# Measuring Inequality in Mobility: a Capability Perspective

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**Abstract**

In transportation research area, works, and debates on inequality in mobility, especially in relation with the sustainable development notion, have been started since the last twenty years. The social justice dimension of mobility is one of the three main aspects of sustainable development. Meanwhile, there is a significant gap between political speech and researcher's works in measuring inequality in mobility, in the one hand, and the theoretical concept of "space to be equalized", on the other hand. This work is an analysis of the inequality in mobility by using the capability perspective developed by Amartya Sen as an alternative approach.

First, the concept of mobility as a transportation element will be briefly discussed. In the second step, the position of mobility as one of human capabilities will be reviewed. In the third step, some functionnings in the mobility space will be listed and then selected by using factor analysis method. Finally, the distribution of these functionings among observed individus will be analysed. The data base from Global transportation survey in Paris region in 1991/1992 will be used for this cast study.

**Keywords:** *functioning, capability, mobility, trip, transportation, mode of transportation*

## 1. Introduction

In transportation area, researches, works, and debates on inequality in mobility, especially in relation with the sustainable development notion, have been started since the last twenty years. The social dimension of mobility which sets up one of sustainable development element has made the subject very important. Meanwhile, there is a significant gap between political speech and researcher's works in measuring inequality in mobility and, on the other hand, the theoretical concept of "space to be equalized" in mobility.

In general, analyses are directly conducted on the behaviours of the most disadvantaged transportation users. Those analyses stand up for the importance of "increasing mobility level" of those users. But in which way ? In their liberty of travelling or moving? In their equipment in transport mode and in their use of it ? In their satisfaction in travelling or in being able to move from one place to other? In their financial benefit or resource? Or in their capability? In which way? Some careful researchers or political actors mention it explicitly while others do not. But all of them suggest "something" to be equalized or at least to be improved in the mobility of disadvantaged users.

## 2. Mobility in Capability Approach

Several previous researches have been conducted to respond to these questions, for example Rosenbloom & Altshuler (1977), Lee (1987), Litman (2002), etc. But so far, these works are within the classical concepts of distributive justice, namely the space of resource and utility. This research then tries to analyze the inequality in mobility in using the capability perspective developed by Amartya Sen as an alternative approach.

There are at.least two reasons of using this approach in analyzing mobility. First, mobility or freedom to move can be considered as a capability. Robeyns (2002) explicitly mentions it in her list of capabilities, while Alkire (2002) even lists it within the elementary capabilities with nourishment and escaping morbidity and mortality. Mobility can be seen as being valuable in itself and can be seen also as an instrumental capability to other capabilities (Nussbaum's (2000) bodily integrity, social relation, employment, education, leisure, etc.).

Secondly, mobility as capability is very affected by individual characteristics: gender, age, and position in the life cycle. Sen's capability approach is in fact developed to deal with this kind of personal difference. Furthermore, there are also several external characteristics which influence mobility, such as family structure and geographical condition (population density of the area, transportation infrastructure and service level, etc.).

## 3. Data Base and Methodology

The research relies on the Global transportation survey conducted in Paris region in 1991/1992 (EGT 92). This survey recorded the information on household and individual realized trips during one day. It contains transportation-related information of 11291 households, 26009 individuals who realize a total of 91243 trips. Several socioeconomic, demographic, and geographic characteristics are also retained. From these 26009 individuals, have been eliminated : students or pupil of 6 to 18 years-old (about 18% of total population), residents of department of Oise which is located outside the region (1,3%), and individuals who made zero trip during the observed day (8,3%). A subset of 18877 individuals is obtained. It consists then all individuals living inside the Paris region (Île-de-France) who made at least one trip during the observed day who are not students nor pupils of 6 to 18 years old.

This work is conducted by using factor analysis method from multivariate techniques family as defined by by Brandolini and d'Alessio (1998). This method has been firstly used in capability perspective by Schokkaert and Van Ootegem (1990) to analyse the living standard of Belgian unemployed. This method is used principally to reveal or to identify a small number of relevant functionings in mobility from several particular variables which are obtained from the data base.

