STATISTICAL ASPECTS OF ENVIROMENTAL JOBSEEKERS REGISTERED IN EMPLOYEMENT OFFICES ON 2017-2019: CONSIDERATIONS AND CHALLENGES

Markela Muça[(1)], Ina Hila[(2)]

[(1)]*Department of Applied Mathematics, Faculty of Natural Sciences, University of Tirana, Albania*

[(2)]*Regional Directorate of National Employment Service of Tirana, Albania*

markela.muca@fshn.edu.al, ina_hila@live.com

Abstract   The paper is a statistical analysis of some indicators that characterize the environment of jobseekers registered in the Employment Offices in Albania. The data being analysed relates to the period January 2017 - June 2019. The analysis is done on the data from the NES database (National Employment Service). A careful description is intended to reveal typical features and to recognize the situation and evolution over the years. Assessment combines a total analysis with a comparative analysis with indicators that affect the employability of the individuals.

1.   INTRODUCTION

Employment is a key factor in our lives because its impact is not only financial but also social. It has a positive impact on our economic and social well-being. For this reason, every state pays special attention to employment in policy making. There are 36 employment offices in Albania which are monitored by the National Employment Service under the Ministry of Finance and Economy. Employment services are provided based on Law no. 15/2020 For Employment Promotion in Albania, from which are derived the following definitions:

- "Active labor market programs" are programs aimed at keeping employees in the labor market, supporting unemployed jobseekers to enter the labor market, increase productivity and income from work and improve the functioning of the labor market (these programs operate mainly in specific groups jobseekers such as young graduates, female

heads of households, jobseekers over 50, people with disabilities, etc.).
In these programs, the state can finance a part of the payment or social
security for these jobseekers, thereby encouraging private businesses to
benefit from these programs by employing this category of jobseekers.
Persons who wish to obtain services offered in employment offices are
required by law to attend a face-to-face meeting once a month. If the
jobseeker does not come to the meeting then they are deactivated by
the register with the reason "Did not show up at the employment of-
fice". Deactivation can occur for other reasons as well: rejects the job,
refuses to participate in the program, rejects vocational training, does
not seek employment, does not appear in the employment office, etc. All
the above cases have not been considered in this study. This paper will
analyse some of the main factors affecting the employability of a person
who is registered in an employment office.

- "Jobseeker" is any person residing in the Republic of Albania, working
  age (older than 15 years old, according to the low), registered as a job
  seeker in the employment office, ready to work and is seeking for a job.

- "Unemployed jobseeker, registered" is a jobseeker who declares to the
  relevant structure that he is not in employment or self-employed and is
  available for employment.

- "Employed jobseeker, registered" is a jobseeker who is employed or self-
  employed but who at the time of registration declares to the relevant
  structure that he / she is seeking a new job.

- "Employability" is the combination of skills, knowledge and competen-
  cies that increase chance of a person to be employed, to stay employed
  and to advance in a career.

Often instead of the term employability the term probability of an indi-
vidual being employed is used. Several similar studies have been conducted
which analyse some of the main factors that influence the assessment that a
jobseeker registered in the employment office will be hired.
According to a research done in Malaysia there is a gender disparity in the
employment and selection of study branches in higher education institutions in
(eg, Simin G. et al., 2016). According to the study, policy makers should legis-
late, set guidelines that will ensure equitable and substantial representation of
both genders at the institutions of higher education. Also, gender equality and
anti-discrimination policies in the social security system and the labor mar-
ket need to be improved. The state should provide effective and high quality
social services, promoting institutional care for children and the elderly, such
as nurseries and holiday homes for the elderly (Tezgel and Gkbayrak 2013).

In many papers, authors have analysed the impact of educational level on employment (Card, 2001; Grossman, 2005), as well as the impact of adaptive skills and education on employment (ability to change and selective retention) with education (Fullan and Laubser, 1972).

The purpose of this paper is to analyse some of the main factors affecting the employability of a jobseeker registered in the job office. Also, based on the success cases, some conclusions will be drawn regarding these factors. In the future, the results obtained can be considered in building a regulatory (employment) system.

In the first part of the study, some basic concepts of terminology and functions of employment offices are presented, as well as some factors that are taken into consideration in the study for analysis. The second part analyse the employability according to several main factors such as: age, educational level, gender, profession and combinations thereof. The final section of this paper provides some conclusions on the effect of factors that influence the probability of a jobseeker being employed.

