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## Article

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Economies

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## Article

# Career Trajectories of Higher Education Graduates: Impact of Soft Skills

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**Abstract:** The labor market can be a daunting place for young graduates; this paper aims to shed light on how they navigate it. By examining the ways in which they enter the workforce and the impact of individual and socioeconomic factors on their career paths, we gain a deeper understanding of the challenges they face. We use a two-stage approach to study this issue: first, we create a typology of graduates' integration paths and then estimate the likelihood of following a specific trajectory through multinomial logit analysis. Our findings reveal a diverse range of professional journeys, with graduates from open-access institutions facing higher rates of unemployment and continuing their studies, and women experiencing more precarious situations. This study stands out in the literature in several ways. Unlike previous research on the topic, we develop an index of soft skills that incorporates multiple dimensions. Additionally, we use individual data from a regional survey conducted by ANAPEC, making this the first study of its kind for Morocco. The results of our study can inform our understanding of the importance of soft skills for youth employability and the need for training policies in a rapidly changing job market. In terms of employment policy, our findings on the intertwining of first-time and long-term unemployment among higher education graduates suggest the need for a comprehensive strategy that focuses on the organization of the initial integration phase. To achieve this, the efforts of Career Centers must be broadened, consolidated, and evaluated.



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**JEL Classification:** J01; J08; J23

## 1. Introduction

In Morocco, a look at the labor market since the early 2000s reveals elements that characterize its evolution, namely, A declining activity rate (53.1% in 2000 and 44.8% in 2020), mainly due to a significant decline in the supply of labor in urban areas (41.9% in urban areas and 50% in rural areas in 2020) and the significant decline in the supply of female labor (28.1% in 2000 and 19.9% in 2020). Low female participation in economic activity (70.4% among men and 19.9% among women in 2020), which has several origins, including the traditional division of roles in the household, increasing school enrollment, longer schooling (especially in urban areas), and marital status, especially for married women.

In the case of youth (Ibourek 2014, 2015; Ibourek and Elouaouri 2023), the labor force participation rate has deteriorated significantly over the past 20 years (see infographic). It fell from 45.8 percent in 2000 to 23.5 percent in 2020 for youth aged 15 to 24, a decline of 22.3 points. The schooling effect explains part of this situation. The other cause is discouragement and the shift to inactivity. The other age groups have also seen their activity rates fall, but in relatively smaller proportions.

The unemployment rate will fluctuate between 9% and 10% between 2009 and 2019, reaching 11.9% in 2020 under the combined effect of the COVID-19 pandemic, and structural disparities between areas of residence (15.8% in the cities in 2020), between sexes (16, 2% among women), between age groups (31.2% among young people aged 15 to 24) and between levels and types of qualifications (23.9% of higher education graduates will be affected by unemployment, 15.5% of middle level graduates and less than 5.6% of those without qualifications in 2020). In terms of the structure of the unemployed population, almost 23.6% of the unemployed have no diploma in 2020, 41.2% of the unemployed have a low or medium level of education, and 35.2% have at least a baccalaureate, or even a middle management diploma or higher education diploma (faculties, grandes écoles and institutes). The predominance of long-term unemployment (especially among higher education graduates, 73.3% in 2020), and first-time unemployment (especially among higher education graduates, 67.5%), which highlights the mismatch between employment and training ([Ibourk and Perelman 2001](#); [Bougroum et al. 2002](#); [Bougroum and Ibourk 2003](#); [Elayanoui and Ibourk 2018](#)).

The transition from school to work is a critical period in the lives of young graduates as they navigate the labor market and attempt to secure employment. One of the main determinants of success in this transition is human capital, which refers to the set of knowledge, skills, and abilities acquired through formal education and on-the-job training. As defined by [Lucas \(1988\)](#), human capital is a key factor in determining an individual's productivity and efficiency in the workforce. Additionally, [Ait Soudane et al. \(2020\)](#) found that in the case of young higher education graduates in Morocco, the match between the labor market and human capital is not solely dependent on the individual's human capital but also on the level of social capital and soft skills. Social capital, as defined by [Coleman \(1988\)](#) and [Bourdieu \(1980\)](#), refers to the resources and connections an individual possesses through their family and social networks, which can greatly impact their cognitive and social development. Factors such as father's profession, socio-economic background, place of residence, and networking can all be used to approximate an individual's level of social capital.

Overall, the school-to-work transition is a crucial process that describes the journey of moving from formal education to employment. It can be a challenging and complex process for young graduates, as they navigate the shift from academic to professional life. The success of this transition relies on various factors such as the development of skills, job search strategies, and social networks. Furthermore, this process is influenced by both individual human capital and social capital, as well as soft skills, highlighting the importance of considering both factors when designing policies to support young graduates in the transition to the labor market.

Language skills are becoming a real asset today. Mastering one or more foreign languages facilitates access to many professional opportunities. Indeed, with the same technical skills, language skills make the difference in a competitive job market. In this sense, and in order to shed light on this aspect, the survey of insertion of graduates of higher education<sup>1</sup> (ES), conducted in 2020 by the INE focused on the level of language proficiency of higher education graduates.

The results of the survey revealed that the majority of graduates claimed to have an excellent or high level in Arabic, all components of higher education included. The level of proficiency in French and English remains relatively low in university education. About one third of graduates reported having a high or excellent level in French, while in English, only about two out of ten graduates reported a high level and about one out of ten graduates having an excellent level. In contrast, the level of proficiency in these two languages is relatively high among graduates of non-university institutions and those in private higher education. As for the other languages (Spanish, Italian, German and Russian), the majority of higher education graduates stated that their level is null or low, all components of higher education included.

Regarding the knowledge acquired after the training, the results of the survey showed that more than half (54.9%) of the graduates of university education considered that their level of general knowledge acquired is high. This rate is 65.5% for private higher education graduates, 72.5% for non-university institutions, and 60.1% for post-baccalaureate vocational training. Regarding acquired practical skills, 47.4% of university graduates stated that the degree of their acquired practical skills is high. This rate is relatively high among graduates of other components of higher education, reaching 76.1% in private higher education, 69.6% in non-university institutions and 58.6% in post-baccalaureate vocational training. For knowledge of computers and ICT, graduates of non-university institutions have shown the highest level of acquisition of this type of knowledge at the end of training, with nearly two thirds of graduates (63.6%) estimated to have a high level in this area. This rate is, respectively, 33%, 34.9%, and 36% among graduates of university education, private higher education, and post-baccalaureate vocational training. The same observation is revealed for knowledge in communication or language practice, where more than two thirds (68.2%) of the graduates of non-university institutions confirmed having a high degree of acquired skills at the end of the training, against only 14.7% who claimed to have an average degree of acquired skills.

Despite the rise in unemployment among graduates, the insertion phase remains largely unstudied. Soft Skills are appreciated in companies because they complement “hard skills”, especially when the position the company offers is in direct contact with customers. Recruiting soft skills is therefore a guarantee, an assurance and a security in the future in the sense that they do not expire. In this time of crisis, the presence of these skills is essential and constitutes an added value for an applicant. The main objective of this paper is to investigate the impact of soft skills in determining the career trajectories of higher education graduates. This main objective is declined in secondary objectives: (i) to describe the modes of insertion in terms of trajectories and (ii) to study the impact of soft skills on the probability of following a given trajectory.

This work contributes to the existing literature in several ways. First, as opposed to the empirical literature that has investigated the issue of soft skills and the youth's employability, we will develop an index of soft skills that mobilizes several dimensions. Second, it uses individual data from a regional survey conducted by ANAPEC. Third, to our knowledge, this is the first study to use individual data for the Moroccan case. The results of this study may contribute to a more detailed understanding of the importance of soft skills for youth employability and the need for training policies in the context of rapid and substantial changes in skill needs.

In this article, we first present the situation of professional integration of young higher education graduates. Second, we present the literature on the importance of soft skills for the employability of young people. In the third part, we detail the methodology adopted and in the fourth part we continue with the presentation of the results of the regression on the impact of soft skills on the employability of young people. Finally, we present the conclusions of our analyses.

## 2. Soft Skills as Determinants of Employability: Literature Review

### 2.1. The Importance of Soft Skills in the Workplace

Mastering soft skills in this highly competitive world will not only help employees stand out from the crowd but also increase job performance. Soft skills are an essential factor in the employability of any job seeker. It is a multi-faceted concept that covers qualities inherent to the job seeker (resilience, critical thinking, etc.) and others that are manifested in the person's relationships with his or her environment. The soft skills concept appeared in the field of management and leadership. Nowadays, these skills are becoming essential to a large number of professions. According to [Katz \(1974\)](#), soft skills are defined as “*human competencies that are related to two aspects: intra- and interpersonal relationships. Interpersonal relationships are attributed to the relationships an individual has with other members of society. Intrapersonal relationships are those that focus on the relationship with oneself*”. Sharing

the same idea as [Katz \(1974\)](#), [Benabid \(2017\)](#) defines soft skills as *“personal competencies that allow one to harmonize relationships with others and to live well and confidently at work in a spirit of cooperation, to be enterprising in the broadest sense, and to be able to take initiatives in order to accomplish the objectives of the employment relationship”*.

