TRACING SECONDARY VOCATIONAL AND TERTIARY EDUCATION GRADUATES IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

2016 TRACER STUDY RESULTS

ACKNOWLEDGEMENTS

Contents

EXECUTIVE SUMMARY

This report presents the findings of the first nationwide tracer study conducted in the former Yugoslav Republic of Macedonia. The study was conducted as part of the World Bank's project Skills Development and Innovation Support, within the component focused on developing a Skills Observatory. At the request of the Ministry of Education and Science, the study was supported by the European Training Foundation (ETF). It is an important element in the overall effort to obtain more information on the supply of graduates and to improve matching between labour supply and demand.

The aim of the tracer study was to supplement existing knowledge about the skills that graduates of secondary vocational schools (VET schools) and higher education (HE) institutions have to offer, and to learn about the experiences of graduates (2014/15 cohort) in their transition from education to the world of work. It collected and analysed information on the labour market success of graduates, on the adequacy and quality of training and on many other aspects that can help to assess the market orientation of the educational and vocational training system. This kind of knowledge is relatively scarce in the country despite a high unemployment rate of 26.3% in 2015 and a high youth unemployment rate of 47%. A few studies, mainly supported by international donors, have been published in recent years but there is still a lack of sufficient evidence that could aid education (especially VET) and labour market policy making. Moreover, this is the first study to focus on the pathways followed by VET graduates.

A total of 23 516 students graduated from secondary school in the 2014/15 school year. Of these, 14 334 (or 61%) were graduates of vocational secondary schools. Females accounted for 43% of VET graduates, which is lower than the share of females in *gymnasiums* (54%). A small proportion of VET graduates (6%) completed three-year programmes, the remaining 94% were enrolled in four-year programmes. Three-year VET programmes are more common among part-time students in VET schools. The most popular subjects studied by graduates included health (21% of graduates studied health-related programmes), electrical engineering (12%), economics and law (12%), and mechanical engineering (10.4%).

In the 2014/15 academic year, 8 458 students graduated from universities, and 2 440 obtained a master's or specialised degree. Females accounted for 57% of the young people who completed their undergraduate studies. Public universities have a dominant share of the graduates, covering three-quarters of the total number of graduates[1]. Less than half (41%) of graduates completed their studies on time. Most graduates studied business, administration and law (27.1% of the total number of graduates), social sciences, journalism and information (15%), arts and humanities (11.4%), engineering, manufacturing and construction (11.2%), services (9.4%), health and welfare (9.1%), and information and communications technology (ICT) (6%).

What have we learned from this first tracer study? At a most aggregated level, the analysis shows that VET and higher education graduates are relatively satisfied with their learning experiences. Most complaints relate to school equipment and opportunities for leisure and sport activities. In addition, graduates show relatively low levels of satisfaction with the support services (for internships and/or employment) provided by the educational institutions. Although internships are mandatory by law, many VET and higher education graduates do not participate in any internships while studying. The transition from education to work does not seem to present a significant problem for graduates, although many of them continue their education further. Employment experience varies for VET and

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[1] While the tracer study initially aimed to cover (i.e. to trace) graduates from master's and PhD studies, it failed to do so, mainly due to a lack of contact details for these graduates. Hence, only a few master's students are included in the study.

higher education graduates in that VET graduates have more negative perceptions about their job, the use of skills they gained in the education system, and the extent of the mismatch. Below we provide detailed findings for the two groups of respondents.

Findings related to VET graduates

Demographics

Most VET graduates studied law and economics, followed by health and electronics. However, there are large gender differences among VET graduates by study programme. Males studied mainly electronics, law and economics, health, hospitality and tourism. On the other hand, the structure of female VET graduates by study programme was much more concentrated: more than one-third of females were enrolled in law and economics and one-third in health.

Internships and work experience during the course of their studies

Almost two-thirds (62%) of VET graduates reported that they were involved in an internship during their studies. This leaves a large percentage of VET graduates who did not take up any internship while studying and thus missed out on an opportunity to gain some workplace skills and experience. It is uncommon for VET students in the former Yugoslav Republic of Macedonia to combine work and study.

