

## Analysis of unemployment by individual characteristics: theoretical origins and review of the literature

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### Abstract

*The main objective of the analysis of unemployment by individual characteristics is to answer the following question: what makes two job seekers with the same level of education, the same diploma and the same sex not do not have the same chances of finding a job? The answer lies in the individual characteristics that affect their job search trajectories. These individual characteristics (or data) differ from person to person. They can be observed as, for example, age, sex, region ... or not observed as "psychological" factors, which are not identifiable, but exist and affect the probabilities of exiting unemployment. Studies dealing with individual data and their contribution to the explanation of unemployment are not numerous because this literature is relatively recent. Its theoretical origins can be traced back to job search theory, which explains the trajectories of job seekers and shows how they set "benchmarks" against which they will make decisions about their hiring. Analysis by individual characteristics, which is an extension of this theory, teaches how taking into account an additional characteristic (observed or unobserved) can affect or sometimes modify the probability and also the decision to have a job. The first trials that empirically dealt with the individual characteristics of the unemployed took the effects of some of these characteristics on unemployment or the probability of seeking (or obtaining) a job. Thus some have analyzed the effects of personal variables on the probability of having a job (Peder J. Pederson and Neil W. Nieslson 1993), others have analyzed the effects of training courses on employability (OECD 1993), or the individual determinants of the duration of unemployment (Bonnal Liliane, Denis Fougère 1990), individual characteristics have also attracted specialists in sociology and psychology (Demers M. 1983). But before these authors, economic theory has had its word: human behavior is not necessarily linked to standard models. It can be independent of it, hence the appearance of the notion of relative utility which means that the individual, apart from the search for his personal interest as recommended by classical theory, is often guided by elements rather psychological like envy, altruism etc ...*

*In this chapter, we will present the basic model of job search theory to move on to analysis by individual characteristics and, before moving on to the underlying empirical studies, we will devote a paragraph dealing with the notion of relative utility which has proven, already for years, the effect that psychological considerations have on individual decision-making. But before discussing such approaches, we will have to present the theoretical origins of job search theory and individual characteristics: in the first section we will present the neoclassical analysis of the labor market and unemployment.*

### Section 1: The neoclassical conception of the labor market and unemployment

In any society, full employment is not only a criterion of proper functioning, it also and above all testifies to the existence of a satisfactory situation for workers, and, consequently, it is the necessary condition for equilibrium. political and social in a free society, while unemployment is a cause of alienation and demoralization for workers. In a democratic society, everything must therefore be done to establish full employment of the workforce. Thus, unemployment being one of the major problems of a society, it is essential to know its causes in order to be able to eliminate it. But neoclassical analysis focuses on studying voluntary unemployment, which means the refusal of workers to accept a job for a wage rate compatible with the equilibrium of the system. To measure the significance of this assertion, it is essential to see how, in this analysis, the rate of remuneration for labor is determined. The authors of the Neoclassical school of thought base the study of employment on supply and demand, because in this system work is equated with goods. Therefore, the achievement of full employment does not pose a problem because it is market forces that drive the economy towards a full employment equilibrium. The equilibrium of the system therefore implies full employment, which 2 the founding father of General Equilibrium presents in these terms. "The equilibrium state of production, implicitly containing the equilibrium state of exchange, is now easy to define.

It is that, first, where the effective supply and demand of the producing services are equal, and where there is a stationary current price, in the market for these services. It is the one, then, where the actual supply and demand of the products are equal, and where there is a stationary current price, in the market of the products. Finally, it is the one where the selling price of the products is equal to their cost price in producer services ". (Walras; 1976, p. 193). This equality between effective supply and demand, necessary to achieve system equilibrium, has become a source of interpretation. Does this mean that at equilibrium full employment of the workforce is achieved, or does it simply mean that equality between effective supply and demand is a system requirement, necessary to the achievement of general equilibrium? These interpretations are also based on one of the assumptions of this school of thought which consists of an assertion that the factors of production are substitutable. To do this, it is necessary to assume a production function with variable coefficients. Thus, for some, it is enough to increase the number of workers on a fixed quantity of capital until the equilibrium of full employment is achieved. As a result, as the

number of employed workers increases, the wage rate decreases, because this rate must obey the law of marginal productivity. This prompts some authors to say that unemployment is due to wage rigidity. For others, the achievement of system equilibrium occurs under certain constraints and, in this case, it will be a question of whether the equilibrium of the system implies full employment. Our goal is to know, on the one hand, which of the two preceding propositions is compatible with the system of general equilibrium, on the other hand, if the hypothesis of the variable coefficients applies to certain particular cases or more generally to all cases.

Acceptance of the first proposition means that an infinite number of situations are compatible with the equilibrium of the system; on the other hand, acceptance of the second proposition means that only one situation is compatible with general equilibrium. As for the hypothesis of variable coefficients, if its application is not general, this situation calls into question not only the determination of the rates of remuneration of the 3 factors of production according to their marginal productivity but also the achievement of the equilibrium of "full employment" in this system.

In the next section, we will present a theory that considers that unemployment can be both voluntary and involuntary: this is the job search theory.

### 1.3 Psychosocial interaction and relative utility: Psychological notions already cited in economic theories

If the economics of well-being is a current of research born with the work of Arthur Cecil Pigou *The Economics of Welfare* (1920), it is a part of the economy which aims above all to determine the means and criteria making it possible to judge and compare situations, with the aim of evaluating them and helping in public decision-making. This current therefore remains in a perspective which is that adopted after the neoclassicals with regard to happiness. Indeed, after Vilfredo Pareto, utility, and with it well-being, are defined much more restrictively than among the classics and utilitarian philosophers. "If J. Bentham gave great importance to the measure of joys and sorrows (the felicific calculus) to determine utility and therefore ultimately happiness, just like the early neoclassicals who attempted to address the utility from a cardinal point of view, modern economics has, since Pareto, broken with recourse to psychology by adopting an ordinal perspective (see box on the previous page) and by limiting the elements taken into account in the definition of utility".