In an ideal condition, a survey with special questionnaire has to be conducted to reveal relevant functionings in mobility. This survey should include then questions of people's "doings and beings" in relation to mobility. This kind of survey should be able to capture not only the realized functionings but also those functionings that one can realize or potential functionings.

EGT 92 was not specially designed for recording functionings. It is then not a perfect way of applying the capability approach. At least, it reveals only a limited number of realized functionings. However, as an exercise of the capability approach application in transportation studies, this resource provides more than a set of comprehensive information on people's mobility.

## 4. Functionings in mobility

There are at least three functionings which can be extracted from EGT 92: travelling frequently, travelling far, and travelling fast. Three variables can be used for measuring these functionings : daily trips frequency, daily trip distance, and average travelling speed. Travelling comfortably can be added, but there is no direct question about it in the survey. This functioning can be captured indirectly by differentiating the first three variables according to the mode. Travelling by car is considered to be more comfortable than travelling by public transit while walking can be considered as the most uncomfortable mode. Finally, a freedom related functioning, such as having a modal choice can also be included. This last functioning can be described by the motorisation level, driving license holding, and the possession of public transit ticket.

Table 1. **Mobility related functionings and their indicators***

| Functioning | Indicators | Variables |
|---|---|---|
| Travelling frequently | Average number of trips per day per person | NBCAR<br>NBPT<br>NBWLK |
| Travelling far | Average distance per day per person | DCAR<br>DPT<br>DWLK |
| Travelling fast | Average speed per person | VCAR<br>VPT<br>VWLK |
| Travelling comfortably | Differentiation according to the mode | |
| Having a modal choice | Number of car per consumption unit per household | VOIUC |
| | Driving license holding | PERMI |
| | Transit ticket possession | ABON |

* ...CAR = car trips ...PT = public transit trips ...WLK = walking trips

Five initial functionings are then available. But somehow, these functionings can overlap. It is then necessary to reduce the number of functionings and to avoid overlapping or double counting as much as possible. In order to obtain relevant functionings, factor analysis is then applied to 12 variables above (**tables 1**). The following equations and steps on using factor analysis method in capability perspective are inspired from Schookaert and Van Ootegem (ibid.).

$$Z = AF + U \quad (1)$$

Z is the (12 x 18877) matrix which explains the position of each of 18877 individuals on the 12 variables. A is (12 x m) matrix called *factor loadings,* showing the correlation between values on variables and the position of the individuals on the relevant functionings and F is the (m x 18877) matrix of so-called *factor scores* which gives the position of the individuals on the m relevant functionings and U is the (12 x 18877) matrix of residual terms. Factor analysis aims at estimating A and F on the basis of the observed matrix Z.

Factor loadings matrix (A) gives a better insight into the identification of the relevant functionings : the basic functionings will be interpreted on the basis of the individual items, loading strongly on them. Factor scores matrix (F) gives a description of the performance of each individual on each of the m relevant functionings. It shows how well they function for the m identified dimensions.

Assuming A to be non-stochastic and U and F to be uncorrelated, it can be derived from (1):

$$E(ZZ')=AE(FF')A' + E(UU') \tag{2}$$

Or, defining $R_{ZZ}$ and $R_{FF}$ as correlation matrices,

$$R_{ZZ} = AR_{FF}A' + U^* \tag{3}$$

If an initial (diagonal) estimate of U* is accepted, and that the relevant functionings are supposed to be orthogonal, i.e. $R_{FF} = I$, it is obtained

$$R_{ZZ} - U^* = AA' \tag{4}$$

And A can be defined as

$$A=Q\Lambda^{1/2} \tag{5}$$

Where Q is the matrix with the eigenvectors of $R_{ZZ}$-U* and Λ the matrix with the corresponding eigenvalues. There is and obvious identification problem, of couse: take any orthogonal matrix K and define $A^T$=AK. Then

$$A^TA^{T}{'} = AKK'A' = AA' \tag{6}$$

The choice of K is called the rotation problem. In this work, a *varimax* procedure of rotation which maximises the variance of the loadings on each factor is chosen. The orthogonality of the relevant functionings is kept, which means that they do not overlap.