Study conditions and study provisions

The most positive aspects of the study conditions as reported by VET graduates were: contact with fellow students, the teaching quality of the lecturers, opportunities to consult with teaching staff and the teaching and grading system. On the other hand, the quality of teaching equipment, the chance to influence the VET institution's policies and the availability of technical equipment were rated most negatively. VET graduates held the most positive views about the practical experience of the teaching staff and the professional advice and guidance provided by the teaching staff to the students. The graduates rated the employment and job search support most negatively.

Competences and satisfaction with the study programme

In general, VET graduates provided a positive assessment on the extent to which they acquired certain skills and competences during their course of study. The graduates reported that they learned how to work efficiently towards a goal and to work as part of a team. Such perceptions also lead to the generally high satisfaction levels of VET graduates with their studies.

Experience after graduation

Six months after graduation, 41% of VET graduates were active in the labour market. A small proportion of them (21%) were employed and the unemployment rate was 53%. Half of the VET graduates continued on to further education (i.e. university education). Graduates of the mechanics, geological mining, chemistry and technology programmes had a very successful transition to employment (in terms of the share of graduates who were employed six months after graduation). However, this does not necessarily imply that those study programmes bring the best rewards, as some other programmes are more likely to lead graduates to further education (enrolment in university education). For instance, while small proportions of VET graduates of health, law and economics, and forestry and wood processing programmes were employed, large proportions of them enrolled at university. Some study programmes show high unemployment rates after graduation. These are printmaking, graphic design, personal services and mechanics.

Job search

A small proportion of students searched for a job. This was done mainly with the help of their family contacts (parents and relatives) and by replying to job ads or announcements. About 11% used the public employment service as a job search method. The use of teaching staff at the VET institution

was non-existent. The most successful method for finding a first job, as reported by 58% of VET graduates, was by replying to job announcements.

Current employment status

A quarter of the graduates stated that they were unemployed at the time of the interview and 17% were employed. About 71% of VET graduates reported that they never held a job after graduation, which is to be expected given that half of them continued their education. Of the employed VET graduates, slightly more than half stated that they hold a permanent employment contract, whereas 38% did not have such a contract. In addition, 4% reported that they are self-employed. Geographically, the main employer of graduates is the Eastern region, followed by the Polog region.

Length of transition to work

The analysis shows that VET graduates manage to find a job relatively quickly, which is unexpected given the high youth unemployment in the country. For 40% of employed VET graduates, the transition from VET to job took less than one month; for an additional 30% of the employed graduates, the transition to their current job took one to six months. The wholesale, retail and motor vehicle repair sector is the major employer of VET graduates, absorbing almost a quarter of those who are employed. This is followed by accommodation and food services, other service activities, construction and manufacturing. In terms of firm size, most graduates work in micro companies.

Work requirements

Employed graduates reported that the most important skills or competences required at their current job are the ability to organise their work processes efficiently and the ability to work productively in a team. On the other hand, a knowledge of information technology (IT) and foreign languages are the least important skills or competences.

Relationship between study and employment

Less than half of employed VET graduates reported that the knowledge and skills that they acquired during the education process are utilised in their current job, whereas a quarter of them believe that their knowledge and skills are useless. Similarly, only half responded that their own field of study is most suitable for the job they hold: 60% believe that their education and qualifications match the requirements of the job and the others believe that they are either over- or under-educated. This information provides an insight into the extent of the horizontal and vertical mismatch in the labour market. In general, employed VET graduates do not find their studies very useful in several respects (e.g. developing their personality, finding an adequate job).

Work orientation and job satisfaction

Despite the relatively large mismatch between the graduates' skills and their jobs, a large share of them (65%) are satisfied with the job that they hold. In terms of different aspects of overall job satisfaction, VET graduates are most satisfied with the good work atmosphere, the clear and regulated work tasks and the job security.

Further education after studying at a VET institution

More than half of the respondents (53%) stated that they continued their education after graduating from the VET institution. Of those, 97% reported that they were still studying. Most VET graduates continued their further studies in the fields of medicine, ICT and law.

Findings related to higher education graduates

Demographics

The sample for this study consisted of 1 718 graduates of higher education (HE) institutions; females accounted for 54% of the sample. Two-thirds of the graduates (70%) were ethnic Macedonians and

one-fifth were ethnic Albanians. Most respondents were enrolled in business, administration and law, arts and humanities, social sciences and health.