As a social "science", the economy is not immune to transformations and innovations. The trends which characterize the evolutions of the discipline are numerous. The relative decline of general equilibrium models, the emergence of new currents, resulting from crosses with other disciplines such as neuroeconomics, the economics of happiness or behavioral finance are helping to diversify its tools and results. Among these different developments, the 1970s and 1980s saw economic theory turn to research themes that had until then been relatively absent from its corpus. "In the heyday of Chicago School monetarism, transaction cost theory and game theory, a literature has emerged with issues focused primarily on the individual and more particularly on his or her well-being. The object of economic analysis no longer resides in systemic quantities such as prices or the unemployment rate, nor in the structural determinants of development and growth, nor in abstract objects such as utility functions or production functions but in the individual and the measures which may be associated with him. The rise in the years 1980-1996 of a vast literature on inequalities, on poverty and on the measurement of well-being - which notably includes, alongside those of Sen, the works of Anthony Atkinson and François Bourguignon, by Serge-Christophe Kolm and the reports published by the UNDP and the World Bank - is interpreted, in our eyes, as the echo of a larger intellectual and political context, marked by the weakening of systemic questions, for the benefit of moral issues centered on the individual".

Amartya Sen's work on measuring well-being exemplifies this development particularly well. They are indeed at the origin of a major break in the practices of measuring well-being, inequalities and poverty, which testify to the greater importance given to individual development, that is to say - say what an individual can achieve during his life. In this context, Sen's contribution is as much philosophical, through the development new concepts within an alternative evaluation theory to welfarism, that practice, with the construction of new measurement tools. His work thus fully participates in the renewal of moral issues: since the beginning of the 1980s, the capability approach has proposed new standards for the assessment of well-being and is accompanied by a philosophical reflection on questions such as the possibility of a form of objectivity in morality or the comparative relevance of consequentialist frameworks and neo-Kantian morals. Sen thus largely promotes the return of moral questions in the social sciences in general, and more particularly in economics.

Also, critiques of the independence of individual preferences encourage economists to incorporate into economic analysis different types of social interaction, carried out outside the price system and the market mechanism. This emergence of ethical considerations in economic behavior testifies to the influence of psychology and sociology on economic modeling. Experimental studies conclude that individual behavior is often guided by motivations other than that of seeking personal interest: a feeling of fairness, a feeling of altruism, envy or the principle of

reciprocity. Along with these studies, there are others that use real survey data to test the robustness of the absolute utility postulate. The results obtained seem rather compatible with the postulate of relative utility. Therefore, utility could be relative and there would be behaviors guided by social competition in individuals. The demonstration of this relativity through several empirical works reinforces the will and the effort of economists who introduce this social motivation into their studies. This rapidly expanding line of research, particularly in work on growth, joins a wealth of analyzes in psychology and sociology dealing with questions linked to the search for better social status.

In sociological studies, two ways of assessing social status stand out: the first is based on an objective measure such as an individual's education, wealth or standard of living. The second is based on a subjective measure such as his personality, his actions, his social commitment. In incorporating social status into economic analysis, economists are more concerned with the objective, quantifiable measure. This choice is compatible with the description of individual behavior motivated by the search for favorable treatments, known as social rewards. Thus, for an individual, achieving a better status could arouse in others more respect or admiration and result in more possession of non-material goods such as power, notoriety, etc. (Weiss and Fershtman [1998]).

## ***Section 2: Review of the empirical literature***

### ***2.1 Specification of the search function: Passage to individual characteristics***

The central element in the explanation of the intention to leave a company voluntarily is sought in the salary. In order to assess the overall impact of the salary, the specification retained for the estimation seeks the effect of the salary not only as such but also by its cross effects with certain individual characteristics. Individual characteristics can also intervene independently of salary, so they are introduced in marital status, region of residence and gender. The age variable is centered in relation to the mean age in the sample, in order to avoid the appearance of a multicollinearity bias. In fact, in the collection of data used, the age and age squared variables are strongly correlated.

Centering the age makes it possible to greatly limit this dependence because, in this case, the age-centered variable takes negative values while the age-centered variable squared takes only positive values. The linear correlation coefficient between age and age squared thus goes from 0.9895 to 0.3703.

Finally the estimated equation is written in the form of a probit model as follows:

$$\hat{p} = \text{prob} ( \text{recherche d'un autre emploi} = 1 )$$

$$= \frac{1}{1 + \exp ( - X' \beta )}$$

avec

$$\begin{aligned} X' \beta = & \hat{\alpha} + \beta_0 \text{SAL} + \beta_1 \text{DIP45} \\ & + \beta_2 \text{DIP6} + \beta_3 \text{AGEC} + \beta_4 \text{AGEC}^2 \\ & + \beta_5 \text{DIV} + \beta_6 \text{PARIS} \\ & + \beta_7 F * \text{CDD} + \beta_8 F * \text{SAL} \\ & + \beta_9 F * \text{MARIE} + \beta_{10} \text{CDD} * \text{SAL} \\ & + \beta_{11} \text{DIP1} * \text{SAL} + \beta_{12} \text{DIP3} * \text{SAL} \\ & + \beta_{13} \text{DIP5} * \text{SAL} \end{aligned}$$

The reference individual is 36 years old. It is a non-divorced man or a woman under an indefinite contract, widowed or single, having a diploma strictly above the baccalaureate or no diploma, not living in the Paris region. Weighting is a method of giving a weight to the individuals in the sample that corresponds to their representativeness in the mother population. The interpretation of the results can then be applied to the reference population. However, this method leads to an artificial increase in the degrees of freedom, and therefore in the Student statistics, because the number of observations becomes that of the reference population while the number of explanatory variables is unchanged. If the weighting variable has a homogeneous distribution, in particular if it is unimodal and relatively grouped around its mean value (which is the case in our sample), then the coefficients estimated according to the two methods are similar. Unweighting is then preferable since statistical inference can be based on Student statistics which are not artificially high.

A firm setting a uniform standard for research rates could therefore offer lower salaries to BEP-CAP graduates. We observe the opposite effect for people with a diploma greater than or equal to Bac + 2: if a company wishes to retain them, it will have to offer them higher salaries than for other graduates.

An increase in the salary of women implies a greater decrease in the probability of research than for men. In contrast, when the contract is for a fixed term, a salary increase corresponds to a smaller decrease in the search for another job.

The total effect of salary on finding another job appears to be unambiguous: 99.5% of people in our sample verify a negative relationship between salary and the probability of looking for another job.

The exceptional cases, for which this relationship is positive, are found more frequently for people who have a Bac + 2 level diploma and for people under 25 years of age. People working on permanent contracts always see a decreasing relationship between salary and the search for another job. Thus, for 40 people, in unweighted workforce, the increase in wages causes an increase in the search for another job.

A research probability decreasing with the salary remains the rule even if exceptions exist.