2.   DESCRIPTION OF DATA

In this paper a statistical analysis is done for some of the indicators that characterize the environment of jobseekers registered in the Employment Offices in Albania. It is recognized that one of the most important factors ensuring the quality and safety of living in the country is the continuous improvement of the employment process in all aspects of its development. In order to assess aspects related to this problem, with quality improvement, 112528 observations have been taken into consideration, which are unemployed jobseekers registered in the 36 employment offices across the country in the period January 2017-June 2019. This group consists of the dependent variable (employment) and a set of 6 independent variables. The variables of this set are given in Table 1.

The subject of the study is employment, as one of the important factors that significantly determines an individual's lifestyle. Only the cases of individuals who were active in this period (receiving services, awaiting a job offer, etc.) and jobseekers who were employed by one of the employment offices were considered.

We consider cases of 'employment' when:
the employment office mediates between jobseekers and vacancies;
the jobseeker has found a job by himself and does not appear at the next meetings (this is also done by checking with the tax system);
the jobseeker is part of active labor market programs (employment promotion programs);

Table 1   Description of variables for the data set

Variables	Categories
Employed (get employed)	*0=No, 1=Yes*
Age	*0= 16-29 years old* *1= 30-39 years old* *2= 40-49 years old* *3= 50-65 years old* *4 > 65years old*
Profession	*-1=Without profession* *0=Armed forces* *1=Manager* *2=Specialist With higher education* *3=Technicians and secondary specialists* *4=Official* *5=Employees of sales and services* *6=Skilled in forestry and fishing industry* *7=Craftsmen and related professions* *8=Industry employee* *9=Elementary profession*
First time	*0=No, 1=Yes*
Gender	*0=Female, 1=Male*
Sixth month	*The study period is divided into* *with duration of 6 months*
Maximum education level	*0=Without education* *1=Elementary education (6-year)* *2=Secondary Education (9 years)* *3=High school* *4=Professional high school (vocational oriented)* *5=Bachelor (3 year)* *6=Professional Master (3+1 year)* *7=Master of science (3+2 years)* *8=Doctorate*

3. EMPLOYABILITY ANALYSIS BY SOME OF THE CATEGORICAL VARIABLES

This paper aims to give an overview of the contingent of jobseekers registered in the employment offices in Albania during the years 2017-2019. The study consists of categorizing this contingent according to some of the elements given in Table 1. It also gives us the opportunity to combine six elements to make an assessment of jobseekers in these two years (six-months periods).

3.1. AGE OF JOBSEEKERS

First, is analysed the dependent factor, employability in relation to the age factor. The age factor is divided into five age groups. The results given by SPPS are presented in Table 2.

Table 2 Employment by age groups

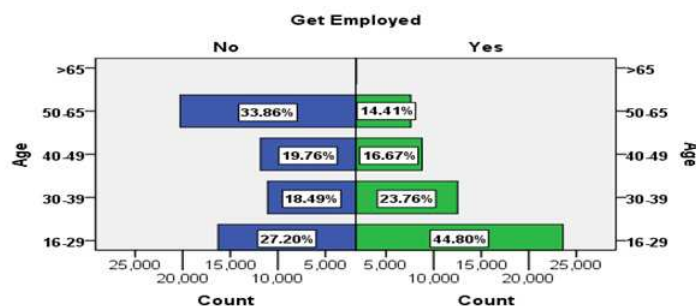|		Age				
		16-29	30-39	40-49	50-65	> 65
Get	NO	16281	11068	11826	20269	410
Employed	YES	23598	12514	8779	7592	191
	Total	39879	23582	20605	27861	601
	Percent%	34.5	21	18.3	24.8	0.5

Fig. 1. Distribution of employment by age groups

In Table 2 is shown the distribution of employability by age group. It is noted that there are two age groups, 16-29 years old and 50-56 years old, which occupy the largest part of registrations during the study period (about 35%

and 25% respectively). Figure 1 shows that from the employees, during the study period, 44.8% and 14.41% of them were 16-29 years old and 50-56 years old, respectively. So, out of the two age groups that make up the majority of jobseekers, individuals aged 50-65 are less demanding in the labor market. In this aspect we can say that age is one of the factors that influences if a person will be employed. For this reason we are interested in other factors that affect employability. One of these factors is the educational level.