Internships and work experience during the course of their studies

Although the majority of graduates who responded participated in some kind of internship during their studies, one-third were not involved in any internships, despite the legal obligation to do so. One-fifth of higher education graduates combined their studies with some form of work.

Study conditions and study provisions at the higher education institutions

In general, higher education graduates had relatively positive views on study conditions and study provisions, which is contrary to expectations. The most positive aspects of the study conditions as reported by the higher education graduates were: contact with fellow students, opportunities to consult with teaching staff, the teaching quality of the lecturers and the quality of classroom learning. On the other hand, graduates complained mainly about student recreational facilities on campus and the lack of opportunities to influence the higher education institution's policies. In terms of study provisions, higher education graduates were most positive about the practical experience of the teaching staff and least positive about the employment and internship support services and the practical component of the teaching.

Competences and satisfaction with the study programme

Higher education graduates were generally satisfied with the skills and competences that they acquired during their course of study. Moreover, they show a high level of satisfaction overall with their studies and the majority of them reported that they would have chosen the same field or subject and the same institution if they were to choose again.

Experience after graduation

Despite the high official unemployment rate among young people, tracer data shows a relatively quick and painless transition for the majority of higher education graduates from education to the labour market. Almost three-quarters (73%) of higher education graduates were active in the labour market six months after graduation. Half of them were employed six months after graduation, whereas 41% were unemployed (without a job and searching for a job). The job search activity started only when their studies were complete and it was mainly through applications to job advertisements, followed by family and friends. The public employment service was not widely used. Applying to job announcements was the most effective way of finding a job. Based on the pathways followed by higher education graduates six months after graduation (which can be used as an indirect way to assess the effectiveness of different study programmes in placing graduates in jobs), we can conclude that ICT and health and welfare are the most rewarding study programmes.

Current employment status

About half of the higher education graduates were employed at the time of the interview, i.e. approximately one year after completing their studies. One-third stated that they were unemployed and 12% were engaged in further education. In general, the school-to-work transition seems to be relatively fast, as 66% of higher education graduates managed to find their current job in less than six months. Of those who were employed, 63% stated that it was permanent employment; a similar share worked in the private sector. Wages are relatively low for employed graduates, at least compared to the average wage in the country. Some also reported that their wage was below the minimum wage (please note: wage data is not adjusted for the hours worked). Small and micro companies employ half of the graduates, and a small proportion work in large companies.

Work requirements

Two-thirds of employed higher education graduates reported that the skills and knowledge they gained at the HE institution were useful for their job. They used mainly the specific subject area knowledge,

the ability to work efficiently towards a goal and the ability to organise work processes efficiently. The least-used knowledge was that of foreign languages and IT skills.

Relationship between study and employment

Most employed higher education graduates (69%) believe that their current job requires knowledge gained from the same or related field of study. About 13% of respondents stated that the job requires completely different skills (i.e. a different field of study), which is a proxy for the horizontal mismatch that exists. An additional 10% stated that the job does not require any specific field of study. In terms of the vertical mismatch, one-fifth of employed higher education graduates reported that they are under-educated for the job they hold (the job requires a higher level than their own level of education) and 19% considered that they are over-educated. A large proportion of respondents (three-quarters) believe that their studies were useful or very useful for their professional development or career and for their personal development. A large proportion (73%) found their studies useful or very useful for finding a suitable job.

Work orientation and job satisfaction

A large percentage of employed graduates (76%) are satisfied with their job, particularly with the opportunities they have to apply the competences that they had acquired, the clearly defined and regulated tasks and the good work atmosphere. On the other hand, they are least satisfied with the salary and with the opportunity to have a social influence.

Further education

One-fifth of higher education graduates reported that they started further education after completing their current level of studies. Of those, most continued their education in law, management, administration, finance, banking and ICT. Only 6% of those students who continued their studies were enrolled in foreign universities (mainly in Austria, Serbia and Canada). A small percentage (9%) continued their education in some form of VET.

INTRODUCTION

This report presents the findings of the first nationwide tracer study conducted in the former Yugoslav Republic of Macedonia. The study was conducted as part of the World Bank's project Skills Development and Innovation Support (SDISP). At the request of the Ministry of Education and Science, it was also supported by the ETF. It is an important element in the overall effort to obtain more information about the supply of graduates and to improve matching between labour supply and demand.