The authors here consider the effect of individual characteristics independent of salary. Divorced people, or those living in the Paris region, are more frequently looking for another job. Women employed on a fixed-term contract have a higher probability of looking for another job than women working on a permanent contract and than men regardless of the status of their contract. In contrast, married women are less likely to seek other employment compared to unmarried women and men regardless of their marital status.

The effect of the diploma is not linear, we observe, in decreasing order of positive effect, on the search for a job other than:

The diploma also acts through the salary. Thus, for equal pay, the probability of looking for another job is higher for people with the baccalaureate than for those with a BEP-CAP, since the coefficient of the variable DIP5-SAL is negative.

Similarly, for equal pay, we observe the ranking in increasing order of search probability: sup. at Bac + 2 > Bac + 2 > no diploma.

The effect of age on the search for another job is positive as long as the age is below 36 years.

## ***2.2 Effects of some personal variables on the probability of having a job (OECD, 1993)***

A first series of empirical validations focused on the effects of certain personal characteristics on the career path in the labor markets of OECD countries, and in particular the rate of exit from unemployment. These characteristics are age, gender, marital status, health status and level of education.

### **2.2.1 The effects of age**

The results for age are generally in line with what would be expected, namely an ascending age-unemployment curve. The studies analyzed do not highlight any particular reason for this relationship, although among the possible influences we can cite the discrepancies between the relationships between age - productivity and age - wages, or the discrimination operated by employers. Cross-sectional studies generally show a positive relationship between age and unemployment over a large part of working life.

This conclusion is confirmed by evidence from studies based on individual data in which comparable estimates of the risk functions of exiting unemployment almost all show a negative impact of age on the exit rate.

Little conclusive evidence is available on the relationship between age and the incidence of recurrent unemployment spells. In the case of Germany, the impact of age on the recurrence of unemployment increases initially and then tends to decrease after a certain age. On the other hand, based on Finnish data, there is a negative effect of age up to 24 years and no significant effect beyond this age. Finally, with regard to the job search model, there is a significant negative effect of age on the rate of arrival of job offers.

### **2.2.2 The effect of gender**

Gender, marital status and number of children are other important demographic variables that affect the path of individuals in the labor market.

It is hardly surprising to find that women are in a relatively weak position, especially those with children, because their job search behavior is different from that of men or because employers adopt an attitude. discriminatory against them. Studies show that women experience a greater number of spells of unemployment, and that the probability of temporary layoff is higher in their case.

It also appears that women who are unemployed are less likely to find a new job and that their exit rate to regular employment is lower.

### **2.2.3 The effects of marital status**

Being married has a different impact depending on whether it is male or female. For the former, being married means shorter unemployment and a higher rate of job offers. For women, the situation is generally the reverse.



In a number of studies, the number of children in the family or the number of dependent children is one of the explanatory variables. As a result, the position of mothers on the labor market is relatively more fragile. This is particularly the case with single parents who, in practice, are almost always mothers. A study by Theeuwes et al. (1990), carried out using Dutch data, finds that these are much less likely to go from unemployment to employment, and much more likely to go from employment to unemployment. The number of dependent children also seems to be a major obstacle to job search activity.

#### 2.2.4 The effects of the state of health

A number of studies include an indicator of health status. Without exception, there are significant effects in the expected directions, ie, health status has a negative effect on employment prospects and other indicators of labor market performance.

On a German database used with the probits method, it was found that women with health problems experience longer spells of unemployment, and that the employment chances of men and women with health problems are less. In addition, "the chances of re-employment are higher for young unemployed people who declare themselves in good health, while in Sweden it is observed that health problems result in an increase in unemployment before leaving to regular employment. Finally, Wadsworth (1990, UK data) notes that health problems reduce job search activity among men".

#### 2.2.5 Effects of educational level

With one exception, the same obvious effects are observed when the general level of education is included among the explanatory variables. Education is generally supposed to give individuals a better position in the labor market. The only exception is the study of the United States by Moffitt (1985) which finds that educational attainment has a significant negative effect on the rate of exit from unemployment to employment. It is interesting to note that in this specific case, the level of education appears to have a significant positive effect on the chances of finding a new job but that it has no effect on the chances of re-entering the previous job.

The indivisibility of labor market situations - the impossibility of separating the chances of entering a new job from those of returning to the old job - is perhaps the reason for the unexpected results concerning education in these estimates. .

Another factor might work in the same direction, namely the selective nature of the data sets which cover only recipients of unemployment benefits. It is well known that a large fraction of the unemployed in the United States are not compensated, either because they do not meet the criteria required to benefit from it, or because they find a new job before having even received the benefits to which they are entitled, or before the waiting period has expired.

The above results from the US data are the only ones that differ from the general conclusion on the effects of education. In all other studies of the transition from unemployment to employment that have been analyzed, education appears to have a significant positive effect. The same is true when the duration of unemployment is made the dependent variable. Education also appears to have a significant negative effect on recurrence of unemployment and temporary layoffs.

According to Peder J. and Niels Westergaard, in the Dutch study by Theeuwes et al. (1990) on the transitions between the three situations with regard to the labor market, we find a significant negative relationship between education and the transition from employment to unemployment for men. Regarding the transition from unemployment to employment, they add that it is interesting to note that Theeuwes et al. (1990) find a significant positive impact of education for women but not for men. In analyses by the probits method concerning respectively the probability of employment (Licht and Steiner, 1992, German data) and the probability of unemployment (Santamaki-Vuori, 1991, Finnish data), education is significant with the expected signs. Lynch (1989), in his study of youth employment, the authors found a significant positive effect of education on the likelihood of re-employment. Finally, it is interesting to note that education seems to have a positive effect on the pace of job offers (van Den Berg, 1990) as well as the intensity of job search (Wadsworth, 1990).

#### 2.1.6 The effects of the duration of unemployment on the probability of having a job

A second set of empirical validations focused on the effects of duration of unemployment on the probability of having a job since the situation is clearly not the same when unemployment leads to unemployment and when the length or frequency of periods of unemployment. unemployment depend on specific characteristics.

The impact of past experience can take different forms. One obvious possibility, found in most descriptive studies of unemployment, is that past experience affects the length of the current period of unemployment. Descriptive studies of unemployment for individual spells of unemployment generally all find a negative impact of duration, in that the exit rate from unemployment tends to decrease as the duration of unemployment increases.