Using the proportion procedure, three factors correspond to the 3 highest eigenvalues are obtained. Together, the three large positive eigenvalues account for 105%[1] of the common variance. A *varimax* rotation applied to these three factors gives the following coefficients (factor loading) which connect those factors with the 12 initial variables (**tables 2**). This **table 2** is the matrix A.

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[1] There are negative eigenvalues

Table 2. **Rotated Factor Loadings***

| | Factor1 (55%) | Factor2 (38%) | Factor3 (12%) |
|---|---|---|---|
| Nbauto | -0.30333 | 0.62015 | -0.23106 |
| Nbtc | 0.72032 | -0.31638 | -0.1079 |
| Nbapied | -0.12846 | -0.2554 | 0.76096 |
| Dauto | -0.18794 | 0.73591 | -0.13269 |
| Vauto | -0.20525 | 0.73389 | -0.17761 |
| Dtc | 0.89862 | -0.04302 | -0.05414 |
| Vtc | 0.92597 | -0.0866 | -0.05002 |
| Dmap | -0.08396 | -0.17 | 0.82465 |
| Vmap | -0.03429 | -0.17342 | 0.6766 |
| Abon | 0.60162 | -0.28512 | -0.08219 |
| Permi | -0.0082 | 0.44755 | -0.11295 |
| Voiuc | -0.09401 | 0.48895 | -0.12391 |

* percentage of variance explained by the factor between brackets

Based on these coefficients, it can be concluded that the first factor represents public transit related variables. The second factor is determined by the car related variables and the last factor by the walking related variables. These three factors could then be respectively named then as FUNPT, FUNCAR, and FUNWLK. By factor analysis, three pertinent functionings are derived from the 12 initial variables which were previously supposed to explain about six functionings. These three new functionings represent then the public transit related functioning, car related functioning, and walking related functioning respectively.

Obviously, the three relevant functionings found here through the factor analysis are not a complete list of functionings in mobility. It does not give any indication about valuation of the functionings, namely; how to make an inter-personal comparison over the three functionings. The weights obtained give only an idea about the statistical importance of the factors for the explanation of the observed variables pattern.

Furthermore, the three factors are closely related to the transportation modes. It is not a coincidence since the initial variables supplied to the analysis are differentiated by modes. It is not supposed to be a problem since the work is conducted based on a general transportation data base. Indeed, there is a probability that the “real” mobility functionings are correlated to the transportation modes. A further research using a specifically designed data base or questionaire is needed then to verify the result of functionings selection in this work.

## 5. **Functioning levels**

Functioning levels of each individual can be obtained from the factor scores matrix F. It might be interesting to observe how these functionings can be explained by other variables. By this observation, a performance of different categories of individual can be more or less visualised and it can be a first step in analysing inequality in mobility.

Taking for example five variables: yearly income per consumption unit (INC), district area population density (DEN), average home/downtown distance (HDD), age (AGE), and average real home/work distance (HWD). These variables are supposed to explain the performance of each individual to each functioning (Fij) by the following simple model:

$$Fij = a1.INCi + a2.DENi + a3.HDDi + a4.AGEi + a5.HWDi + intercept \quad (7)$$

i= 1 to 18877 individual
j= FUNCPT, FUNCCAR, FUNCWLK

Table 3. **Parameter estimate of multinomial model**

| Variable | Parameter estimate (standard error) | | |
|---|---|---|---|
| | FUNCPT | FUNCCAR | FUNCWLK |
| Intercept | -0.01 (0.002) | -0.02 (0.002) | -0.10 (0.002) |
| Yearly income per consumption unit | -3.99E-8 (6.38E-9) | 1.34E-7 (5.55E-9) | -5.36E-9 (5.68E-9) |
| District area density (person/km$^2$) | 6.13E-7 (5.37E-8) | -8.11E-7 (4.67E-8) | 4.83E-7 (4.78E-8) |
| Average home/downtown distance | -3.24E-4 (4.08E-5) | 8.37E-4 (3.55E-5) | 5.01E-5 (3.6E-5) |
| Age | -3.06E-4 (3.77E-5) | 8.78E-5 (3.28E-5) | 1.19E-5 (3.35E-5) |
| Average real home/work distance (meters) | 2.66E-3 (4.15E-5) | 9.33E-4 (3.61E-5) | -2.36E-4 (3.94E-5) |
| $R^2$ | 0.28 | 0.28 | 0.02 |

By observing the coefficient of determination, it is obvious that five chosen variables do not well explain the three functionings, especially the walking functionings. However this example model might give a preliminary image of the distribution of mobility functioning among people or population.

First, Income positively determines the mobility functioning by private car while it is negative for the two other functionings. It means that high income people usually have higher functioning by car than low income people. The district area population density positively determines mobility functioning by public transport and by walking. This signifies that the higher the area density, the higher the mobility functioning by public transport and by walking. The next three variables more strongly determine the functionings. Average home/downtown distance and age positively determine the functioning by car. Age negatively determines the functioning by public transport which means that the public transport mobility functioning of older people is usually less than that of younger people. Finally, the average real home/work distance positively determines functionings by public transport and by car.

## 6. **Distribution of weak functionings**

The second step of our inequality analysis consists of observation on the distribution of the weak functionings performance. From the **appendix A**, it is shown that only 0,2% of the population realize the lowest 20% of the mobility functionings by public transport, by car, and by walking, the three modes altogether (FUNCPT||FUNCCAR||FUNCWLK). It is very interesting to know which individual categories make this 0,2%. First, they are *non-actif individuals* and *older persons* who form the *retired* or *inactive retired* category. The second bigger category is *housewife*. Finally by observing the distribution of functionings according to household income class; it can be easily seen that individuals coming from *low household income classes* make a great contribution to this very low mobility population.

*Women (housewifes)* and the *non-active* individuals contribute an important part within the population who realize the lowest 20% of the mobility functionings by public transport and car (FUNCPT||FUNCCAR). Individuals from *low to middle household income class* also contribute an important percentage to this population. This population is 6,5% of the total population and they can be considered as individual who chose walking as their principal transportation mode.

7,2% of the total population are individuals realizing the lowest 20% of the mobility functionings by public transport and by walking (FUNCPT||FUNCWLK). This population consists then of those individuals who use car as their principle mode of transport. It is not surprising then that the Parisians are not well represented in this population. The biggest part of this population is formed by *individuals from 30 to 50 years old*, and individuals with *middle household income class (between 60 to 239 kF)*. It is very interesting to see that there is a kind of an optimum interval of age and income to use car. It can be seen that active individuals contribute also an important part to this population.

Finally, 7,4% of the total population are individuals realizing the lowest 20% of the mobility functionings by car and by walking (FUNCCAR||FUNCWLK). These individuals are principally the public transport users. It is then normal that individuals who live at outer circle zone are low represented. This population is formed largely by the *individuals of 20 to 30 years old*, by the individuals *low to middle household income class*, and it can be seen easily that *actives* individuals are majority in this population, followed by *students of more than 18 years old.*

By these mobility functionings, the most disadvantaged categories in the population are identified. It might be interesting to aggregate these three functionings into one single indicator. However; the capability theory always considers functionings as vectors having their own values and directions. An aggregation of these vectors might reduce the meaning of these vectors. Moreover, in the daily life, each individual depends on a particular transport mode as her or his principle device to be mobile. An aggregation means nothing in this case.

## 7. Conclusion

A capability perspective d'Amartya Sen has the flexibility to be applied in many research areas, one of them is transportation or more specifically mobility. Using this perspective, the focus of the study is "the freedom to be mobile". Analyse concentrates then on mobility functioning on realizes or can realizes.