A total of 23 516 students graduated from secondary school in the 2014/15 school year. Of these, 14 334 (61%) were graduates of vocational secondary schools. Females accounted for 43% of VET graduates, which is lower than the share of females in *gymnasiums* (54%). A small proportion of VET graduates (6%) completed three-year programmes, the remaining 94% were enrolled in four-year programmes. Three-year VET programmes are more common among part-time students in VET schools. The most popular subjects studied by graduates included health (21% of graduates studied health-related programmes), electrical engineering (12%), economics and law (12%) and mechanical engineering (10.4%).

In the 2014/15 academic year, 8 458 students graduated from universities and 2 440 obtained a master's or specialised degree. Females accounted for 57% of the graduates. Public universities have a dominant share of the graduates, with three-quarters of all graduates attending such institutions[2]. Less than half (41%) of the graduates completed their studies on time. Most graduates studied social sciences (54.3% of the total number of graduates), humanities (14.6%) and technical or technological sciences (12%).

The study aimed to supplement existing knowledge about the skills that graduates of secondary vocational schools (VET schools) and higher education (HE) institutions have to offer and to learn about their experiences while in education and in the process of transition to the world of work. It collected and analysed information on the labour market success of graduates, on the adequacy and quality of training and on many other aspects that could help to assess the market orientation of the educational and vocational training system.

Knowledge about this subject is relatively scarce in the country despite the high unemployment rate of 24% in 2016 and the high youth unemployment rate of 48.2%. In recent years, the country has achieved good progress in the area of education, particularly in terms of the quantity of education. In particular, over the last 10 years (2007 to 2016), the share of early school leavers in the population aged 18 to 24 was halved, reaching 10.6% in 2016, which is same as the European Union 28 (EU-28) average. The percentage of young people not in education, employment or training (NEETs) (among 15 to 34-year-olds) also decreased from 40.2% in 2007 to 33.9% in 2015 (although this is still high compared to the EU-28 countries). In the same period, the percentage of young people aged 30 to 34 with completed tertiary education, as a share of the total young population aged 30 to 34, increased from 12.2% in 2007 to 29.1% in 2016. The data confirms that completing higher education brings higher returns on the labour market, either in terms of higher employment probability or lower unemployment and inactivity (Mojsoska-Blazhevski, 2016). However, little progress has been made on indicators measuring the quality of education and educational outcomes. For instance, Macedonian pupils are still doing relatively poorly in international comparative tests such as PISA, and results deteriorated even further between 2000 and 2015.

In recent years, mainly with the support of international donors, the availability of information has improved, which could be translated into more optimal policy making. An initial attempt was made by the International Labour Organisation (ILO), which conducted a school-to-work transition survey in the

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[2] While the tracer study initially aimed to cover (i.e. to trace) graduates from master's and PhD studies, it failed to do so, mainly due to a lack of contact details for these graduates. Hence, only a few master's students are included in the study.

country, available for two years/periods (see Mojsoska-Blazevski, 2016 for comparative results for the two years). The aim of this survey was to learn more about the experiences of young people aged 15 to 29 in their transition from education to the labour market. This was then followed by a study supported by the European Commission which aimed to learn more about the skills that graduates had to offer and the skills demanded by employers. The study gathered its information through large-scale surveys of both graduates and employers who hired graduates (Mojsoska-Blazevski and Bartlett, 2016). This tracer study complements those two efforts and provides additional valuable information for education and employment policymakers. It is unique in that it is the first study to collect information from graduates of secondary vocational schools about their experience at school and their pathway after completing that level of education. An important advantage of the study is that it also provides very useful information not just for policymakers but also for the young people themselves. Annex 1 provides more details about the methodological approaches of the three studies.