The key issue raised in further analysis is whether this is genuine dependence or whether it should simply be seen as a sign of heterogeneity or random selection. We could speak of pure heterogeneity when the exit rate from unemployment for each individual worker is independent of the duration of unemployment. It follows that at the individual level, both positive and constant incidence of duration could turn negative in estimates that do not correct for unobserved heterogeneity.

Only empirical analyzes using individual longitudinal data and including measures to correct for unobserved heterogeneity can serve as reliable guides for action.

While the negative impact of duration is a phenomenon that can be found everywhere at the individual level, public policy should primarily aim to interrupt unemployment spells from their very onset through active measures. If, at the other extreme, any variation over time in exit rates from unemployment is due to heterogeneity, government action should be targeted at groups and individuals with low exit rates and not dependent on employment. the duration.

Studies using individual longitudinal data on the incidence of duration without an explicit measure of unobserved heterogeneity mainly conclude that there is a negative relationship. This is the result reached, for example, by Moffitt (1985) with data for the United States, Groot (1990) with Dutch data and Jensen & Westergaard-Nielsen (1990) with Danish data. The results of this latest study underline the importance of modeling the existence of different destinations from unemployment, which avoids the problem of the inseparability of states when different destinations - due to the lack of information - are brought back to a single state. There is a negative impact of duration on the overall probability of exiting unemployment in the single-risk version of the model.

In the competing risk version, on the other hand, we see that the negative impact of the duration is linked to the return of the unemployed person to his previous employer, while the incidence of the duration is not significant for the transition to a new job. .

The lack of consensus is illustrated by the finding of a positive or non-significant impact of duration in other studies where unobserved heterogeneity is not corrected. This is, for example, the case of studies made from German data by Hujer & Schneider (1989) - which find a non-significant incidence of duration - and by Wurzel (1990), which notes a positive incidence during the first phase of a period of unemployment.

The lack of consensus is also the impression that emerges from studies that take into account, using different methods, unobserved heterogeneity. Based on German data, the positive impact of the duration suggested by the typical job search model.

In other words, there is a negative correlation between the overall probability of exiting unemployment and the duration of the latter. However, this result masks a significant negative relationship between the duration of unemployment and the probability of returning to a previous job, as well as a significant positive dependence on the duration of the probability of entering a new job.

Finally, note that for the data relating to the United States, both the sign and the profile of the incidence of duration are closely related to the specification of the sample, the definition of periods of unemployment and the specification of the rate. compensation.

The main impression is that the question of the impact of duration is still unresolved, and that further research will be needed, on the basis of comparable representative samples from different countries and covering different time periods. On balance, the available data seem to emphasize first the importance of distinguishing between different types of exits from unemployment, and second the importance of heterogeneity as a determinant of the impact of duration on the unemployment rate. exit from unemployment.

**2.3 Effects of participation in a training program and programs aimed at the labor market on employability**  
Training courses could raise the exit rate from unemployment by improving the productivity of the unemployed and possibly enabling them to compete more effectively with integrated workers who are employed. If, as in Sweden, the unemployed receive a job offer from the competent agency or have to follow a training program after only a few weeks of unemployment, this obviously has an impact on the job search effort and on the exit rate from unemployment.

A growing, although still relatively small number of econometric studies analyze the impact of training on subsequent labor market experiences (eg regarding wages and unemployment). The evidence gathered so far is not conclusive. In the following paragraphs, we will review some of the more recent studies. We considered the evaluations of general education courses on the one hand and the evaluations of programs for young people on the other.

Among the more specific analyzes of the effects of training on the Swedish labor market, the study by Edin (1989) should be mentioned. Using data covering the period 1969-1 980 on workers made redundant due to the closure of a pulp mill in northern Sweden in 1977, Edin estimated a model for the current wage rate, where he follows both the number of periods of unemployment prior to closure and the total number of periods of unemployment, training activity and public aid.

By only bringing in previous periods of unemployment, training and public support, he found that training had a negative influence on wage rates. The impact of the most recent training activities was significantly negative and, in absolute terms, even larger than the drop in earnings due to declared unemployment.

In general, the effects of training appear positive on both earnings and employment. These studies find from representative Danish longitudinal data that training courses reduce subsequent unemployment for those who have a job at the time they attend them, but increase unemployment in the following year for those who have been for so long. unemployed they can participate in one of the programs for the long-term unemployed. The nature of the training and the possible lack of motivation could explain this somewhat surprising result.

Likewise, there is a positive effect on wages for skilled workers who are not unemployed before participating in training. There is virtually no effect on wages for unskilled workers, possibly due to the greater rigidity of their pay system. The results of this study indicate that it may not be a good idea to send the long-term unemployed to courses created for those who are firmly attached to an employer.

For Austria, it can be seen that training does not increase the chances of an unemployed person finding a job. Simultaneous estimation of the process of enrollment in training courses and recurrent unemployment and obtain positive and significant effects of training on wages and employment. Regarding the effect on subsequent employment of existing training programs in Norway for the unemployed, these courses last from 5 to 40 weeks at most. We find that the average overall employment rate 6 to 12 months later is about 10% higher for those who have taken these courses than for those who do not.

"A number of studies to evaluate programs for young people. Lynch (1991) uses longitudinal data from the American National Longitudinal Survey Youth (NLSY). These data cover just over 3,000 people who, in 1978, were between the ages of 14 and 21, did not have a college degree, and were not in the military. These same people were followed from 1983 to 1985".

The main interest of this study is that it makes it possible to estimate the effects on wages of in-company training, apprenticeship, and training outside the company. Two methods are used: a two-step Heckman procedure and a constant effect method. The study shows that the three types of training are all associated with a salary increase. The impact of training provided externally appears to be the most important.

If we introduce a bias correction at the selection level, we do not see any change in the estimates. However, the negative effect of unemployment on wages is eliminated when a constant effect method is used which also eliminates unobserved factors.

"Main and Shelly (1991) attempt to measure the effects of the UK Youth Training Scheme (YTS) on employment probabilities and subsequent earnings from the results from a survey of some 1,200 young Scots. We can see that the YTS has a positive effect on the probability of employment, but, correcting for the bias in the selection of the sample, there is no significant effect on wages".

It is clear from the few studies reviewed here that analyzes of the impact of training programs do not reach unanimous conclusions about their effects. There are probably a number of reasons for this.

First, the courses analyzed are extremely heterogeneous. Some are intended only for the unemployed while others are aimed at both employed and unemployed workers. But even studies of a more homogeneous group, such as young people, lead to results that still seem inconclusive.