3.2.   MAXIMUM LEVEL OF EDUCATION

The maximum level of education of persons registered in the employment office is another important factor that affects the earning of a job. Education levels are in according with the national education system currently operating in Albania.

Table 3 shows the distribution of jobseekers by education level. It is noted that about 86% of jobseekers have maximally secondary education (general or vocational secondary). The rest are jobseekers with higher education (Bachelor, Professional Master or Master of Science), while elementary education (6 years) and without education registered in employment offices are less. These percentages reflect the lack of information about individuals with a low level of education and the ability to look for work on their own without having to go to the employment office for individuals with a high level of education. From the above result naturally get out the need to study employability in relation by the educational level. Compared to total employment (Figure 2), we find that the highest probability of employed persons is those with secondary education, followed by those with 9 years of education.

Whereas for jobseekers with higher education (Bachelor, Professional Master and Master of Science) it is observed that within each educational level the number of employees is higher than the unemployed, which also reflect a high percentage of employability of jobseekers with higher education level.

As noted below, the largest number of jobseekers was in the age group of 16-29 and 50-65 years old. Although these covered for the highest number of jobseekers, between these two age groups they may still have different employment rates. For this reason, we are focusing on the analysis of educational level for the age group of 16-29 years old and for the age group of 50-65 years old, which we described above are respectively the most employed and the least employed age group, both together accounting for about 60% - Figure 2.

Table 3 Distribution by maximum level of education

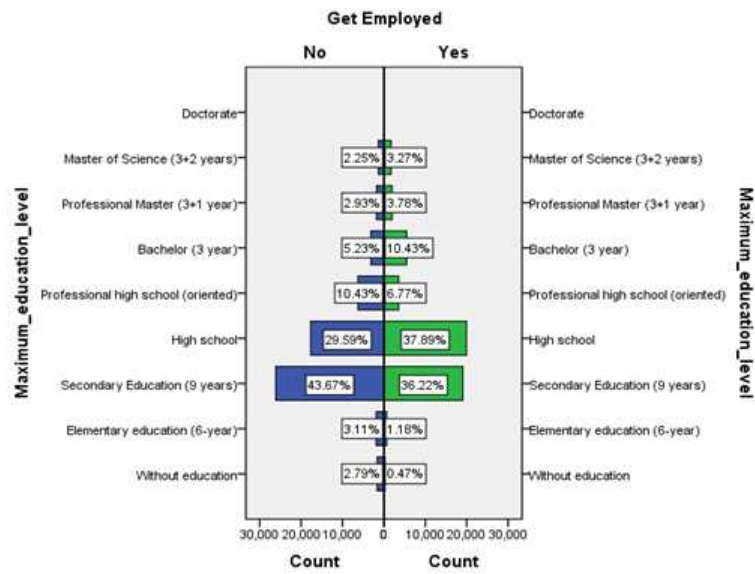| Education	Frequency	Percent	Cumulative Percent
Without education	1920	1.7	1.7
Elementary education(6-year)	2483	2.2	3.9
Secondary Education(9 years)	45215	40.2	44.1
High school	37665	33.5	77.6
Professional high school (oriented)	9808	8.7	86.3
Bachelor (3 year)	8626	7.7	93.9
Professional Master(3+1 year)	3746	3.3	97.3
Master of Science (3+2 years)	3065	2.7	100.0

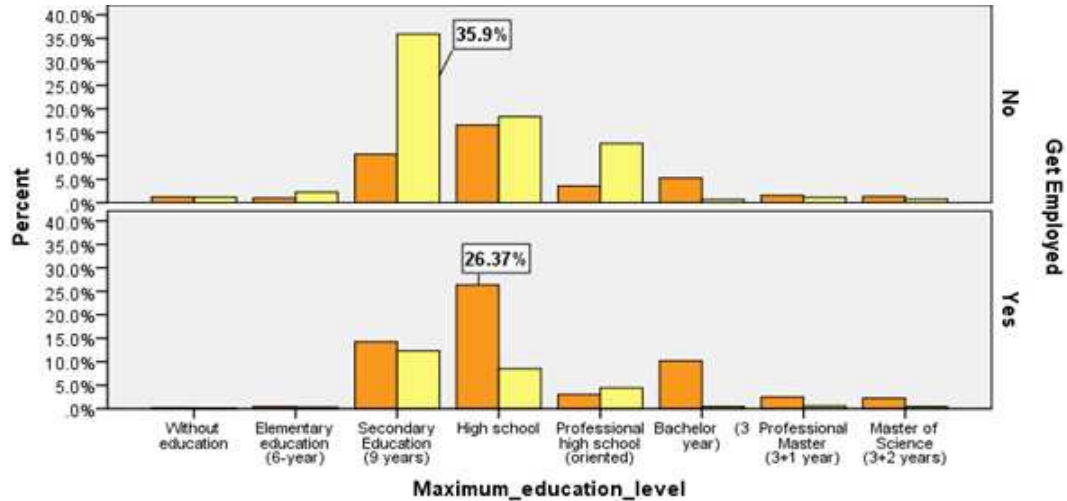*Fig. 2.* Distribution of employment by education level