These efforts to collect more informative and valuable information on the supply of new graduates and their employment experience must be further supported by gathering more intelligence on current and future skills needs and thus improve the matching process. This is especially important in the current dynamic environment, characterised by rapid technological advances and increasing global competition. Skills matching can play an important role in reducing youth unemployment. Indeed, this has been recognised by the EU and hence the Europe 2020 Strategy, specifically the Agenda for new skills and jobs, which focuses largely on the anticipation of skills needs and matching approaches that can establish better links between the skills of the workforce and those demanded by employers. In such an environment, policymakers should ensure that there are accessible opportunities for each and every member of society to develop and improve their skills either through the formal or informal education system. Macedonian stakeholders have already started to address the issue of obtaining reliable information about future skills needs. Previous longer-term forecasts (the HERMAC model, developed as part of a twinning project with the Ministry of Labour and Social Policy), are complemented by shorter-term occupational outlooks that are regularly carried out by the Employment Service Agency. The Ministry of Education and Science's Skills and Innovation Support Project, funded by a World Bank loan, seeks to establish a Skills Observatory and build capacity to carry out regular surveys and analyses, such as this tracer study.

There are two general drawbacks of this tracer study which we have to mention and which necessitate a word of caution about the generalisation of the findings. The first one is related to the size of the samples of respondents, i.e. cohorts of graduates. In particular, despite the aim of the study to collect information on all graduates of VET and higher education institutions in the 2014/15 academic or school year (meaning that the target was the whole population of graduates), data was actually collected from a much smaller sample: between 10 and 15% of the population. Second, the format and type of some of the questions were inappropriate to provide more useful information both for the students and for the policymakers. Hence, we suggest that these two issues are corrected in the next round of the tracer study in order to collect even more valuable information, which will provide strong evidence for the policymakers in designing their education and employment policies. These methodological concerns also limit the generalisability of our findings[3]. This is one of the reasons why the report will not provide individual information about the effectiveness of each VET or higher education institution.

The structure of the report is as follows. Chapter 1 presents the methodology of the study. Chapter 2 examines the main findings relating to the experiences of VET graduates. Chapter 3 investigates the transition of higher education graduates from education to the labour market (or further education). The last chapter concludes and provides some policy information.

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[3] Although we generally use the terms VET and higher education graduates, we refer to the respondents, which may not be a representative sample of the overall population of graduates (cohort of graduates).

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1. METHODOLOGY

The tracer study has two distinct target groups or populations: (i) graduates of secondary vocational schools (VET graduates); and (ii) graduates of higher education institutions. The choice of cohorts and generations is in line with the recommendations of the ETF, Cedefop and ILO when carrying out tracer studies (ETF/Cedefop/ILO, 2016). In particular, the population targeted in the survey for the tracer study was the cohort that graduated from secondary vocational education in the 2014/15 school year. Similarly, in the higher education tracer study, the population targeted was the cohort of students graduating in the 2014/15 academic year. The data collection process started once all the instruments necessary for implementing the research were finalised. Those instruments were:

■ a final version of the questionnaire in three languages – Macedonian, Albanian and English (the English version is provided in Annex 2);

■ programming of the questionnaire with QTAFI[4] software, ready for implementation in two languages (Macedonian and Albanian);

■ a questionnaire pre-test;

■ data and statistics on graduates of every VET and higher education institution;

■ a working website in three languages (English, Macedonian and Albanian) – http://graduates-survey.mk/en/;

■ SPSS templates.

The data collection process started once the database of graduates was updated and validated. The 'launch date' was set for 28 April 2016, when all graduates of VET and higher education institutions who had graduated in the 2014/15 school or academic year and had provided an e-mail address received an e-mail invitation to participate in the survey. The invitation included brief information on the project, a link to the online survey and a PIN that provided access to the survey[5].

A multimodal approach was implemented for the data collection process. This approach allowed the team to start the online survey with graduates for whom e-mail addresses were available. After 20 days, the response rate of this activity was to be assessed and if the response rate was low the plan was to start a phone survey of graduates who had provided a phone number but not an e-mail address.

After 20 days (one invitation and three reminders), the response rate was around 10% (out of 5 216 valid e-mails, there were only 563 respondents). In the period between April and June, seven e-mail reminders were sent to the graduates who did not answer the questionnaire. After an evaluation, it was decided to start with the phone interviews. The phone survey started on 1 June 2016. The survey was conducted by a highly professional and experienced team of interviewers. They were trained for all phases of the data collection process. The data collection was performed by means of an online questionnaire whereby the interviewers entered the responses of the respondents in the QTAFI programme. These responses were later imported into the SPSS software for further analysis. During the phone survey the online survey platform was open for data collection.