Second, the data is different in the variables available. Third, the data usually only cover a small number of participants selected in an unrepresentative way. This handicap becomes particularly serious when it comes to modeling the selection process.

Although some studies conclude that the selection of participants in training programs is not really important, others show that it can be decisive to take into account the modalities of selection. The reason for this is that only a few rare studies are based on panel data which allow the path of individuals to be followed before their participation in courses (initial conditions) and which also take into account unobserved heterogeneity. Thus, the study of Ackum (1991) shows that it is not enough to take into account the bias in the observed selection; unobserved variables also play an important role.

## 2.4 Effect of personal variables on the duration of unemployment

This study analyzes complete durations of unemployment, taken from the flow of deregistered persons from a local agency of the National Employment Agency. The sample, which includes around 1400

observations obtained by random drawing, has satisfactory representativeness properties and a double interest:

- It contains precise information on the individual characteristics, experience and qualification of the job seeker, but also on the characteristics of the job sought;

- It also makes it possible to know the reason for which a job seeker is removed from the lists registered with the ANPE; the main reasons for delisting are obtaining a job, entering an internship, the applicant's absence from the check-in, change of local ANPE agency, departure for military service and sick leave.

This last piece of information is particularly original and important: it allows a joint analysis of the duration of the period of unemployment and of the fate of the unemployed at the end of it. However, it is central to

understanding the process of exiting unemployment, and is only rarely known, including in international work on the issue. The present work focuses on two reasons for delisting: obtaining a job, and the absence of the job seeker at the time.

The evolution over time of the instantaneous exit probability associated with this second reason, as well as the relations that this probability maintains with the individual characteristics of the unemployed person and those of the job he is looking for, allow us to interpret at least partially this reason as that of the "discouragement" of the job seeker.

The study also insists on the effect of age, initial training, qualification, socio-demographic variables (marital status, spouse's occupation, number of children) on the duration and outcome of the period of unemployment. Another particularly important result concerns the demonstration of a positive and significant relationship between the duration of entitlement to compensation and the duration of the period of unemployment, whatever its outcome. Finally, the relationships that exist between the characteristics of the jobs sought and the durations of unemployment associated with a particular outcome (job versus no score) demonstrate the crucial importance of the volume and nature of available job offers.

- Data presentation:

The sample from which this study was carried out was constructed by taking one file out of five in the alphabetical classification of the files of unemployed people struck off during 1986 from the local agency "Toulouse-Mirail" of the 'ANPE. The resulting sample includes 1,446 individuals, of which 792 are men and 654 are women.

in the Weibull models, the validation is even clearer since they imply, even outside any taking into account of unobserved heterogeneity, the growth over time of the hazard functions specific to the "employment" outcome; in logistics models, the drop in these hazards beyond the first six months indicates that, over periods of longer-term unemployment, the effect of the fall in the reserve wage is more than offset by that of the decrease in the employability of the unemployed (which can result in a drop in the arrival rate of job offers, or by an increase in the probability of refusal of his applications for vacancies).

Certain characteristics having a significant effect on the instantaneous probability of being hired, have no effect on the instantaneous probability of exiting due to a lack of score: this is the case of nationality, qualification or level of education. Conversely, some regulators

only have an effect on the duration of unemployment before no clocking in: this is the case for the characteristics of the job sought: proximity, status, volume of working hours.

The scarcity of certain types of employment therefore increases the probability of an "unsuccessful" exit (not associated with hiring). We can continue the reasoning and suppose that in this case, the exit by lack of pointing corresponds to a discouragement of the job seeker.

However, certain characteristics have a significant effect on the two instantaneous probabilities of exit. This is the case for the duration of compensation granted and the situation

family of the job seeker. Thus, the average durations of unemployment before hiring and before no tallying both increase with the length of the benefit period; this result demonstrates the complex effect of compensation, which would therefore have a double counter-incentive effect on taking up employment and discouragement.

The family situation has opposite effects on the two exit probabilities considered: thus, in the case of married men, the fact that their spouse works decreases the instantaneous probability of being hired, but increases the instantaneous probability of exiting due to lack of employment. pointing.

We also find a result highlighted in several previous studies on duration models; the introduction of regressors causes:

- in monotonic chance models (Weibull, for example), an upward shift in the basic chance function;
- in non-monotonic random models (log-normal or log-logistic), an increase in the duration corresponding to the maximum, and therefore to the point of change, of the basic hazard function.

Finally, the models presented in this article have made it possible to estimate the exit probabilities beyond one year of unemployment (that is to say in the phase of long-term unemployment). On average, for men (respectively women), more than 70% (respectively, around 60%) of new jobs take place in the first year of unemployment, while 66% (respectively, nearly 80%) of Exits due to no tally occur after one year of unemployment. In summary, long-term unemployment is characterized by an increase in the relative frequency of exits due to lack of pointing.

## 2.5 Psychosocial variables caused by unemployment

Marie Demers (1983) reviewed the literature from the United States, France, Great Britain and Australia, which highlights the changes that have taken place as well as the social problems that have occurred. 'causes this phenomenon.



For the young person who finds himself in a situation of unemployment, it is above all an individual situation in which his psychological condition and his daily experience will be affected. Their attitudes and behavior will undergo changes which, in some cases, will last well beyond the period of unemployment.

### 2.5.1 Psychological reactions to unemployment

The specificity of youth unemployment lies in the fact that it occurs at the time of professional integration; it therefore affects entry into working life by opening or closing access to certain jobs, by marking the first years of work, decisive years for becoming a professional (Demers, 1983).

According to the author (Demers 1983): "In the first weeks of looking for a job, young people do not see themselves as truly unemployed. Their free time makes them feel like they are on vacation. For many young people, this is due to the fact that the constraint of school attendance is over. This stage is described by Levine (1979) as a period of optimism where the individual feels free and relaxed. He gives little thought to the long-term consequences of his inactivity; he has few responsibilities and seeks immediate gratification.

For some, this period would already be felt as an unpleasant shock (Harris, 1980), especially since they do not expect to be unemployed or to have difficulty finding a job. There would be a relationship between the length of schooling and professional career expectations.

In this context, the individuals most affected would be college and university graduates who had set fairly high professional employment goals.

Then would follow a very active period of job search in which all known avenues are explored.