Several articles and studies affirm that the increase in complexity in the professional world cannot be apprehended by technical skills alone, because companies need more and more human skills, the ability to be. These skills are becoming essential within organizations.

Being connected to others, having a sense of group and teamwork are the skills that each individual must have at this time. *“60% of the criteria required for qualification for a job are soft skills”* and *“without wanting to neglect the importance of certificates, or even academic degrees, it is the soft skills that, in addition, distinguish a person from another because they are decisive for his hiring as well as his career opportunities”* [Benabid \(2017\)](#).

[Deming \(2017\)](#) suggested that *“a deficit in soft skills can be penalizing for access to employment and some soft skills can be highly valued by employers for certain jobs”*. He emphasized that soft skills, also known as non-cognitive skills, are important for success in school and in the workforce. These skills are difficult to measure and identify as there are many definitions and interpretations. He pointed out that teamwork, collaboration, and oral and written communication skills are skills that are required and desired by employers, yet they are difficult to detect and find in potential new employees.

With technological change and automation, soft and personal skills are becoming increasingly important as new technologies have urged recruiters to hire people who can perform open-ended tasks that require flexibility, creativity and judgment. In their view, a machine is generally better than humans at performing routine tasks that can be codified according to a set of explicit rules. However, social interaction is the most necessary task in the workplace for which there is currently no good substitute, because a machine cannot engage in the flexible teamwork that is increasingly important in the modern economy.

Although companies have developed automation technologies to perform simple social exchanges such as phone calls, buying tickets through ATMs, etc., yet this is far from true social interaction which requires not only algorithmic conversation but rather understanding. Deming announced that cognitive skills are more measured than soft skills in terms of validity. The lack of a clear definition hinders the development and measurement of these skills which is why the need to develop reliable tests is necessary. The Big 5 model is the example given by [Deming \(2017\)](#) to measure these competences. It is a psychological model developed to measure human personality in five factors called: OCEAN. Of which (O stands for Openness, C for Conscientiousness, E for Extraversion, A for Agreeableness and N for Neuroticism):

- O describes a person's tendency to think in an abstract and complex way. Those with the highest scores tend to be creative, adventurous, and intellectual. However, those with low scores tend to avoid the unknown and follow traditional methods.
- C describes a person's ability to exercise self-discipline and control in order to pursue their goals.
- E describes a person's tendency to seek stimulation from the outside world, attracting the attention of others. Extraverts actively engage with others. However, introverts conserve their energies and do not work to gain social rewards.
- A describes a person's tendency to put the needs of others before their own and to cooperate.
- N describes the tendency to experience negative emotions: fear, sadness, shame, anxiety.

In his article, Deming (...) concluded that soft skills are not learned during school and university studies, but they are human and relational qualities that are more and more valued and requested during recruitment through psychometric tests.

[Tripathy \(2020\)](#) underlined the importance of interpersonal and human skills to succeed in finding a job by saying *“an individual with adequate soft skills succeeds in developing his or her career on both levels: individual and professional”*. Soft skills are closely related to person-



ality traits such as emotional (positive attitude, etc.) and social intelligence (communication skills, maintaining a strong work ethic, teamwork and time management), which is why all people will need these skills in order to secure a job and develop their professional careers.

## 2.2. Soft Skills as Determinants of Employability

Employability is defined as “the individual’s ability to maintain himself or herself in a state of being able to find another job other than his or her own, within or outside the occupation currently practiced. . .” (Sauret and Thierry 1994). For Chassard and Bosco (1998) a person is employable if “he or she has the required skills and is even capable of seizing appropriate employment opportunities to apply them” (Saint-Germes 2004).

Empirical literature distinguished two types of determinants of individual employability. The first determinant is attitudes. Allport (1935) defines attitude as “a mental state of readiness for action, organized through experience, exerting a directive and dynamic influence on behavior”. For Peretti (2008), attitude refers to “the predisposition to react in a preferential and recurrent manner, favourably or unfavourably, to a person, an object, an action, a statement, a situation”. The attitude towards employability highlights the employee’s adaptability, which manifests itself through three channels: organizational adaptability as developed by Van Dam (2004), functional adaptability as discussed by Berg and Velde (2005), and sectoral adaptability as proposed by De Grip et al. (2004) (. . .). The second determinant of employability consists of skills. These determinants are widely discussed by Van Der Heijde and Van Der Heijden (2004). In this context, employability is defined as “the achievement, acquisition or permanent creation of work through the optimal use of skills”. Two types of skills are generally distinguished: the first type of skills refers to specific individual skills. These are essentially skills related to knowledge and know-how (professional expertise or hard skills). The second type of competences are general competences. These are skills related to social skills and soft skills which are defined as behavioral skills.

These types of skills are more and more important in the recruitment decision. They play a role in the development of a responsible, confident and persevering professional. In addition, this type of skill enhances professional flexibility and adaptability in the face of overproduction and technological innovation. Although authors believe that behavioral skills are soft skills; however, these skills are necessary to accomplish complex tasks (Department of Vocational Education 2017).

Soft skills are also called cross-cutting skills. They are becoming more and more important in the recruitment strategies of companies due to the transformation of professions, the obsolescence of technical skills but also the obsolescence of knowledge (Bauvet 2019). In this context, Mauléon et al. (2014) state that it is impossible to incorporate behavioral skills into robots, “the evolution of the world of work, especially with robotization, automation and artificial intelligence, forces us to rely on human capital, thus soft skills” (Mauléon et al. 2014). Soft skills allow individuals to function in a flexible and adaptable way to the changes and hazards of the future, especially in a situation of overproduction or technological innovation. In the literature, many attempts are identified to delimit the fields of soft skills. Early on, they were defined as non-cognitive competencies, early on as components of soft skills (Manach et al. 2019).

Although there is no empirical consensus on the impact of soft skills in the market, several studies agree that soft skills have larger effects than cognitive skills in the labor market (Gutman and Schoon 2013). While it is commonly accepted that cognitive skills are required for labor market entry, the presence of soft skills are necessary to obtain and retain employment. During the hiring process for new employees, employers often resort to testing for soft skills (Duru-Bellat 2015). In this hiring context, if the employer must choose between two candidates with equal cognitive skills and experiences, the choice must be between the one with the soft skills. In other words, the more adaptable, optimistic, creative, or team-oriented the candidate, the more likely he or she will attract the employer’s attention. Empirically, Weinberger (2014) highlights the complementarity between soft skills and cognitive skills. Practically, hiring young laureates should be

conducted with both technical and social skills in mind (Morlaix and Nohu 2019). Thus, a possible lack of soft skills can be seen as a way to hinder access to employment (Green et al. 1999; Heckman et al. 2006).

These are becoming a sought-after resource in selection processes, and in most of the testimonies of professionals, we find the principle that cross-cutting skills are decisive, with equivalent technical skills for several candidates (Bauvet 2019). The pioneering work of Green et al. (1999) in Great Britain notably emphasized the weight of certain relational, attitudinal and motivational skills in the recruitment phase, which would be more important to the employer than technical skills (Albandea and Giret 2016). This is also mentioned in the work of Heckman et al. (2006) who indicated that the role of non-cognitive skills such as motivation, self-esteem or perseverance can sometimes even prove to be greater than that of cognitive skills on academic and labor market success.