The phone interviews were conducted up until 27 July and the data collection process ended with 2 713 interviews. Since the number of responses was not sufficient, a second round of data collection

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[4] QTAFI is a software programme used to develop and administer online questionnaires.
[5] Data was collected by a selected data collection agency.

was conducted in the period between 9 September and 19 October. As there were no more available contacts, the data collection process was stopped. The total number of interviewed graduates was 3 211.

The data was entered using the QTAFI software that was provided by the ETF team and installed within the Ministry of Education and Science, which is responsible for maintaining it. The entire data gathering process was monitored and subject to quality control mechanisms throughout. The collected data was also subject to a technical assessment, an evaluation of the coherence of methodology and survey process. The data was initially cleaned and validated by visually checking the responses as a standard procedure. All responses were checked to verify that they were recorded correctly. These checks were conducted after the data was entered. This procedure was undertaken by supervisors and experts. Two types of validation were conducted: validation by phone and validation of the data entered. The aim of this validation was to check the key demographics and filters. Some deviations were found and corrected (see Annex 1).

The total number of respondents was 3 211. In the process of validation and cleaning, 258 observations (respondents) were removed as they had only opened the online survey and had not continued with the questions. Following the cleaning process, the valid number of responses had decreased to 2 953. Open questions for which more than 5% of respondents provided answers and for which there were more than five similar answers were coded, as suggested by the ETF (2016).

TABLE 1.1 shows some comparative data for the VET graduate population and the sample of graduates used in the study. It shows differences in the indicators under observation (those for which data could be drawn from the available data sources or questionnaire), although those differences are not large. The only exception is the structure of the sample by study programme, which shows a much higher participation of students in the law and economics sample (27%) compared to the 12% share in the overall population. This may lead to a biased result if, for some reason, VET students following the law and economics track have different experiences and perceptions about some aspects relating to study and work and/or are more optimistic or pessimistic in general than the other VET students.

TABLE 1.1   COMPARISON OF POPULATION AND SAMPLE FOR VET GRADUATES

Indicator	Population	Sample
Number of graduates	14 334	1 235
Females (as % of total)	8.6	4.5
3-year VET (%)	6	3
Study programme – health (%)	21	21
Study programme – law and economics (%)	12	27
Study programme – electrical engineering/electronics (%)	12	16

Source: State statistical data (for the population) and tracer study (for the sample).

Similarly, **TABLE 1.2** provides comparative data for the population and the higher education graduates sample. It shows that the sample is similar to the population in several characteristics, mainly gender and ethnic structure. In terms of the distribution of students by study programme, we see that students in the engineering, manufacturing, construction and education disciplines are most under-represented in the sample, followed by students in the social sciences. On the other hand, business, administration, law, natural sciences, maths and statistics students are over-represented.

TABLE 1.2   COMPARISON OF POPULATION AND SAMPLE FOR HIGHER EDUCATION GRADUATES[6]

Indicator	Population	Sample
Number of graduates	8 458	1 718
Females (as % of total)	57	54
Public universities	75	
Ethnic Macedonians	71	70
Ethnic Albanians	19	21
Business, administration and law	27	34
Social sciences, journalism and information	15	9
Arts and humanities	11	9
Engineering, manufacturing and construction	11	4
Services	9	7
Health and welfare	9	9
ICT	6	8
Education	6	1
Natural sciences, mathematics and statistics	3	6
Agriculture, forestry and veterinary	2	3

Source: State statistical data (for the population) and tracer study (for the sample).

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[6] The sum of the percentages of students enrolled in different study programmes in the sample is not equal to 100 as some students did not report their study programme.

2. TRACER STUDY FINDINGS: VET GRADUATES

2.1 Characteristics of VET graduates and general study information

The sample for this study consisted of 1 235 VET students, which is about 10.5% of the total number of VET students who graduated in the 2014/15 school year[7]. With a share of 52%, males are more represented among the VET graduates who completed the survey[8]. The average age of the VET graduate is 18.8 years. About 45% of the respondents were females, and some 4% did not provide an answer. The survey does not provide information on the exact study programme (i.e. either three- or four-year VET education), so we approximate that information with the question related to the duration of study (which is only an approximation as some of the students on three-year study programmes who repeated a year in school will report that they studied for four years). **FIGURE 2.1** shows that the majority of VET students (95%) studied for four years, whereas a small number studied for three years and five years (3% and 2%, respectively).