Moreover, the young unemployed would make greater efforts to find work than the older unemployed (Winschuttle, 1979) and they would be more successful than the other age groups in their efforts (Girard, Gauthier and Vinet, 1978). It is during this period that many find work and it would last an average of three months. For those who have not succeeded in their approach, hope and optimism turn into apprehension and pessimism (Harris, 1980). Levine (1979) describes this period as a stage of ambiguity. Inactivity becomes more difficult to endure, especially for unemployed young people whose friends go to school or work. Boredom predominates but there is also a feeling of isolation, of exclusion from the normal course of events".

Now the unemployed young person is exposed to social pressure (implicit or explicit) to find work, pressure which comes mainly from his relatives and friends. At this point, he questions his competence and his personal worth (Demers 1983). A survey of 314 young Germans, about half of whom were unemployed, revealed that almost all respondents accepted to some extent the idea of individual responsibility for unemployment (Braun, 1979).

Despite the large number (one million) of unemployed in their country, they tended to perceive unemployment as the consequence of personal failure. It is widely believed that those looking for work will know how to find it. According to Schneider (1977), this view can be explained by the fact that young people do not always understand the economic problems related to the recession. They end up internalizing the opinion that society has of them.

Finally, the young unemployed person stops looking for work; he turns in on himself and resigns himself to living without work. A survey carried out in Australia (reported by Demers, 1983) reveals that unemployed young people became irritable, withdrawn from the world, and often they slept during the day so that time flies more quickly. Those of lower socioeconomic levels were particularly lethargic and frequently gained weight. Many also developed negative attitudes towards work.

This is the stage of despair (Levine, 1979). The individual loses confidence in himself and in those around him. He is often angry with himself, with the education received, with his parents. Depending on the level of support from the peer group, their distress may take the form of acts such as drug use, vandalism or other anti-social activities.

Repeated failures in finding a job can lead to psychological changes in which fear of rejection and the desire to avoid it become the predominant motivation. In these circumstances, the best way for the individual to preserve his psychological health is to completely cease the demoralizing search for a job (Winschuttle, 1979). This would explain, at least partially, the position of certain young people who claim to be lazy, not to want to work and to make better use of their time by not working (Braun, 1979). The acceptance of marginal status in society would constitute a defense mechanism in response to repeated rejections from the world of work. But this struggle to adjust to repeated rejection would often lead to the development of behaviors that reduce the chances of success in obtaining a job. These behaviors can be seen as the result of the unemployment process and not as a cause of it (Harris, 1980).

Apart from adjustment reactions to unemployment, some specific characteristics of the young person's personality have been studied in relation to being out of work. It's about independence, identity and self-esteem.

Self-esteem is a variable of primary importance in how young people perceive themselves and the world. It also has an important maturing power for several types of behavior. Moreover, it is inextricably linked to the emotional state of the individual. Decreased self-esteem has been found among unemployed people of all ages as a result of job loss or inability to find work (Cohn, 1977; Harris, 1980; Hill, 1977).

Low self-esteem leads to demoralization and susceptibility to negative influences (Levine, 1979). According to Winschuttle (1979), it would be the most important factor of depression; people who value themselves little are the most likely to display social problems such as alcoholism, drug addiction, crime, mental illness and suicide. The same author points out that low self-esteem encourages two types of behavior: on the one hand, people are more inclined to take risks and become involved in dangerous activities such as crime and drug use; on the other hand, they would also like to escape from themselves and their environment.

In a longitudinal study of 412 young Australians, Gurney (1980a) found no difference in self-esteem measured before graduation as well as four months later among those who had not found a job. . But this could be due to the fact that these young people would have only had the impression of having lived a prolonged period of vacation and thus would not yet feel like truly unemployed.

Since summer vacations usually last a few months, the time frame considered would be too short to produce any significant changes.

Although many young people have not yet had a job, they have formed expectations about work. For many, the environment and socialization have encouraged the development of a conception of oneself in which the occupational function is important. In others, the ego has not integrated the values of work so deeply. The experience of unemployment is linked to the valuation of work (Demers 1983).

### 2.5.2 Family relationships

Young people living with their parents are more likely to endure unemployment than adult workers who are heads of families, mainly because of the financial assistance they receive (Demers 1983). But this period of inactivity makes them more dependent on the family, whether or not they have left the family home. The family then becomes the fallback structure for the young unemployed person. The period of unemployment is accompanied by a tightening of links with it, whether in terms of housing, financial assistance or total support (Balazst 1980).

### 2.5.3 Professional aspirations and expected employability

The career aspirations of young people have been the subject of a number of studies in the context of research on attitudes towards work.

The modification of professional aspirations following the experience of unemployment is, on the other hand, a theme that has not yet been explored. Many expressed their fears that time spent unemployed would encourage the development of a negative attitude towards work.

According to Winschuttle (1979), one of the worst aspects of unemployment is that it forces young people to reassess their future and abandon the long-term plans they had envisioned for their careers. Many have given up looking for a job of their choice and are ready to take on just about anything.

A study carried out in Federal Germany with 300 young people, the majority of whom were unemployed, shows that the occupational motivation of young people was centered on two points: the interest in an activity leading to personal satisfaction, and the construction of a secure position for the 'to come up. As job security becomes more important than self-interest in the job, it makes it difficult to develop a positive attitude towards work. According to Schneider (1977), who reported this study, young people are not disinterested or unmotivated, but simply resigned. This is easy to understand if you look at the career prospects available to them.

Recent research suggests that the shrinking of the labor market is one of the many factors that have contributed, among young people, to a questioning of work as the centrality of an individual's life. The rise of unemployment, layoffs, the lack of job prospects constitute the lot of the majority of young people and lead them more and more to formulate new conceptions and adopt new behaviors with regard to work (Demers, 1983).

The Organization for Economic Co-operation and Development (OECD, 1980) notes the same characteristics among young people in their attitude to work. Many young unemployed without qualifications present themselves as more and more apathetic and cut off from their social environment; they do little to improve their career prospects or actively escape the dead-end jobs open to them by their low qualifications. Despite the lack of attractive opportunities in the local labor market, many young people from families with low socio-economic status would refuse to leave their locality to find better employment.

Beyond the individual experience of unemployment, this situation seems to favor the development of certain social pathologies. At least that is what emerges from the fears expressed about the possible effects of unemployment.

Brenner (1976) showed that changes in the unemployment rate have an impact on a series of indicators of social stress.

The main problems are mainly: mental health, suicide, drug and alcohol use and crime.

