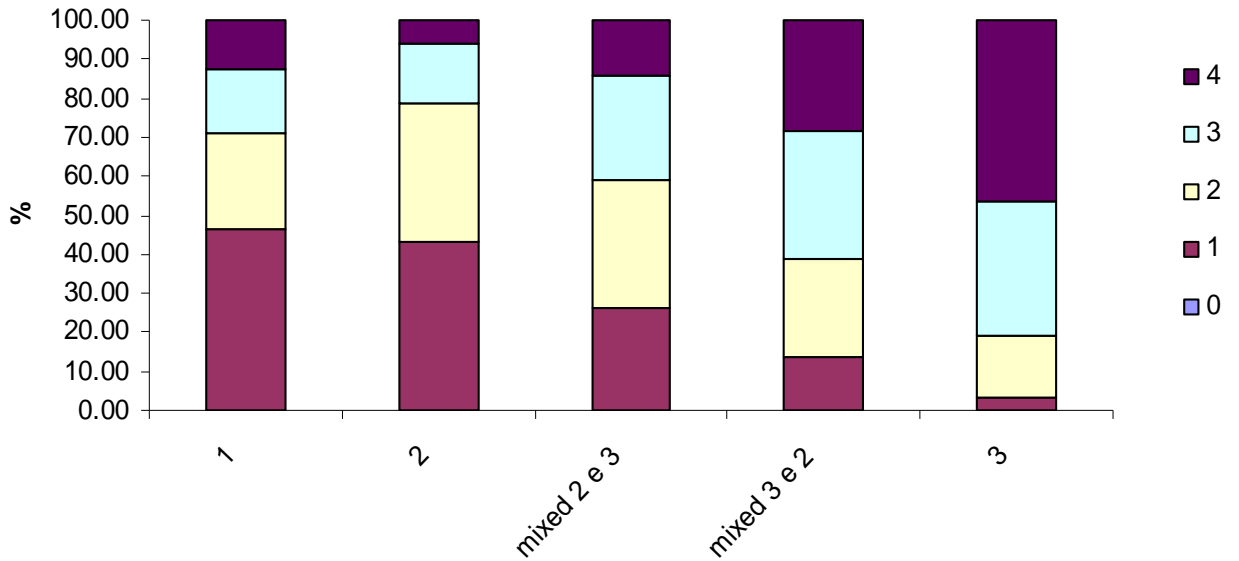
Source: produced by the authors from PME/IBGE Data, 2002 to 2007

Graph 3 – Composition of the Profiles according to Age Group



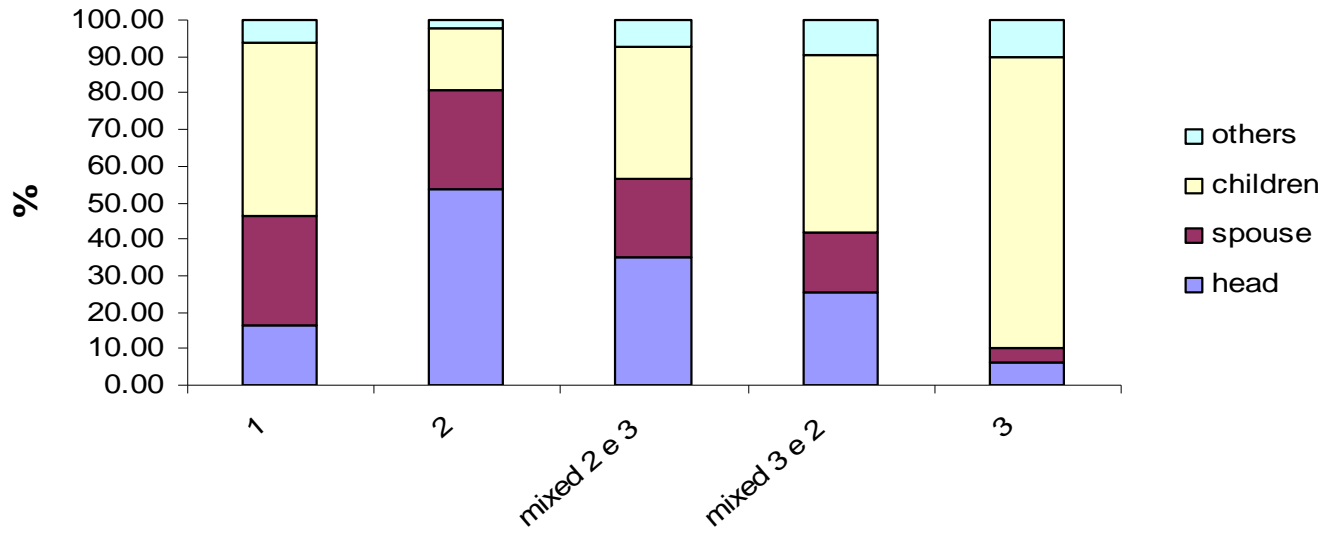
Source: produced by the authors from PME/IBGE Data, 2002 to 2007

Graph 4 – Composition of the Profiles according to Quartiles of Per capita Income



Source: produced by the authors from PME/IBGE Data, 2002 to 2007

Graph 5 – Composition of the Profiles according to Position in the Family



Source: produced by the authors from PME/IBGE Data, 2002 to 2007