A special designed questionnaire is the most ideal starting point to conduct the application of this perspective. It is really important, especially to define and select the relevant functionings.

This work, however, is based on an available data set, which is not specially designed for capturing mobility functionings. Several potential variables are then selected and a factor analyse method has been applied in order to reveal the relevant mobility functionings. As a result, three functionings which are strongly related to three modes of transport are captured. By using the factor score of each individual of the three functionings (factors), an analyse on inequality is conducted and several transportation disadvantaged categories within the population are identified.

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## Appendix A. **Distribution of the lowest 20% functionings**

| | FUNCTC | | FUNCVP | | FUNCMAP | | FUNCTC \|\| FUNCVP\|\|FUNCMAP | | FUNCTC\|\|FUNCVP | | FUNCTC\|\|FUNCMAP | | FUNCVP\|\|FUNCMAP | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | col pct | percent | col pct | percent | col pct | percent | col pct | percent | col pct | percent | col pct | percent | col pct | percent |
| *Geographical Zone* | | | | | | | | | | | | | | |
| Paris | 35,0 | 3,4 | 39,1 | 7,8 | 27,0 | 5,4 | 24,6 | 0,1 | 23.68 | 1.54 | 8.96 | 0.64 | 40.75 | 3.00 |
| Inner circle | 65,0 | 8,3 | 41,0 | 8,2 | 43,9 | 8,8 | 31,2 | 0,1 | 42.80 | 2.78 | 40.47 | 2.91 | 43.80 | 3.22 |
| Outer circle | | 8,4 | 19,9 | 4,0 | 29,2 | 5,8 | 44,2 | 0,1 | 33.52 | 2.18 | 50.58 | 3.64 | 15.45 | 1.14 |
| | 100,0 | 20,0 | 100,0 | 20,0 | 100,0 | 20,0 | 100,0 | 0,2 | 100,0 | 6.49 | 100,0 | 7.19 | 100,0 | 7.36 |
| *Gender* | | | | | | | | | | | | | | |
| Men | 35,0 | 7,0 | 30,8 | 6,2 | 44,0 | 8,8 | 26,7 | 0,1 | 17.38 | 1.13 | 44.06 | 3.17 | 40.06 | 2.95 |
| Women | 65,0 | 13,0 | 69,2 | 13,8 | 56,0 | 11,2 | 73,3 | 0,1 | 82.62 | 5.36 | 55.94 | 4.02 | 59.94 | 4.41 |
| | 100,0 | 20,0 | 100,0 | 20,0 | 100,0 | 20,0 | 100,0 | 0,2 | 100,0 | 6.49 | 100,0 | 7.19 | 100,0 | 7.36 |
| *Active ?* | | | | | | | | | | | | | | |
| Non active | 57,4 | 11,5 | 58,4 | 11,7 | 38,5 | 7,7 | 84,4 | 0,2 | 81.55 | 5.29 | 44.35 | 3.19 | 42.73 | 3.14 |
| Active | 42,6 | 8,5 | 41,6 | 8,3 | 61,5 | 12,3 | 15,6 | 0,0 | 18.45 | 1.20 | 55.65 | 4.00 | 57.27 | 4.21 |
| | 100,0 | 20,0 | 100,0 | 20,0 | 100,0 | 20,0 | 100,0 | 0,2 | 100,0 | 6.49 | 100,0 | 7.19 | 100,0 | 7.36 |
| *Age* | | | | | | | | | | | | | | |
| age<=10ans | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0.09 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10<age<=20 | 2,6 | 0,5 | 7,9 | 1,6 | 7,2 | 1,5 | 5,7 | 0,0 | 3.36 | 0.22 | 1.93 | 0.14 | 12.54 | 0.92 |
| 20<age<=30 | 15,4 | 3,1 | 22,3 | 4,5 | 24,7 | 4,9 | 5,8 | 0,0 | 12.05 | 0.78 | 15.60 | 1.12 | 29.09 | 2.14 |
| 30<age<=40 | 20,2 | 4,0 | 16,5 | 3,3 | 21,8 | 4,4 | 8,2 | 0,0 | 12.63 | 0.82 | 25.97 | 1.87 | 17.38 | 1.28 |
| 40<age<=50 | 16,8 | 3,4 | 13,4 | 2,7 | 18,0 | 3,6 | 4,1 | 0,0 | 11.82 | 0.77 | 19.74 | 1.42 | 15.14 | 1.11 |
| 50<age<=60 | 14,8 | 3,0 | 11,9 | 2,4 | 13,1 | 2,6 | 13,7 | 0,0 | 13.29 | 0.86 | 15.20 | 1.09 | 12.35 | 0.91 |
| 60<age<=70 | 14,8 | 3,0 | 11,0 | 2,2 | 8,5 | 1,7 | 17,7 | 0,0 | 18.54 | 1.20 | 13.01 | 0.94 | 5.40 | 0.40 |
| 70<age | 15,4 | 3,1 | 16,9 | 3,4 | 6,8 | 1,4 | 44,7 | 0,1 | 28.21 | 1.83 | 8.54 | 0.61 | 8.10 | 0.60 |
| | 100,0 | 20,0 | 100,0 | 20,0 | 100,0 | 20,0 | 100,0 | 0,2 | 100,0 | 6.49 | 100,0 | 7.19 | 100,0 | 7.36 |
| *Yearly household income* | | | | | | | | | | | | | | |
| <30KF | 1,7 | 0,3 | 3.80 | 0.76 | 2.30 | 0.46 | 5,2 | 0,0 | 3.11 | 0.20 | 1.06 | 0.08 | 3.81 | 0.28 |
| 30-59KF | 8,6 | 1,7 | 15.17 | 3.03 | 6.14 | 1.23 | 13,2 | 0,0 | 18.32 | 1.19 | 3.23 | 0.23 | 11.08 | 0.82 |