#### 2.5.4 Work on the psychology of the unemployed

- Unemployment has a negative impact on psychological well-being.

Research into the impact of unemployment on psychological health already has a long history. The majority of authors point out in their research that job loss is a traumatic event, which generates stress and negative consequences. Generally speaking, the absence of a job would in itself be detrimental to psychological well-being. All the literature, even the most recent, agrees on this point.

"The negative consequences of unemployment were first described in the 1930s by scholars such as Jahoda, Lazarsfeld and Zeisel (1933/1972), Bakke (1933) and Eisenberg and Lazarsfeld (1938). These studies, based on a wide variety of qualitative and quantitative research, show that the experience of unemployment is clearly negative and psychologically destructive (Ezzy, 1993). At that time, however, there was no scale to measure psychological health. "

Against this background, more recent research has shown that the loss of a job leads to a decrease in psychological well-being, compared to control groups of people who remain employed and regardless of the level of psychological well-being prior to the job. loss of employment (eg Kessler, Turner & House, 1989).

This is also valid for self-esteem, and this in both longitudinal and cross-sectional studies (Waters and Moore, 2002a). These two authors point out "that low self-esteem can, in turn, negatively influence the probability of finding a job (Waters and Moore, 2002b). This is what Kasl (1982) calls the "reverse causal hypothesis". Thus, for example, Iversen and Sabroe (1988) report that unemployed people who find a job within a year have better psychological well-being (measured using the G.H.Q.) than those who remain unemployed. Similarly, Vinokur and Schul (1997) find that a perception of mastery (reflected in particular by self-esteem scores) significantly predicts re-employment over a six-month period. "

- The effects are not homogeneous.

If Fryer (1995) notes that the results converge towards the general conclusion that unemployment is associated with poor psychological health, he also notes that the effects are not homogeneous. In other words, "while unemployment tends to be associated with low average psychological well-being scores for groups of unemployed, not all individuals are equally affected. Some suffer more than others and there may even be some whose psychological health improves "(Feather, 1997, p. 37).

Thus, unemployment cannot be viewed as "uniformly" negative, just as employment is not "uniformly" positive. We find these nuances in the first studies on unemployment. For example, Bakke (1933) observes that some people adjust to unemployment, finding it less unpleasant than employment, which for them refers to an oppressive occupation. Likewise, Jahoda, Lazarsfeld and Zeisel (1933/1972, p. 53) note that while some families develop an attitude of resignation, others manage to maintain their psychological well-being, in which hope and projects for the future are maintained. In more contemporary studies, we find this type of results. Thus, Andersen (2002) observes on a sample of unemployed that 34% of the long-term unemployed have a decline in psychological well-being but that 28% have an improvement in psychological well-being during their unemployment.

#### 2.6.1 Individual characteristics of the unemployed

In the majority of empirical and theoretical studies dealing with unemployment, the unemployed are considered as a number or, at the limit, a homogeneous group of individuals with only one activity: job search.

A few recent studies, and very few, have been interested in studying some additional data on the unemployed, namely: their individual characteristics.

Indeed, two unemployed people with, for example, the same diploma, the same sex and the same age cannot have the same chances of having a job. It is their individual characteristics that make the difference.

In what follows, we will enumerate the main individual characteristics and distinguish those relating to personal data from those relating to the psychological variables of the unemployed.

#### 2.6.2 Personal variables

Personal variables are variables that we can easily observe such as: gender, age, diploma, level of education, place of residence, duration of unemployment, duration of job search, length of internship, state of health, family

environment (here it may be the parents' income, their weight in decisions concerning their children, their knowledge in terms of hiring pistons, etc.).

In general, empirical work stops at the level of the first six variables without knowing that the other variables largely influence the choices of the unemployed and their probabilities of exiting unemployment. Indeed, and by way of example, job seekers of parents with high incomes will have a high probability of exiting unemployment, unlike poor job seekers.

### 2.6.3 Psychological variables

The unemployed, especially long-term unemployed, are psychologically affected by the feeling of being excluded from the labor market. This feeling of rejection, exclusion or frustration will have effects on the job search trajectory. This is how the long-term unemployed will be discouraged and pessimistic and will often change their search parameters.

There are very few studies dealing with the psychological characteristics of the unemployed. The only work we have been able to have has evoked the feeling of discouragement in the unemployed, a psychological notion that has already been dealt with in job search theory. Another psychological notion was mentioned earlier by the theorist Akerlof in 1971: the feeling of fairness among workers, which he believes affects their productivity.

It should be noted that the unemployed are not necessarily affected by the feeling of discouragement only. They may begin their job search activities with some optimism and only later will discouragement arise. This is how we can deepen and enrich the psychological aspect of the unemployed to cite, in addition to discouragement, the feeling of optimism (or pessimism), the feeling of satisfaction vis-à-vis their studies (for unemployed graduates), the feeling of motivation vis-à-vis employment policies ...

Either way, both the job search trajectory and reservation salary as well as the length of the job search are influenced by the psychological data of the unemployed.

Indeed, for example, a graduate who is highly satisfied with his branch will have a greater probability of exiting unemployment than an individual dissatisfied with his university career. Also, the more discouraged the graduate, the lower the probability.

### 2.6.4 Job search trajectory and individual characteristics

The unemployed person is not an item in a statistical file. He comes to the job market with a set of individual characteristics that inevitably influence his entire job search trajectory. These individual characteristics appear even before graduation, and their effects will follow until you get (or not) a job.

This is how the family framework has an effect on the unemployed person, an unemployed person with rich parents will not be too affected by his unemployment situation, but an unemployed person with poor parents living in a disadvantaged environment will be.

Also, the level of studies and the feeling of satisfaction with regard to studies will act (even without knowing it) on the psychology of the unemployed person and therefore on the level of the diploma itself.

Once the diploma is obtained, the job seeker will set, in a personal and subjective way, a reservation salary and is endowed with an expectation of employability. These two variables will act, without his realizing it, on his choices and his trajectory. Thus, when, for example, the expected probability of obtaining a job is favorable, the entire search path is affected, and starting with the decision to look for one: we do not resolutely decide to look for jobs which we think are they do not exist or little and when one decides to do so the research is likely to be, so to speak, soft, prelude to a situation of lasting unemployment. And obviously, as the question arises as to what are the determinants of the reservation wage, the perhaps more important question arises as to which are those of such an expectation.