Fig. 3.   Employment by education level for the two age groups (16-29 and 50-65)

Figure 3 shows the percentage of unemployed for the 16-29 and 50-65 age groups for each educational level. We find that we have an alternation to age group domination. Higher education levels are dominated by the number of unemployed people aged 16-29 years old. This reflects the fact that students who have just graduated from university face with difficulties in the labor market due to lack of experience. This is intended to be regulated by intervention through active labor market programs for graduate students in the last two years. In the European Union countries there are dedicated youth employment funds, such as the Youth Guarantee program. At lower educational levels we have a domination by older age groups 50-65 years old. This is also seen in the number of individuals with vocational education. Prior to the 1990s, the number of persons attending higher education was limited and most were oriented towards high school (vocational oriented) education. The opposite happened after the '90s, where for many years in Albania there was a trend that all young people apply to start university, until the limit of average grade was set 3 years ago, to start university. This does the part that does not reach that limit the greatest opportunity is to start vocational education (2 years).

From the number of employees at each educational level we see that the young age group is dominant, except at the level of vocational education (Figure 3). This explains the fact that it is easier to hire uneducated and unskilled young people than the age group of 50-65 years old, for the simple reason that

young people have time for training and can gain skills from work experience.

3.3.   PROFESSION

An individual's educational level is closely related to his or her profession, but there are also professions that are acquired through work experience or inherited. We have divided the profession into 10 main categories according to the national list of professions.

Table 4   Employment by Professions

		Profession										
		Armed forces	Manager	Specialist eith higher education	Technicians and secondary specialists	Official	Employees of sales and services	Skilled in forestry and fishing industry	Craftsmen and related professions	Industry employee	Elementary profession	without profession
Get Employed	No	130	97	6011	1980	1002	7890	564	7254	2632	19673	12621
	%	0.22	0.16	10.04	3.31	1.67	13.18	0.94	**12.12**	4.4	**32.87**	21.09
	Yes	90	89	5778	2695	4139	6682	160	10291	5745	12501	4504
	%	0.17	0.17	10.97	5.12	7.86	12.69	0.3	**19.54**	10.91	**23.73**	8.55
Total		220	186	11789	4675	5141	14572	724	17545	8377	32174	17125
Percent %		0.2	0.2	10.5	4.2	4.6	12.9	0.6	15.6	7.4	28.6	15.2

From Table 4 we take the number of employees or not for each professions category. $\frac{12501}{32174} = 38.85\%$ of jobseekers by elementary profession are employed. Craftsmen and similar professions are employed around $\frac{10291}{17545} = 58.65\%$, many of whom are also beneficiaries of the self-employment programs offered by employment offices. Sales and service employees also have a high percentage of employability with $\frac{6682}{114572}\% = 45.85\%$ of registrants with this profession.

The highest number of employees is from the 'craft and related occupations' and 'elementary profession'. This indicates that there are more job vacancies for these professions. On the other hand, the number of unemployed persons with elementary profession is also high. There is a large workforce with elementary professions.

People describe certain occupations as male-only and as areas where women should not be employed (Figure 4). For this reason we are interested in analysing employability by gender of each profession.