In terms of measurement, there are generally four scales: the Big-Five scale of John and Srivastava (1999), the Van Der Heijde and Van Der Heijden (2004), the World Bank (2014) scale. This is why it is necessary to act on the determinants of employability (including soft skills) in students before they leave the training system in order to prepare them to adapt to the world of work and its requirements. To find out what soft skills job seekers need to have in order to easily integrate into the job market, a study was conducted in 2016 by the World Economic Forum, which aims to rank the ten essential soft skills to master in 2020. These are:

- Complex problem solving: Knowing how to find solutions to the problems faced by the company is a valuable asset. As challenges become increasingly complex and require global responses, individuals who facilitate solutions make a difference.
- Flexibility: Organizations are changing rapidly, and it is important for individuals to be flexible and adaptable in their daily work. They need to be able to adapt their work speed quickly and not feel disconcerted by a sudden change in their habits.
- Critical thinking: Questioning is the basis of all development. Being able to “criticize objectively”, in a logic of continuous improvement, allows to learn and to question the established models, without reproducing the mistakes of the past. Companies wishing to evolve have every interest in calling on people who bring a fresh and critical perspective.
- Creativity: Coming up with new things is better. Recruiting creative individuals who “think out of the box” allows companies to better face their competitors.
- Emotional intelligence: The ability to identify, understand and control one’s emotions and those of the people around us is also important. It allows not only to be more fulfilled in one’s daily life, but also to better understand others (one’s team, manager, clients).
- Ability to manage a negotiation: Negotiation is an essential step for any company. Having employees who master the art of persuasion and know how to negotiate in a “win-win” logic is crucial. Negotiating well means knowing your speech and your product by heart, but it also means knowing how to listen to the other person.
- Customer Service Skills: This human skill is based on active listening to the other person (especially when it is a customer). The sense of customer service is the ability to provide a clear, precise and appropriate response to the needs of its customers.
- Judgment and decision making: Being flexible, creative and critical, while understanding others, is a strong behavioral skill. However, if you want to be a key player in the company, you also need to be able to make the right decisions.
- Team spirit: To maintain a healthy and sustainable dynamic, it is essential that all employees are driven by a common project, which is the success of the company. Recruiting people who like to play collectively and succeed together makes it possible to obtain a team sharing the same values of mutual aid, solidarity and cohesion.
- Team Management: The ability to manage is not only for people who have managerial responsibilities over their employees. Leadership is a soft skill to possess, as it allows

one to effectively direct the efforts of a group in a common direction leading to the achievement of objectives.

The Survey of Adult Skills, a product of the OECD's Program for the International Assessment of Adult Competencies (PIAAC), has shown that teamwork, problem solving, and creativity are the skills most in demand in most jobs.

### 2.3. Theoretical Conclusions

The main theoretical conclusions drawn from our literature review can be summarized as follows:

- i. Soft skills determine the career paths of higher education graduates.
- ii. Do soft skills vary from an open access institution to a regulated institution?
- iii. Soft skills are what distinguish one individual from another when it comes to finding a job.
- iv. They are not only determinant for hiring, but also for career opportunities, hence their great importance.

To test the empirical validity of these hypotheses, they will be confronted with a microeconomic database extracted from a regional survey conducted by ANAPEC.

## 3. Methodology and Data

### 3.1. Methodology

From a methodological point of view, a two-stage approach is used. The first step leads to the construction of a typology and characterizes the situations of the typologies identified in the graduates' integration paths. The second stage of the analysis is econometric: it consists of estimating by a multinomial logit, the equations for membership in the classes determined in the first stage.

To determine the number of groups to retain, we used the inertia of partitions according to the number of classes. This is the equivalent of the jumps in the fusion distances. This approach allowed us to choose between 4 or 5 classes. After an arbitration between these two choices and given the variety of types of activity introduced into the analysis ("Education", "Employment", "Unemployment", "Inactivity") we finally retained 5 typologies that we consider distinct (inter) and homogeneous (intra) groups.

- i. The first step

The first stage of the analysis uses Optimal Matching Analysis (OMA) methods to construct a typology of graduates' career paths. These Optimal Matching Analysis (OMA) methods allow us to measure the degree of similarity of sequences and thus to construct empirical typologies. They also allow us to compare sequences without assuming causal relationships. The optimal matching algorithm defines a measure to compute the inter-sequence distance. The general idea is to measure the dissimilarity between two sequences by transforming one into the other by means of elementary operations (insertion, deletion and substitution) and each of them has a cost. It is the minimum total cost that is used as a measure of dissimilarity. The strength of this approach lies in the holistic view it offers by treating entire trajectories. This allows us to determine trajectories that take into account all the states of interest during the period considered ([Han and Moen 1999](#); [Quintini and Manfredi 2009](#)). We conduct a description of the different trajectories obtained with respect to socioeconomic and institutional characteristics.

- ii. The second step

A multinomial logit is estimated to explain the determinants of each class obtained by taking a class as the reference modality. The aim is to provide an estimate of the probability of following a given typical trajectory in reference to the fourth "unemployment" pathway. Recall that this class characterizes the trajectory of respondents who have been unemployed for a long time. The explanatory variables taken into account are the father's occupation (reference mode: line manager and executive), mother's occupation (reference mode: em-



ployed), father's level of education (reference mode: none or primary), mother's level of education (reference mode: none or primary), gender (reference mode: male), number of working siblings (reference mode: no one), family situation (reference mode: single), repeating a year at secondary school (reference mode: Yes), repeated high school (reference modality: Yes), training institution (reference modality: open access), completion of internship while preparing for degree (reference modality: Yes) age (reference modality: less than 25 years old), mastery of French (reference modality: excellent), practical knowledge (reference modality: low to medium), communication knowledge (reference modality: low to medium), English language knowledge (reference modality: low to medium).

To assess the soft skills, we have constructed a composite index that aggregates three dimensions, the first dimension "competence" that aggregates 06 items (1. *General knowledge*; 2. *Interdisciplinary knowledge*; 3. *Theoretical knowledge*; 4. *Practical knowledge*; 5. *Knowledge of computers and technological tools*; 6. *Knowledge of planning, coordination and organization*). The second dimension "languages" where we questioned the individuals on their level in 04 languages (1. *Arabic*; 2. *French*; 3. *English* and 4. *Spanish*), and "experience in the internship" dimension that informs whether the student has already completed an internship during his years of study.

### 3.2. Data Mobilized

The database studied tracks the professional situations collected during the survey of university graduates conducted by the National Evaluation Institute in 2012 and concerns 385 graduates of Hassan I University in Settat, 736 graduates of Hassan II University in Casablanca, and 500 graduates of Mohammed V-Agdal University in Rabat from the class of 2008–2009. The reference population for the survey is made up of "all graduates of the three universities who graduated on the same date (June 2009) and who are questioned retrospectively in a longitudinal manner over a period of 34 months after graduation.

The following table reports the main statistics on the distribution of the sample studied. The distributions presented in this table are conditional on the university of origin, gender and family status. It appears that 23.8% of the sample comes from the Hassan I University of Settat, 45.4% from the Hassan II University of Casablanca and 30.8% from the Mohamed V University of Agdal. Women represent 49% of the sample and married people represent 21.4% (Table 1).

**Table 1.** Distribution of the study sample by university.

|               |                                 |       |
|---------------|---------------------------------|-------|
| University    | Hassan I University Settat      | 23.8% |
|               | Hassan II University Casablanca | 45.4% |
|               | Mohamed V Agdal University      | 30.8% |
| Gender        | Men                             | 51%   |
|               | Female                          | 49%   |
| Family status | 1. Married                      | 21.4% |
|               | 2. Single                       | 78.6% |

Source: National Evaluation Institute (NIE) at the CSEFRS.

The majority of respondents were enrolled in open access institutions. The amount of those who attended regulated access institutions were represented by 9% for the Higher School of Technology (EST), 8.6% for the Faculty of Science and Technology (FST), and the rest of the regulated access institutions represented less than 12% (Table 2).

**Table 2.** Distribution of the study sample by institution.

|                                |                                                                |       |
|--------------------------------|----------------------------------------------------------------|-------|
| Open access establishment      | Faculty of Sciences (FS).                                      | 23.9% |
|                                | Faculty of Legal, Economic and Social Sciences (FSJES).        | 31.5% |
|                                | Faculty of Humanities (FLSH).                                  | 11%   |
|                                | Polydisciplinary Faculty of Khouribga (FPK)                    | 2.8%  |
| Regulated access establishment | National Superior School of Electricity and Mechanics (ENSEM). | 2%    |
|                                | Higher School of Technology (EST)                              | 9%    |
|                                | Faculty of Medicine and Pharmacy (FMP).                        | 2.3%  |
|                                | Faculty of Dental Medicine (FMD).                              | 1.8%  |
|                                | Mohamadia School of Engineering (EMI).                         | 3.3%  |
|                                | Faculty of Science and Technology (FST).                       | 8.6%  |
|                                | National School of Commerce and Management (ENCG).             | 3.8%  |

Source: National Evaluation Institute (NIE) at the CSEFRS.

According to the degree, all the sampled students have at least a Bac + 2. Bachelor's degree holders represent a little more than half of the sample (53.1%), while doctoral degree holders represent only 4.2% (Table 3).