| | FUNCTC | | FUNCVP | | FUNCMAP | | FUNCTC \|\| FUNCVP\|\|FUNCMAP | | FUNCTC\|\|FUNCVP | | FUNCTC\|\|FUNCMAP | | FUNCVP\|\|FUNCMAP | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | col pct | percent | col pct | percent | col pct | percent | col pct | percent | col pct | percent | col pct | percent | col pct | percent |
| 60-89KF | 16,7 | 3,3 | 22.33 | 4.47 | 14.13 | 2.83 | 33,8 | 0,1 | 25.88 | 1.68 | 12.27 | 0.88 | 20.45 | 1.50 |
| 90-199KF | 15,9 | 3,2 | 16.75 | 3.35 | 14.42 | 2.88 | 12,0 | 0,0 | 16.16 | 1.05 | 14.00 | 1.01 | 16.47 | 1.21 |
| 120-149KF | 14,7 | 2,9 | 11.48 | 2.30 | 13.91 | 2.78 | 0,0 | 0,0 | 10.92 | 0.71 | 16.33 | 1.17 | 11.12 | 0.82 |
| 150-179KF | 9,2 | 1,9 | 6.86 | 1.37 | 10.25 | 2.05 | 2,7 | 0,0 | 4.69 | 0.30 | 11.79 | 0.85 | 7.26 | 0.53 |
| 180-239KF | 9,5 | 1,9 | 6.63 | 1.33 | 12.35 | 2.47 | 9,1 | 0,0 | 4.65 | 0.30 | 13.13 | 0.94 | 9.43 | 0.69 |
| 240-359KF | 6,7 | 1,3 | 3.76 | 0.75 | 8.66 | 1.73 | 3,3 | 0,0 | 2.15 | 0.14 | 8.99 | 0.65 | 5.36 | 0.39 |
| 360-599KF | 3,2 | 0,6 | 1.81 | 0.36 | 5.29 | 1.06 | 0,0 | 0,0 | 0.40 | 0.03 | 5.22 | 0.38 | 2.94 | 0.22 |
| 600KF< | 1,0 | 0,2 | 0.32 | 0.06 | 0.87 | 0.17 | 0,0 | 0,0 | 0.20 | 0.01 | 1.43 | 0.10 | 0.45 | 0.03 |
| | 100,0 | 20,0 | 100,0 | | 100,0 | 20,0 | 100,0 | 0,2 | 100,0 | 6.49 | 100,0 | 7.19 | 100,0 | 7.36 |
| *Principle occupation* | | | | | | | | | | | | | | |
| Have a job | 42,6 | 8,5 | 41.63 | 8.32 | 61.49 | 12.30 | 15,6 | 0,0 | 18.45 | 1.20 | 55.65 | 4.00 | 57.27 | 4.21 |
| Retired | 28,3 | 5,7 | 25.84 | 5.17 | 14.20 | 2.84 | 43,0 | 0,1 | 41.51 | 2.70 | 20.03 | 1.44 | 13.16 | 0.97 |