From the results of Table 5 we see that the number of women in both categories (employed, unemployed) dominates. This is also the case because the number of women registered in employment offices is higher than the number of men. The gap between the two genders is higher in employment figures,
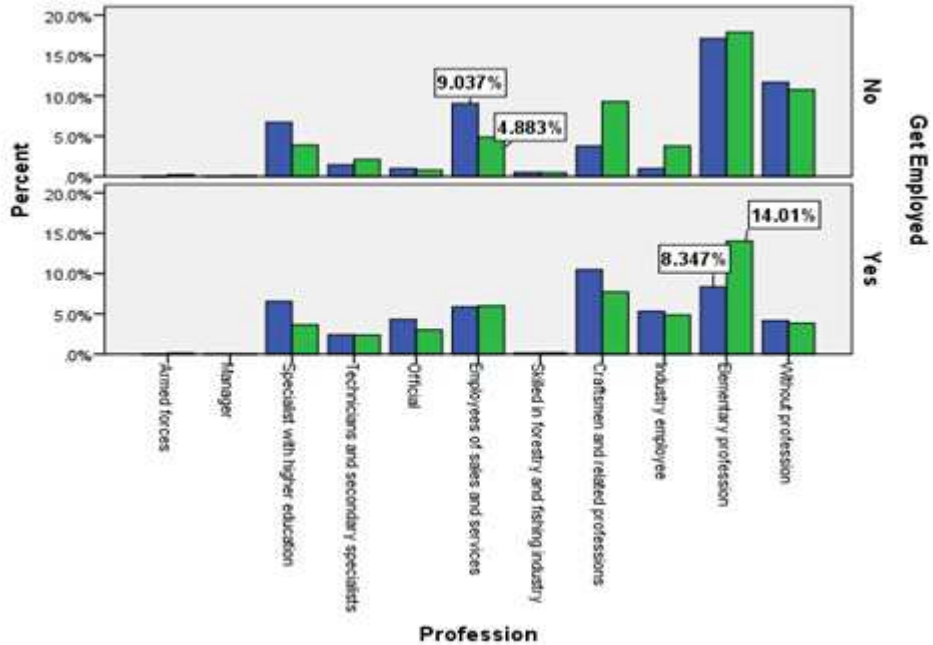
Fig. 4. Distribution of unemployed and employed by occupation for both sexes, Female (blue) and Male(green).

with 4.5% more women and only 0.7% more unemployed women. In the job-seekers employed let's analyse the difference between the two genders for each profession to see if any of professions that have a gap in one of the genders. From total employment we have a female dominance, which indicates that there is generally no discrimination against women. Lets see gender segregation in different professions, to look at those where one of genders is preferred. According to the results in Table 5, we can analyse professions by classifying them into 4 groups as follows;

First group- Male-dominated professions but female-dominated for employment: manager, technician and secondary specialist, craftsmen and related professions, and industry employees.

The second group- Female-dominated professions but male-dominated for employment: skilled in forestry and fishing industry.

The third group- Female-dominated for both of them: specialist with higher education, official and employees of sales and services.

The fourth group- Male-dominated for both of them: armed forces and elementary professions.

Table 5 The difference male-female for each profession

Profession	Employed			Unemployed		
	Female	Male	Difference (M-F)	Female	Male	Difference (M-F)
Armed forces	10.0%	90.0%	80.0%	6.9%	93.1%	86.2%
Manager	52.8%	47.2%	-5.6%	43.3%	56.7%	13.4%
Specialist with higher education	65.5%	34.5%	-31.0%	64.5%	35.5%	-29.0%
Technicians and secondary specialists	51.7%	48.3%	-3.4%	41.9%	58.1%	16.2%
Official	60.0%	40.0%	-20.0%	56.6%	43.4%	-13.2%
Employees of sales and services	50.7%	49.3%	-1.4%	66.0%	34.0%	-32.0%
Skilled in forestry and fishing industry	47.5%	52.5%	5.0%	52.3%	47.7%	-4.6%
Craftsmen and related professions	58.8%	41.2%	-17.6%	29.9%	70.1%	40.2%
Industry employee	53.4%	46.6%	-6.8%	21.3%	78.7%	57.4%
Elementary profession	38.5%	61.5%	23.0%	50.1%	49.9%	-0.2%
Without profession	53.2%	46.8%	-6.4%	53.3%	46.7%	-6.6%
Total	52.2%	47.8%	-4.4%	50.4%	49.6%	-0.8%

If a female jobseeker comes into the employment office and have profession as manager then the chance of getting a job is 52.8% compared to a male manager.