**Table 3.** Distribution of the study sample according to degrees.

|         | Degree                                                                     | %    |
|---------|----------------------------------------------------------------------------|------|
| Bac + 2 | University Technological Diploma (DUT), Brevet Technicien Supérieur (BTS). | 9    |
| Bac +3  | Fundamental License (LF)                                                   | 48.3 |
|         | Professional License (LP)                                                  | 4.8  |
| Bac + 4 | Master's degree FST                                                        | 3.8  |
| Bac + 5 | National School of Commerce and Management (ENCG).                         | 3    |
|         | Engineer                                                                   | 4.8  |
|         | Research Master (MR)                                                       | 10.7 |
|         | Specialized Master (MS)                                                    | 9.9  |
| Bac + 6 | Diploma of Advanced Studies (DESA).                                        | 0.8  |
| Bac + 8 | Doctorate                                                                  | 1    |
|         | Doctorate in Medicine                                                      | 4.1  |

Source: National Evaluation Unit (NUE) of the Superior Council of Education, Training and Scientific Research (CSEFRS).

## 4. Resultants

### 4.1. Description of the Sample

The characteristics of our sample are as follows: Almost half of the respondents are female (49%). Single people represent 78% of the respondents. In terms of age, the survey data suggest that nearly half of the respondents are between 26 and 29 years old. Respondents under the age of 26 represent 38%, while only 15% are 30 years of age or older (Table 4).

Regarding socio-professional origin, 41% of the respondents had fathers with a socio-professional status of "employee or government employee". Slightly more than a fifth (20%) of the respondents' fathers were shopkeepers, farmers, craftsmen, workers or laborers. A little more than a fifth of the respondents have a manager or executive father, while 12% have an unemployed or inactive father. With regard to the mother's status, 80% of the respondents' mothers were unemployed or inactive, while only 20% of the mothers were employed.

**Table 4.** Demographic Profile of Recipients.

| Variables        | Modalities                  | Number | Percentage |
|------------------|-----------------------------|--------|------------|
| Gender           | Male                        | 827    | 51%        |
|                  | Female                      | 794    | 49%        |
|                  | Grand total                 | 1621   | 100%       |
| Family situation | Single                      | 1263   | 78%        |
|                  | Other situations            | 358    | 22%        |
|                  | Grand Total                 | 1621   | 100%       |
| Age in years     | Under 26 years old          | 611    | 38%        |
|                  | Between 26 and 29 years old | 763    | 47%        |
|                  | 30 years and older          | 247    | 15%        |
|                  | Grand total                 | 1621   | 100%       |

Source: National Evaluation Institute (NIE) at the CSEFRS.

With regard to the father's level of education, there is an equal distribution according to the three levels of education: no education or primary education (33%), secondary education (35%) and higher education (32%). More than half (57%) of the mothers had primary education or less and only 16% had higher education. In terms of family experience and in terms of employment, it should be noted that almost half of the respondents have one or two people working (Table 5).

**Table 5.** Structure of successful candidates by socio-professional background.

| Variables                  | Modalities                                        | Number | Percentage |
|----------------------------|---------------------------------------------------|--------|------------|
| Father's occupation        | Supervisor and manager                            | 341    | 21%        |
|                            | Employee or government employee                   | 660    | 41%        |
|                            | Shopkeeper, farmer, craftsman, worker and laborer | 427    | 26%        |
|                            | Unemployed and Inactive                           | 193    | 12%        |
|                            | Total                                             | 1621   | 100%       |
| Mother's occupation        | Employed                                          | 329    | 20%        |
|                            | Unemployed or Inactive                            | 1292   | 80%        |
|                            | Total                                             | 1621   | 100%       |
| Father's education level   | None or Primary                                   | 529    | 33%        |
|                            | Middle or High School                             | 571    | 35%        |
|                            | Higher education                                  | 521    | 32%        |
|                            | Total                                             | 1621   | 100%       |
| Mother's education level   | None or Primary                                   | 929    | 57%        |
|                            | Middle or High School                             | 429    | 26%        |
|                            | Higher education                                  | 263    | 16%        |
|                            | Total                                             | 1621   | 100%       |
| Number of working siblings | 0 persons                                         | 454    | 28%        |
|                            | Between 1 and 2 people                            | 773    | 48%        |
|                            | 3 persons and more                                | 394    | 24%        |
|                            | Total                                             | 1621   | 100%       |

Source: National Evaluation Institute (NIE) at the CSEFRS.

As for their educational background, it should be noted that the vast majority of respondents (94%) have never repeated a year in junior high school and 87% have never repeated a year in high school. 70% of respondents have a scientific baccalaureate, 8% have an economics and management baccalaureate, and 21% have a baccalaureate. The distribution according to the institutions where the diploma was obtained shows that FSJES presents almost a third of the respondents, FS comes second with 24%. According to the highest diploma, the bachelors occupy the first place with 53% of the respondents, followed by the holders of the Master with 25%, the holders of the DEUG presents 9%, the holders of the Master, ENCG and the engineers represent 8% and the holders of doctorate represents 5% (Table 6).

**Table 6.** Educational level of the graduates.

| <i>Variables</i>                      | <i>Modalities</i>                         | <i>Number</i> | <i>Percentage</i> |
|---------------------------------------|-------------------------------------------|---------------|-------------------|
| Did you repeat a year in high school? | Yes                                       | 104           | 6%                |
|                                       | No                                        | 1517          | 94%               |
|                                       | Total                                     | 1621          | 100%              |
| What series of the baccalaureate      | Scientific                                | 1133          | 70%               |
|                                       | Economics and management                  | 136           | 8%                |
|                                       | Letter                                    | 334           | 21%               |
|                                       | (empty)                                   | 18            | 1%                |
|                                       | Total                                     | 1621          | 100%              |
|                                       |                                           |               |                   |
| Did you repeat a year in high school  | Yes                                       | 216           | 13%               |
|                                       | No                                        | 1405          | 87%               |
|                                       | Total                                     | 1621          | 100%              |
| School                                | FS                                        | 387           | 24%               |
|                                       | FSJES                                     | 511           | 32%               |
|                                       | FLSH                                      | 178           | 11%               |
|                                       | Other                                     | 545           | 34%               |
|                                       | Total                                     | 1621          | 100%              |
|                                       |                                           |               |                   |
| What was the type of diploma          | DEUG                                      | 146           | 9%                |
|                                       | Licence                                   | 861           | 53%               |
|                                       | Master                                    | 407           | 25%               |
|                                       | Master FST, ENCG and Engineer             | 125           | 8%                |
|                                       | Doctorate Medicine and National Doctorate | 82            | 5%                |
|                                       | Total                                     | 1621          | 100%              |
|                                       |                                           |               |                   |

Source: National Evaluation Institute (NIE) at the CSEFRS.

With regard to language proficiency, the results are presented as follows (Table 7):

- For French, 29% of respondents have an excellent level of proficiency, 52% have a high level and 19% have an average level.
- With regard to communication skills in English, the level is low to average for 82% of respondents. Only 18% have a more than average level.
- In terms of communication skills, 77% of respondents had a low level while 23% had a good level.
- In terms of computer knowledge, 83% of respondents stated that they had poor knowledge, and only 17 had good knowledge.
- In terms of practical knowledge, 83% of the respondents stated that they had poor knowledge and 17% had good knowledge. During their studies, 60% of the respondents stated that they had done internships in preparation for their studies.

**Table 7.** Appropriation level of soft skills.

| Variables                                                  | Modalities        | Number | Percentage |
|------------------------------------------------------------|-------------------|--------|------------|
| French language proficiency                                | Excellent         | 470    | 29%        |
|                                                            | High              | 843    | 52%        |
|                                                            | Average           | 306    | 19%        |
|                                                            | Total             | 1621   | 100%       |
| Practical knowledge                                        | Low               | 1340   | 83%        |
|                                                            | Good              | 281    | 17%        |
|                                                            | Total             | 1621   | 100%       |
| Knowledge in computer science                              | Poor              | 1338   | 83%        |
|                                                            | good              | 283    | 17%        |
|                                                            | Total             | 1621   | 100%       |
| Communication skills                                       | Poor              | 1251   | 77%        |
|                                                            | Good              | 370    | 23%        |
|                                                            | Total             | 1621   | 100%       |
| Communication skills in English                            | Poor to average   | 1327   | 82%        |
|                                                            | More than average | 294    | 18%        |
|                                                            | Total             | 1621   | 100%       |
| Have you done any internships while working on this degree | Yes               | 979    | 60%        |
|                                                            | No                | 642    | 40%        |
|                                                            | Total             | 1621   | 100%       |