| Unemployeed | 5,9 | 1,2 | 7.03 | 1.41 | 4.12 | 0.82 | 5,8 | 0,0 | 7.06 | 0.46 | 4.56 | 0.33 | 5.07 | 0.37 |
| Pupil | 0,5 | 0,1 | 1.63 | 0.33 | 1.24 | 0.25 | 0,0 | 0,0 | 0.84 | 0.05 | 0.00 | 0.00 | 2.46 | 0.18 |
| Student | 1,2 | 0,2 | 9.14 | 1.83 | 9.65 | 1.93 | 3,2 | 0,0 | 0.50 | 0.03 | 1.64 | 0.12 | 16.20 | 1.19 |
| Housewife | 18,8 | 3,8 | 12.17 | 2.43 | 8.15 | 1.63 | 18,5 | 0,0 | 26.41 | 1.71 | 16.11 | 1.16 | 4.50 | 0.33 |
| Inactive retired | 2,8 | 0,6 | 2.56 | 0.51 | 1.15 | 0.23 | 13,9 | 0,0 | 5.22 | 0.34 | 2.01 | 0.14 | 1.33 | 0.10 |
| | 100,0 | 20,0 | 100,0 | 20.00 | 100,0 | 20,0 | 100,0 | 0,2 | 100,0 | 6.49 | 100,0 | 7.19 | 100,0 | 7.36 |
| *Cycle de vie* | | | | | | | | | | | | | | |
| Active Male | 19,7 | 3,9 | 15.53 | 3.11 | 29.85 | 5.97 | 9,4 | 0,0 | 4.36 | 0.28 | 29.60 | 2.13 | 25.00 | 1.84 |
| Active Female | 22,9 | 4,6 | 26.09 | 5.22 | 31.64 | 6.33 | 6,2 | 0,0 | 14.09 | 0.92 | 26.05 | 1.87 | 32.27 | 2.37 |
| Housewife | 18,8 | 3,8 | 12.17 | 2.43 | 8.15 | 1.63 | 18,5 | 0,0 | 26.41 | 1.71 | 16.11 | 1.16 | 4.50 | 0.33 |
| Studen>18 years old | 1,7 | 0,3 | 10.77 | 2.15 | 10.89 | 2.18 | 3,2 | 0,0 | 1.34 | 0.09 | 1.64 | 0.12 | 18.67 | 1.37 |
| Inactive retired | 31,1 | 6,2 | 28.41 | 5.68 | 15.35 | 3.07 | 56,9 | 0,1 | 46.74 | 3.03 | 22.04 | 1.58 | 14.49 | 1.07 |
| Unemployeed | 5,9 | 1,2 | 7.03 | 1.41 | 4.12 | 0.82 | 5,8 | 0,0 | 7.06 | 0.46 | 4.56 | 0.33 | 5.07 | 0.37 |
| | 100,0 | 20,0 | 100,0 | 20.00 | 100,0 | 20,0 | 100,0 | 0,2 | 100,0 | 6.49 | 100,0 | 7.19 | 100,0 | 7.36 |