4.   RESULTS AND CONCLUSIONS

For jobseekers with higher education within each educational level the number of employees is higher than the unemployed, which also reflect a high percentage of employability of jobseekers with higher education level. This phenomenon is also present in jobseekers with secondary education, which shows a high level of employability for these jobseekers. These results make sense referring the job vacancies, because most vacancies require this level of skill rather than higher education qualifications.
Between the individuals with low education level, the youth are more favoured in employment and we observe some form of discrimination against older age groups as 50-65 years old. We have more employments of individuals with a maximum level of education of 9 years or high school. Young people with higher education level face difficulties in integrating into the labor market due to lack of experience and lack of demand for qualified workers in the labor market in Albania. Generally there is no gender discrimination in employ-

ment, some kind of segregation can be seen in some professions.

First time registrations and returns to the employment office.
The labor office specialist may deactivate a jobseeker from the employment services system for a number of reasons that may be considered "positive" and "negative".
The "positive" reasons are their employment (mediation, incentive programs, found a job) and the "negative" reasons are some of the reasons (did came to the employment office, reject the job, etc.) that according the law, deactivate the jobseekr. Once a jobseeker has been deactivated by the employment services system he may return (e.g. after leaving the job where he was employed) to receive the services the office provides. The system allows one person to register with his or her identity number only once. At the moment of return it only change his status from inactive to active and this action is counted and stored as a data. These cases are called returns to the employment office.

Table 6   Contigency table for get employed - First time

			First_time No	First_time Yes	Total
Get Employed	No	Count	34957	24897	59854
		% within first time	59%	**46.7%**	53.2%
	Yes	Count	24295	28379	52674
		% within first time	41%	**53.3%**	46.8%
Total		Count	59252	53276	112528

From Table 6 we see that 53.3% of employed are registered for the first time in employment offices. Instead of modeling the probability p directly with a linear model, we can consider the odds ratio (1).
$$odds = \frac{p(A)}{1-p(A)} = \frac{prob_o f_1 - s}{prob_o f_0 - s}. \tag{1}$$
In logistic regression for a two-value variable, we model the natural logarithm of odds (log-likelihood ratio) which is called $logit(p)$.
$$logit(p) = \ln(odds) = \ln(\frac{p}{1-p} = \ln(\frac{prob_o f_1 - s}{prob_o f_0 - s})).$$
The $logit(p)$ can be calculated very simply from the contingency table where are available n-pairs of values (x_i, yi). From the contingency table we can calculate the odds ratio for employability:
$$odds_{get_employed} = \frac{57674/112528}{1-(52674/112528)} = \frac{52674}{59851} = 0.88.$$
Now we will calculate the odds ratio for each value of variable "First-time" of jobseeker that get employed:
$$odds_{No} = \frac{24295}{34957} = 0.696 \text{ and } odds_{Yes} = \frac{28379}{24897} = 1.14$$

$\ln(\frac{odds_{Yes}}{odds_{No}}) = \frac{1.14}{0.695} = 1.64.$
The result shows that a first time registered jobseeker is 1.64 times more employability than a returned jobseeker.

The first time registered at the employment office have a higher probability of employability. This is also seen by the fact that the majority of jobseekers are registered to receive other administrative services (such as economic aid, receiving unemployment benefit, attestation as unemployed jobseekers) and not actually seeking for a job.

Results divided by six-months periods.
To analyse the situation of jobseekers from one period to another, the study period is divided into 5 "six-months" periods (January-June 2017 -2018 and 2019, July-December 2017 and 2018).

Table 7 Periods of six-months study

Get Employed			First-time		
			No	Yes	Total
No	Sixth-months	1st	4279	496	4775
		2nd	2847	1140	3987
		3rd	5043	3481	8524
		4th	8789	6680	15469
		5th	13999	13100	27099
	Total		34957	24897	59854
Yes	Sixth-months	1st	5200	2980	8180
		2nd	4189	4425	8614
		3rd	4914	6526	11440
		4th	5366	8355	13721
		5th	4626	6093	10719
	Total		24295	28379	52674

Note that in the fifth "six-months" the number of registrations has almost tripled compared to the first "six-months". The highest number of employments is in the second half of the year 2018, with about 26% of our study period. During 2017 there are more returns than new registrations.
Returned jobseekers do not have a high probability of employability because most of those jobseekers come to get other administrative services from employment offices and are not really interested in employment. In the rest of our study period (2018-2019) there are more new registrations than returns. This indicates higher interest and information about employment services, as

well as credibility in employment offices. (There has been a change in National Employment Service policies and strategies since 2018).

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