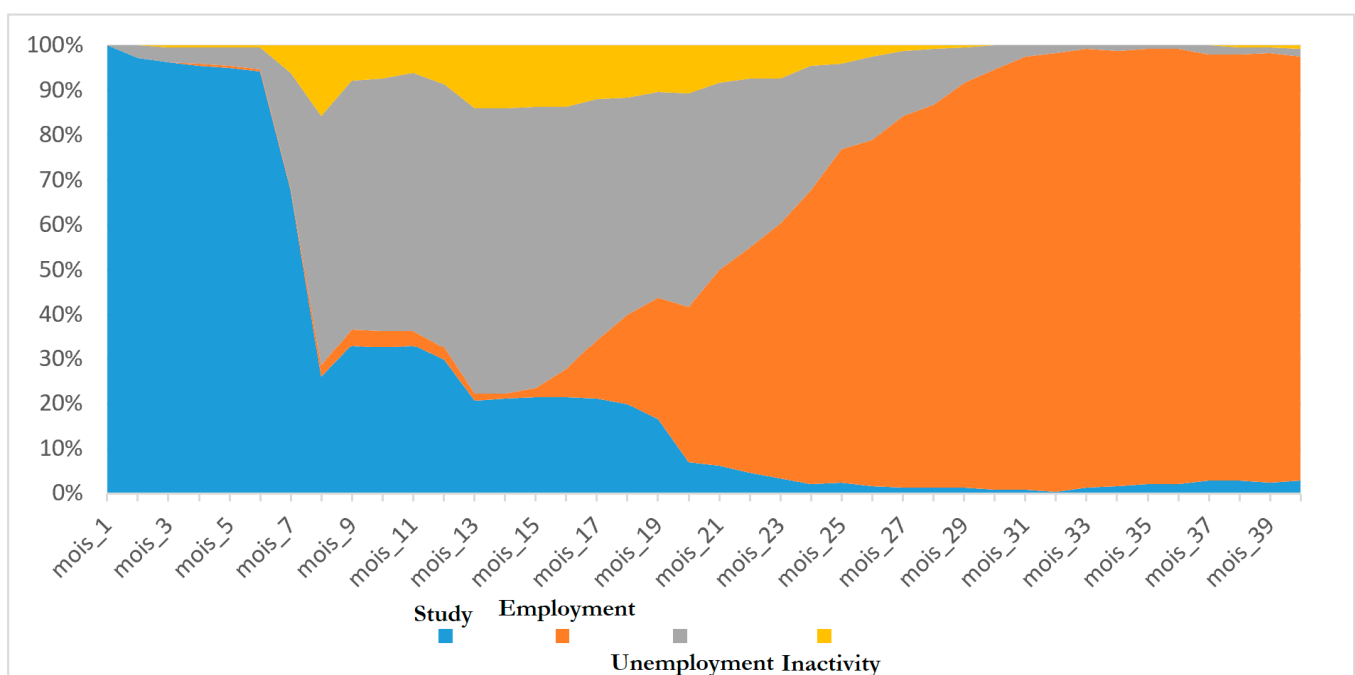
Source: National Evaluation Institute (NIE) at the CSEFRS.

#### 4.2. Trajectory Typology

The results of this survey identified five trajectories grouped into classes.

##### Class 1: Transitions to Employment

The first-class profile clearly shows a process of access to employment. Indeed, after the fifteenth month, a transition to employment is increasingly evident (Figure 1).

**Figure 1.** Transitions to Employment. Source: Authors' elaboration.



### Class 2: Ongoing studies

The second class characterizes those graduates who are invested in continuing their education. It is only towards the end of the observation period that the transition to employment and unemployment begins to be felt, albeit in small proportions (Figure 2).



Figure 2. Ongoing studies. Source: Authors' elaboration.

### Class 3: Rapid transitions to sustained employment

The third trajectory is characterized by a rapid transition to employment. Indeed, after the eighth month, there is an increasing transition to employment (Figure 3).

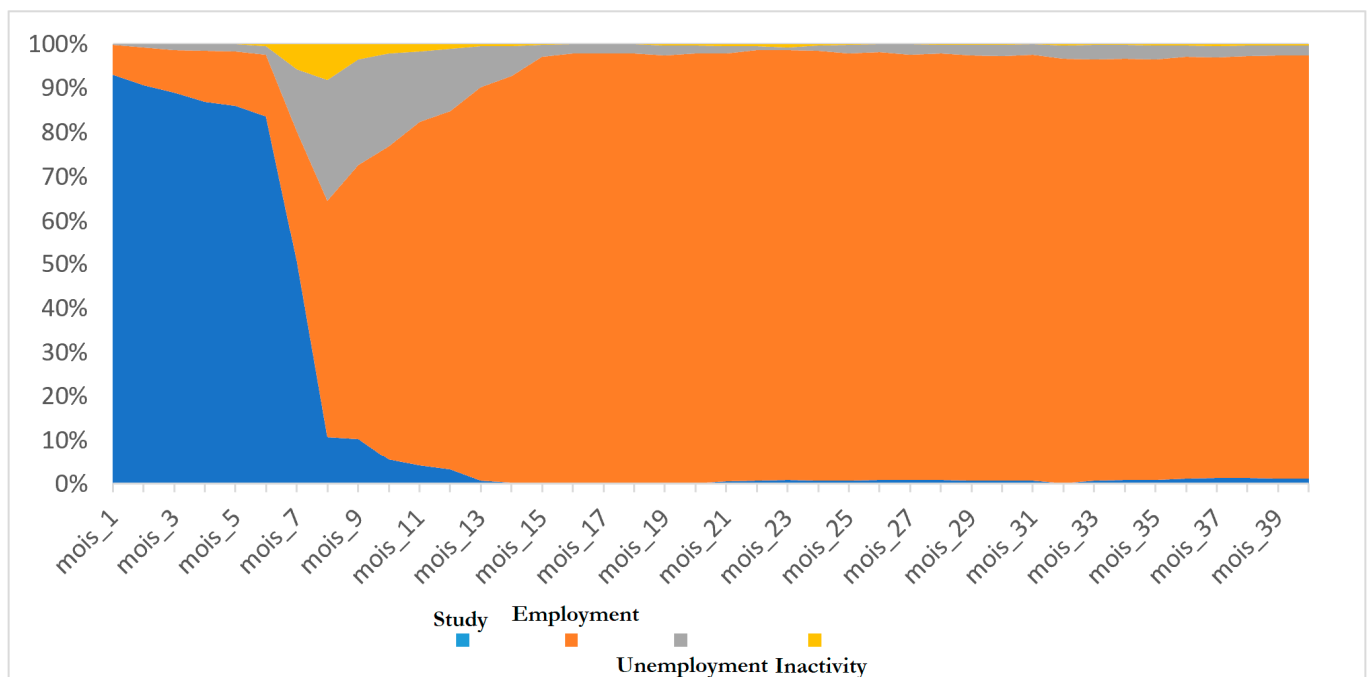
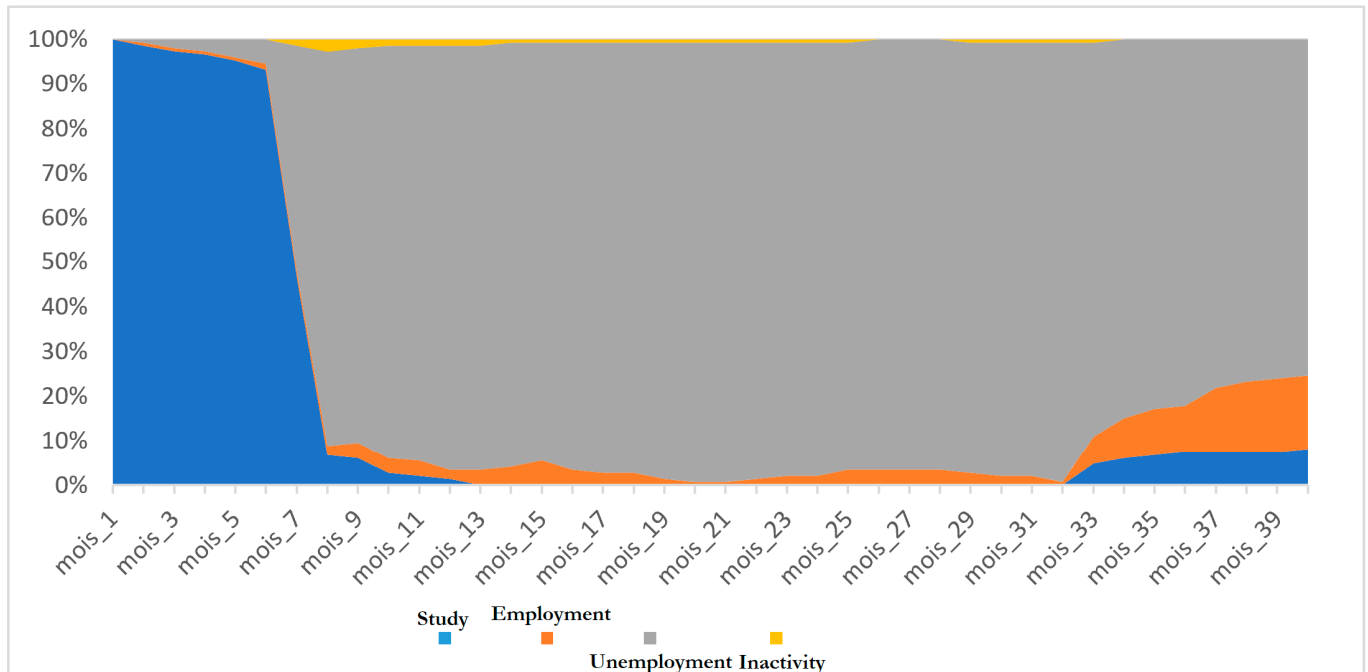


Figure 3. Rapid transitions to sustained employment. Source: Authors' elaboration.