Once these two variables have been fixed, the decision to start the job search is itself affected by the individual characteristics mentioned above: standard of living, living environment, level of the graduates' averages, their satisfaction with screw of his diploma ...

The question the unemployed graduate will ask himself at this stage is whether he will participate in employment policies or whether he will conduct his own research. Again, this decision is affected by individual characteristics that differ from one unemployed person to another. For example, an unemployed person with knowledge or pistons will never be encouraged to follow the trajectory of another unemployed person having only employment measures as a chance. There will therefore be three main possibilities: participation in internships, individual job search or employment in / through the family environment.

This step will give us a result which depends or differs from one unemployed person to another, according to the individual characteristics of each one, and which can be summarized according to a few possibilities.

For the unemployed who have chosen to follow internships provided by the integration assistance measures, there will be four possible possibilities: the end of the internship without integration, the end of the internship without follow-up (here the unemployed person could leave the internship without wanting to leave information on the reasons for the termination or the company in which he followed his internship did not seek to follow up), the

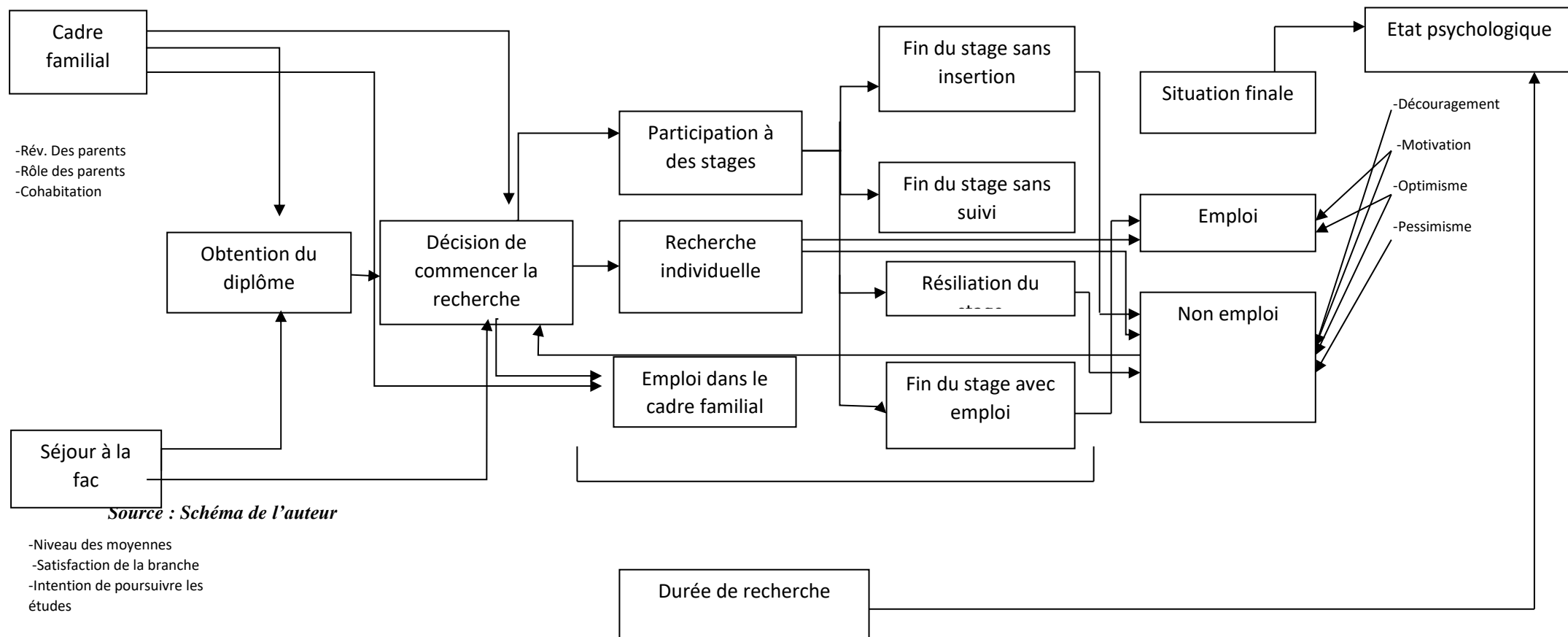


termination of the internship or the end of the internship with integration. The end result will therefore be either employment or non-employment.

For the unemployed who have relied on their own means or on their knowledge, there will be two possibilities in the final situation: employment or non-employment.

This research phase will give us an idea of the duration of the job search which, again, differs from one unemployed person to another. In this phase, several psychological factors come into play. Discouragement will be felt during repetitive research failures, pessimism will also be more and more pronounced as the duration of unemployment increases, the feeling of frustration and the feeling of being a graduate worthless for one's country will become more and more frozen in the minds of the unemployed and could have repercussions for his entire later life. Unemployed intellectuals could become the worst offenders when they are invaded by these psychological elements so far ignored by the work dealing with graduate unemployment. In what follows, we schematize the job search trajectory by trying, without claiming to be exhaustive, to present the individual and psychological characteristics that affect it.

**Figure 1 : Schéma récapitulatif de la trajectoire de la recherche d'emploi d'un diplômé**



### Conclusion:

The theoretical origins of the analysis of unemployment by the individual characteristics of the unemployed lie in job search theory, which is based on the concepts of job search trajectories, reservation wages and duration of unemployment. Based on personal variables and psychological variables relating to the unemployed, it has enriched this theory by underlining that this salary, this trajectory and this duration, on which the empirical validations have generally focused, can be influenced by such variables, thus henceforth, inescapable in the design of any employment policy and the negligence of which could mean its failure. From there to maintaining that this is the case with active employment policies in Tunisia, there is only one step to take and one that we take the risk of taking. This neglect here concerns both the personal characteristics of the unemployed, as well as age, sex, marital status, etc., for which the interest of the official employment agencies, the national office for the employment of executives (BNEC) and the National Employment Observatory (ONE), did not begin to appear to a certain extent until 2000 and which we cannot say if it has since been taken into account in the design of these political, than their psychological characteristics, which are perhaps as much if not more decisive and towards which these agencies and, consequently, these policies still show, until this day, a total indifference.

As for the risk, it necessarily follows. It consists quite simply in this that, if there is some data on certain personal characteristics of the unemployed in Tunisia, there is absolutely none on their psychological characteristics, so that the validations appear there, a priori in any case, beyond scope.

However, in the next two chapters, we will present the individual characteristics of our surveys and show how they affect the expected employability and the probability of integration.

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