#### Class 4: Prevailing Unemployment

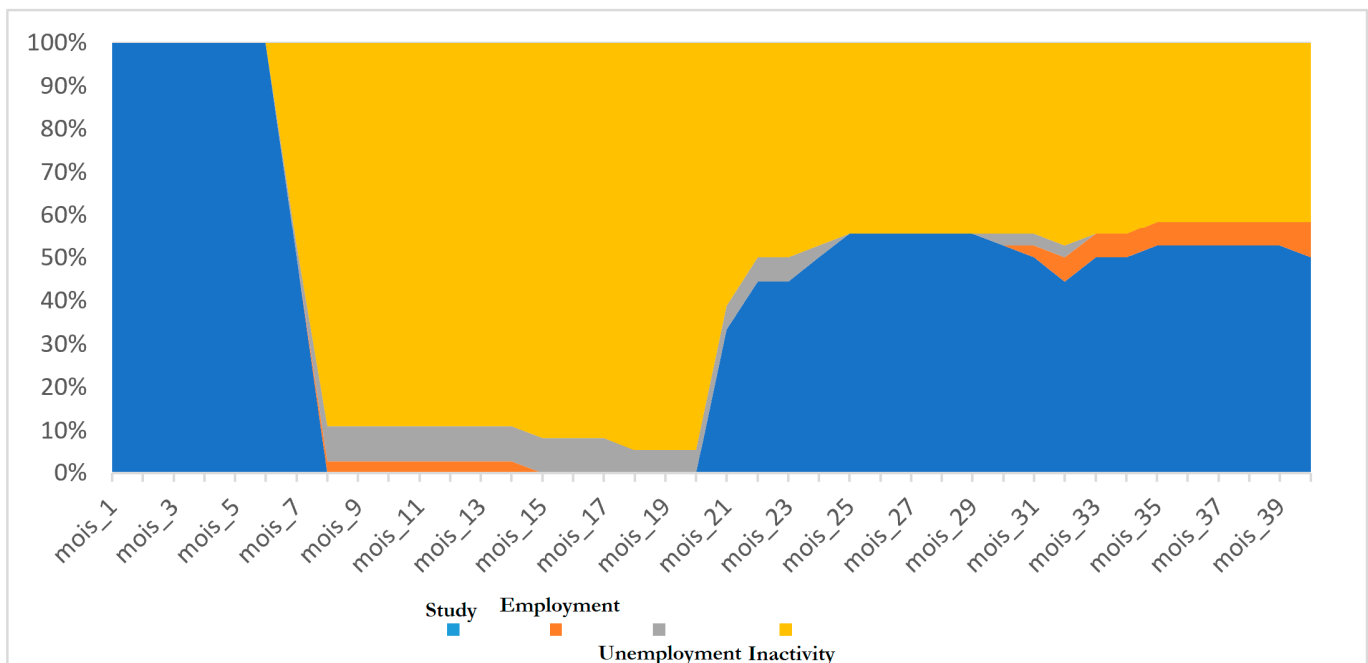
This class characterizes the trajectory of the respondents who have remained unemployed for a long time, although at the beginning they turned to studies (Figure 4).



**Figure 4.** Prevailing Unemployment. Source: Authors' elaboration.

#### Class 5: Transitions to discouragement “inactivity” and back to school

This class is characterized by respondents whose dominant situation is inactivity. This inactivity is largely observed between the eighth month and the twentieth month with a reconversion to studies at the end of the period to get out of the inactive situation (Figure 5).



**Figure 5.** Transitions to discouragement “inactivity” and back to school. Source: Authors' elaboration.

The description of the trajectories according to the modalities of the variables allowed us to identify the following findings:

- The majority of graduates (80% men and 74% women) are classified in the 2nd or 3rd typology.
- In relation to the type of institution, the analysis of the results shows that 57% of the graduates of the Faculties of Science are committed to continuing their studies and that 25% have been able to join the labor market on a permanent basis. The majority of graduates from the FSJES (38%) are engaged in sustainable work, and slightly less than a third (30%) are engaged in further studies. FLSH graduates are characterized by both a high rate of sustainable integration into the labor market (41%) and a high rate of unemployment (25%). This paradox can be explained in part by the fact that the FLSH contains heterogeneous disciplines (language disciplines in high demand on the labor market and humanities disciplines in low demand). Overall, graduates from the Faculty of Science prefer to continue their studies. On the other hand, graduates from other institutions prefer work.
- As expected, graduates from institutions with regulated access are more likely to be in permanent employment (40.37%) or in transition to employment (18.35%), with very low rates of unemployment and inactivity (3.12% and 1.47%, respectively). The trajectories of graduates from open-access institutions are characterized by the predominance of unemployment (11.99%) and continued study (37.64%).
- In relation to family situations, single students are more likely to study, while the others prefer to find a job.
- By type of degree, unemployment is very high among graduates (13.01%). On the other hand, 88% of the holders of a master's degree from the FST and the ENCG have a permanent job. Doctorate holders are either engaged in sustainable employment (47%) or are in transition to employment.
- In relation to the type of baccalaureate, the studies suggest that 28% of literary baccalaureate holders are classified in the 4th class (literary graduates are more affected by long-term unemployment than others). One in five graduates do not master French and 14% of graduates with communication problems are at risk of long-term unemployment.
- It should also be noted that 16% of the laureates without an internship and 19% of the laureates without (practical) experience are classified in a typology characterized by long-term unemployment.
- The level of education of the parents has an impact on the career path of the laureates. Laureates whose fathers' professions are not line management and executive and whose mothers are unemployed or inactive are more exposed to unemployment (13%). The survey data also suggest that 15% of the laureates whose fathers' educational level is no level or primary are classified in the trajectory characterized by long-term unemployment.
- It should also be noted that 12% of the laureates whose mother's educational level is without level or primary are classified in the trajectory characterized by long-term unemployment.
- A total of 15% of the laureates whose parents (father and mother) have no schooling or primary schooling are classified in the trajectory characterized by long-term unemployment.
- A total of 42% of the laureates whose father's educational level is more than primary school prefer to continue their studies, while 41% of the other laureates whose father's educational level is no level or primary school prefer to enter the labor market.
- Our analyses suggest that the career paths of women and men are different. Indeed, women are more exposed to long-term unemployment than men.
- Moreover, 12 percent of women's career paths are characterized by long-term unemployment. Additionally, nearly two thirds (65%) of the laureates of the 4th typology are women. A total of 77% of these women are aged 26 and over and nearly three

quarters of them are single. By type of institution, 88% of the women are from open access institutions. The results also suggest that 11% of female FLSH awardees are classified in typology 5 (Table 8).

**Table 8.** Description of trajectories by modality.

| Variable                   | Modality                                  | Transitions to Employment | Permanent Studies | Sustained Employment | Dominant Unemployment | Inactivity | Total   |
|----------------------------|-------------------------------------------|---------------------------|-------------------|----------------------|-----------------------|------------|---------|
| Establishment              | FS                                        | 10.59%                    | 57.36%            | 25.84%               | 4.13%                 | 2.07%      | 100.00% |
|                            | FSJES                                     | 15.85%                    | 30.33%            | 38.94%               | 13.11%                | 1.76%      | 100.00% |
|                            | FLSH                                      | 11.24%                    | 15.73%            | 41.01%               | 25.84%                | 6.18%      | 100.00% |
|                            | Other                                     | 18.35%                    | 36.70%            | 40.37%               | 3.12%                 | 1.47%      | 100.00% |
|                            | Total                                     | 14.93%                    | 37.32%            | 36.52%               | 9.01%                 | 2.22%      | 100.00% |
| Type of access institution | Open access                               | 13.20%                    | 37.64%            | 34.57%               | 11.99%                | 2.60%      | 100.00% |
|                            | Regulated access                          | 18.35%                    | 36.70%            | 40.37%               | 3.12%                 | 1.47%      | 100.00% |
|                            | Total                                     | 14.93%                    | 37.32%            | 36.52%               | 9.01%                 | 2.22%      | 100.00% |
| Study level                | DEUG                                      | 23.97%                    | 61.64%            | 10.96%               | 0.68%                 | 2.74%      | 100.00% |
|                            | Licence                                   | 10.69%                    | 47.85%            | 25.90%               | 13.01%                | 2.56%      | 100.00% |
|                            | Master                                    | 17.20%                    | 23.34%            | 49.88%               | 7.62%                 | 1.97%      | 100.00% |
|                            | Master FST, ENCG and Engineer             | 8.00%                     | 1.60%             | 88.80%               | 0.80%                 | 0.80%      | 100.00% |
|                            | Doctorate Medicine and National Doctorate | 42.68%                    | 7.32%             | 47.56%               | 1.22%                 | 1.22%      | 100.00% |
|                            | Total                                     | 14.93%                    | 37.32%            | 36.52%               | 9.01%                 | 2.22%      | 100.00% |
| Series of baccalaureate    | Scientific                                | 14.92%                    | 41.31%            | 37.78%               | 4.15%                 | 1.85%      | 100.00% |
|                            | Economy and management                    | 17.65%                    | 34.56%            | 44.12%               | 3.68%                 | 0.00%      | 100.00% |
|                            | Letter                                    | 14.37%                    | 23.95%            | 29.94%               | 27.54%                | 4.19%      | 100.00% |
|                            | (empty)                                   | 5.56%                     | 55.56%            | 22.22%               | 11.11%                | 5.56%      | 100.00% |
|                            | Total                                     | 14.93%                    | 37.32%            | 36.52%               | 9.01%                 | 2.22%      | 100.00% |
| Gender                     | Male                                      | 13.18%                    | 36.64%            | 42.56%               | 6.17%                 | 1.45%      | 100.00% |
|                            | Female                                    | 16.75%                    | 38.04%            | 30.23%               | 11.96%                | 3.02%      | 100.00% |
|                            | Total                                     | 14.93%                    | 37.32%            | 36.52%               | 9.01%                 | 2.22%      | 100.00% |

Source: Authors' calculation.

#### 4.3. Individual Determinants of Typical Trajectories

The survey results suggest that the father's occupation does not have a significant impact on the respondents' career paths, except in the case of respondents whose fathers are employees or government employees. The same is true for the mother's occupation, which has no significant effect on the career path. The parents' educational level, on the other hand, has a significant impact on the trajectories of the laureates. Indeed, college and high school level has a positive impact on the trajectory of Class 1 "Transition to Employment" and Class 2 "Permanent Studies". Higher education has a positive and significant impact on the trajectory of Class 2 (Permanent Studies) and Class 3 (Sustainable Employment). In other words, laureates whose parents have a high level of education are more likely to either continue their education or to enter the labor market and remain employed. This result reflects an intergenerational transmission of income and education inequalities. Paradoxically, a higher level of maternal education has a positive impact on the trajectory of Class 5 "Inactivity", whereas this impact is not significant for the other classes.

The results of this study (Table 9) clearly show gender inequalities in relation to the different trajectories, except for Class 5 "Inactivity", where the gender impact is not

significant. In fact, women are penalized with respect to the transition to employment, to further education and to access to sustainable employment.

**Table 9.** Empirical results.

| Variables                                   | Modalities                                        | C5: Inactivity       | C1: Transition to Employment | C2: Education Permanent | C3: Sustainable Employment |
|---------------------------------------------|---------------------------------------------------|----------------------|------------------------------|-------------------------|----------------------------|
| Father's occupation                         | Supervisor and manager                            |                      |                              | Réf                     |                            |
|                                             | Employee or government employee                   | −1.355 **<br>(0.659) | −0.569<br>(0.384)            | −0.292<br>(0.361)       | −0.506<br>(0.361)          |
|                                             | Shopkeeper, farmer, craftsman, worker and laborer | −0.610<br>(0.722)    | 0.435<br>(0.436)             | 0.422<br>(0.412)        | 0.494<br>(0.410)           |
|                                             | Unemployed and Inactive                           | 0.849<br>(0.515)     | −0.551<br>(0.515)            | 0.0570<br>(0.456)       | 0.279<br>(0.448)           |
| Mother's occupation                         | Employed                                          |                      |                              | Réf                     |                            |
|                                             | Unemployed or Inactive                            | −0.217<br>(0.839)    | −0.371<br>(0.466)            | −0.437<br>(0.435)       | −0.508<br>(0.437)          |
| Father's level of education                 | None or Primary                                   |                      |                              | Réf                     |                            |
|                                             | Secondary school or High school                   | 0.472<br>(0.524)     | 0.876 ***<br>(0.305)         | 0.795 ***<br>(0.277)    | 0.398<br>(0.275)           |
|                                             | Higher education                                  | −0.0294<br>(0.791)   | 0.666<br>(0.429)             | 0.950 **<br>(0.387)     | 0.684 *<br>(0.386)         |
| Mother's level of education                 | None or Primary                                   |                      |                              | Réf                     |                            |
|                                             | Middle or High School                             | −0.632<br>(0.671)    | −0.153<br>(0.336)            | 0.0586<br>(0.303)       | −0.0107<br>(0.308)         |
|                                             | Higher education                                  | 1.650 *<br>(0.979)   | 1.055<br>(0.645)             | 0.575<br>(0.611)        | 0.664<br>(0.614)           |
| Gender                                      | Male                                              |                      |                              | Réf                     |                            |
|                                             | Female                                            | −0.406<br>(0.442)    | −0.728 ***<br>(0.243)        | −1.025 ***<br>(0.224)   | −1.376 ***<br>(0.222)      |
| Working siblings                            | 0 persons                                         |                      |                              | Réf                     |                            |
|                                             | Between 1 and 2 persons                           | −0.182<br>(0.463)    | 0.0105<br>(0.277)            | 0.133<br>(0.251)        | 0.331<br>(0.254)           |
|                                             | 3 persons and more                                | −0.273<br>(0.567)    | 0.334<br>(0.316)             | 0.163<br>(0.293)        | 0.401<br>(0.290)           |
| Family situation                            | Single                                            |                      |                              | Réf                     |                            |
|                                             | Other situation                                   | 1.268 ***<br>(0.456) | 0.106<br>(0.286)             | −0.665 **<br>(0.281)    | 0.585 **<br>(0.255)        |
| Have you repeated a grade in middle school  | Yes                                               |                      |                              | Réf                     |                            |
|                                             | No                                                | 0.470<br>(0.652)     | 0.963 **<br>(0.407)          | 0.564 *<br>(0.336)      | 0.823 **<br>(0.323)        |
| Have you repeated a year in high school     | Yes                                               |                      |                              | Réf                     |                            |
|                                             | No                                                | −0.0576<br>(0.526)   | 0.194<br>(0.293)             | 0.388<br>(0.269)        | 0.400<br>(0.260)           |
| Training institution                        | Open access                                       |                      |                              | Réf                     |                            |
|                                             | Regulated access                                  | 0.954<br>(0.625)     | 0.664 *<br>(0.344)           | 0.0453<br>(0.327)       | 0.439<br>(0.324)           |
| Internships while preparing for this degree | Yes                                               |                      |                              | Réf                     |                            |
|                                             | No                                                | 0.810<br>(0.527)     | −0.699 **<br>(0.271)         | −0.928 ***<br>(0.246)   | −0.811 ***<br>(0.245)      |



Table 9. Cont.

| Variables               | Modalities         | C5: Inactivity       | C1: Transition to Employment | C2: Education Permanent | C3: Sustainable Employment |
|-------------------------|--------------------|----------------------|------------------------------|-------------------------|----------------------------|
| Knowledge of French     | Excellent          |                      |                              | Réf                     |                            |
|                         | High               | 0.0380<br>(0.590)    | −0.505<br>(0.316)            | −0.195<br>(0.297)       | −0.526 *<br>(0.291)        |
|                         | Average            | 0.399<br>(0.662)     | −0.830 **<br>(0.360)         | −0.969 ***<br>(0.336)   | −1.505 ***<br>(0.329)      |
| Age in years            | Under 26 years     |                      |                              | Réf                     |                            |
|                         | [26–29]            | −0.942 **<br>(0.467) | −0.747 **<br>(0.295)         | −1.681 ***<br>(0.269)   | −0.239<br>(0.278)          |
|                         | 30 years and older | −1.976 **<br>(0.800) | −0.369<br>(0.408)            | −1.883 ***<br>(0.392)   | 0.127<br>(0.372)           |
| Practical knowledge     | Above average      |                      |                              | Réf                     |                            |
|                         | Low to medium      | −0.898<br>(0.637)    | −0.475<br>(0.301)            | −0.250<br>(0.264)       | −0.660 **<br>(0.265)       |
| Computer skills         | Above average      |                      |                              | Réf                     |                            |
|                         | Low to moderate    | −1.215 *<br>(0.738)  | 0.133<br>(0.303)             | −0.0621<br>(0.276)      | 0.0114<br>(0.270)          |
| Communication skills    | Above average      |                      |                              | Réf                     |                            |
|                         | Low to average     | −0.653<br>(0.540)    | −0.603 **<br>(0.282)         | −0.379<br>(0.248)       | −0.193<br>(0.244)          |
| English language skills | Low to moderate    |                      |                              | Réf                     |                            |
|                         | Above average      | 0.772<br>(0.479)     | 0.578**<br>(0.293)           | 0.295<br>(0.269)        | 0.461 *<br>(0.265)         |
|                         | Constant           | −1.087<br>(1.509)    | 1.105<br>(0.890)             | 3.067 ***<br>(0.811)    | 2.019 **<br>(0.806)        |
|                         | Observations       | 1621                 | 1621                         | 1621                    | 1621                       |

Source: authors' calculations.  $p$ -value: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

The data also suggest that the number of working siblings has no impact on the trajectory of the graduates in our sample.

With respect to family status, marriage and divorce have a negative and significant impact on further education (Class 2). In contrast, these two-family situations positively reinforce inactivity (Class 5) and sustainable employment (Class 3).

Not repeating a year in college has a positive impact on the transition to employment (Class 2), on continuing education (Class 2) and on the transition to sustainable employment (Class 3). Indeed, no grade repetition during the college cycle is a signal of the performance of the graduates, which allows them either to continue their studies or to transition to the labor market. On the other hand, repeating a year in high school has no impact on the career path of graduates.

By type of access to the institution, graduates from institutions with regulated access have a greater chance of entering the labor market than those who are unemployed. Thus, graduates from these institutions are in high demand in the labor market and many continue their studies. This is due to the quality of the training received by these graduates.

A very interesting finding of this study is that internships increase the likelihood of continued study, transition to employment, and sustainable employment. Indeed, internships allow graduates to acquire the skills needed to enter the job market but also to acquire the skills needed to continue their studies.

In terms of age, the results reveal that laureates in the older age bracket are more penalized than those in the younger age bracket. This disadvantage mainly concerns the transition to employment, further education and sustainable employment.

The results of this survey also shed light on the importance of soft skills on the employability of young people. In this study, soft skills are linked to language proficiency

and the mastery of certain practical skills. With respect to language acquisition, the data suggest that graduates with an average level of French are penalized with respect to the transition to employment, further education, and sustainable employment.

The effect of English proficiency has a positive and significant impact primarily on transition to employment and sustainable employment. Indeed, nowadays, language skills in both French and English are in high demand in the job market. With respect to practical skills, graduates with a low to medium level of proficiency are penalized with respect to sustainable employment. Laureates with a low to average level of communication skills are penalized in terms of transition to employment.

Overall, it can be concluded that soft skills, as measured by language proficiency and proficiency in specific knowledge, play a crucial role in enhancing the employability of youth. These skills can help graduates to make a rapid transition to employment and to secure long-term employment.

Our theoretical conclusions suggest that soft skills determine the career paths of higher education graduates. It also raises the question of whether soft skills vary between open access and regulated institutions. Soft skills are also what distinguish one individual from another when it comes to finding a job. They are not only important for hiring but also for career opportunities. This highlights the great importance of soft skills for employability.

In summary, the text supports the assumptions made in the theoretical conclusions section that soft skills play a crucial role in determining the career paths of higher education graduates and are essential for the successful transition from education to employment and for long-term employment.

Based on the findings of the study, policy recommendations for improving the career paths and employability of higher education graduates include: Encouraging and supporting parents to obtain higher levels of education, as this has a positive impact on their children's likelihood of continuing their education or entering the labor market and remaining employed. Addressing gender inequalities in relation to career paths and working towards equal opportunities for women in the transition to employment, further education, and sustainable employment. Providing support and resources for students and families navigating marriage and divorce to minimize negative impacts on further education. Emphasizing the importance of internships as a way to acquire skills needed for both continued study and employment. Providing resources and support for older students to address the disadvantage they face in relation to career paths. Investing in language and practical skill training for students to improve their employability and increase their chances of a successful transition from education to employment. Further research on the difference of soft skills between open access and regulated institutions. Encouraging companies to hire based on soft skills and not just qualifications.

The increasing flow of graduates and the number of job vacancies reinforces the pressure on the labor market. The analysis of individual trajectories is an effective way to determine more relevant categories. The relevance of public action in favor of a given category of graduates implies taking into account the segmented configuration of the labor market and the resulting call effects.

The difficulties in accessing the first job affecting graduates more often lead to long-term unemployment, which gradually leads to de facto exclusion from the labor market. In terms of employment policy, the intertwining of first-time and long-term unemployment suggests the implementation of a global strategy designed around the reform of the training and education system, the organization of the first insertion phase.

In order to strengthen the employability of young graduates in Morocco, the higher education system in collaboration with the U.S. Agency for International Development (USAID) has set up the "Career Centers" project. These structures offer services such as orientation to occupations, training sessions on job search, soft skills training, information on promising sectors, and contact with employers through internship and business immersion programs.

In terms of achievement, the initial goal of 100,000 beneficiaries by 2020 has been exceeded by reaching more than 101,494 beneficiaries. In addition, the governing bodies of these centers plan to generalize these services and strengthen accessibility, particularly for rural areas, through the launch of the Virtual Career Center (more than 76,800 young beneficiaries registered on the Virtual Career Center).

In terms of policy action, upstream, higher education authorities should improve the supply of higher education by introducing models for bridging the soft skills gap, especially in open access institutions. Downstream, for the graduates, the labor market supervisory authorities should orient them, sensitize them and accompany them to facilitate their participation in the career center dedicated to these objectives.

## 5. Conclusions

Softs skills are defined by a large body of work that converges on the idea that a set of non-cognitive skills could have important or even more important effects on the labor market than cognitive skills (Gutman and Schoon 2013).

The objective of this paper was first to identify the socio-professional behaviors of the laureates through the determination of several profile-classes. Then, we analyzed the determinants of each class. To confirm the role of soft skills in determining the degree of employability of young people, we estimated the determinants of the time to first job.

The results of this paper suggest the positive role of non-cognitive skills in the employability of young graduates. These results confirm those found by (Heckman et al. 2006; Lindqvist and Vestman 2011; Bowles et al. 2001; Gutman and Schoon 2013). They also show that parental education has a significant impact on the trajectories of graduates, as graduates whose parents have a high educational level are more likely to continue their education or to enter the labor market and remain employed. This result reflects an intergenerational transmission of income and education inequalities. It may also have to do with the quality of academic achievement and have an influence on orientation. With respect to family situation, marriage and divorce have a negative and significant impact on further education (Class 2). On the other hand, these two family situations positively reinforce inactivity (class 5) and sustainable employment (Class 3). With regard to the trajectory of the winners, not repeating a year in college has a positive impact on the transition to employment (Class 2), on continuing education (Class 2) and on the transition to sustainable employment (Class 3). On the other hand, repetition in high school has no impact on the employment trajectory of the graduates. On the other hand, the trajectory in secondary school determines, in a way, the type of institution attended in higher education.

In this sense, the results show that graduates from regulated access institutions have a better chance of transiting to the labor market than those from open access institutions thanks to the quality of the training received by these graduates, which is in high demand in the labor market, but also in the advanced higher education market.

A very interesting finding of this study is that internships increase the likelihood of continued study, transitions to employment, and sustained employment. This suggests that internships allow graduates to acquire the skills needed to enter the labor market but also to acquire the skills needed to continue their studies.

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## Note

- <sup>1</sup> The survey of insertion of graduates of higher education (ES), conducted in 2020 by the INE, covered a representative sample of 12,958 graduates of higher education, or 11.7% of all graduates of higher education for the year 2014. These graduates are from the twelve public universities of Morocco, Al Akhawayn University, and non-university institutions, particularly the five institutions providing technical and engineering training.

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