**FIGURE 2.1   REPORTED NUMBER OF YEARS OF STUDY**
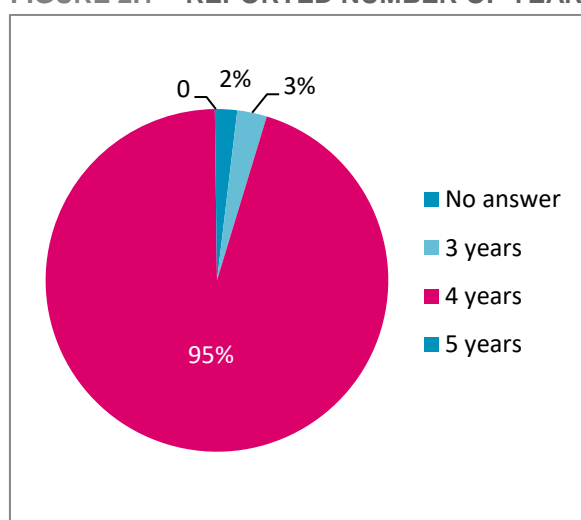
Source: Tracer study 2016.

The majority of respondents (79%) reported being of Macedonian ethnic origin (see **FIGURE 2.2**). An additional 10% of VET students were of ethnic Albanian origin, and 2% were Roma and ethnic Turks. There were virtually no students who claimed to be from any other country. Most of the respondents were from the regions of Skopje (18%) and Pelagonia (17%) (see **FIGURE 2.3**).

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[7] As previously stated, the population for the study is the graduate cohort of the secondary VET schools that graduated in the 2014/15 school year.

[8] As suggested by Schomburg's guide to tracer studies (ETF/Cedefop/ILO, 2016), we present the data as a rounded number without decimal places. The author suggests that tracer studies usually do not provide high-quality data so that the analyses should be based on rounding (p. 122).

**FIGURE 2.2 NATIONALITY OF RESPONDENTS (AS % OF RESPONDENTS)**
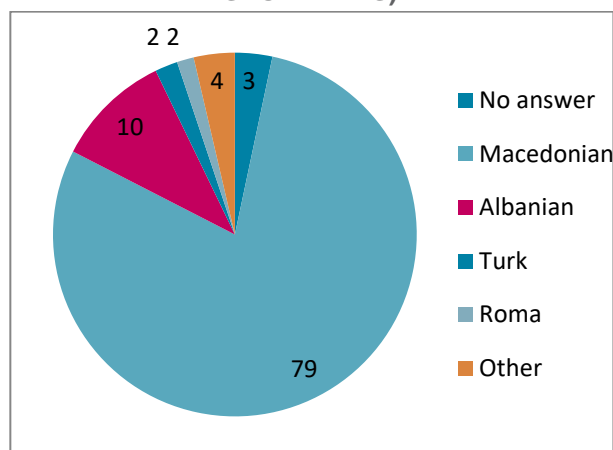
FIGURE 2.3 DISTRIBUTION OF RESPONDENTS BY REGION (NUTS[9]-3 REGIONS)
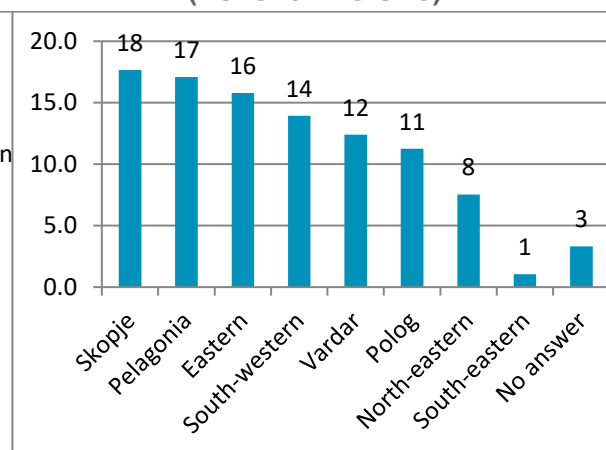
Source: Tracer study 2016.
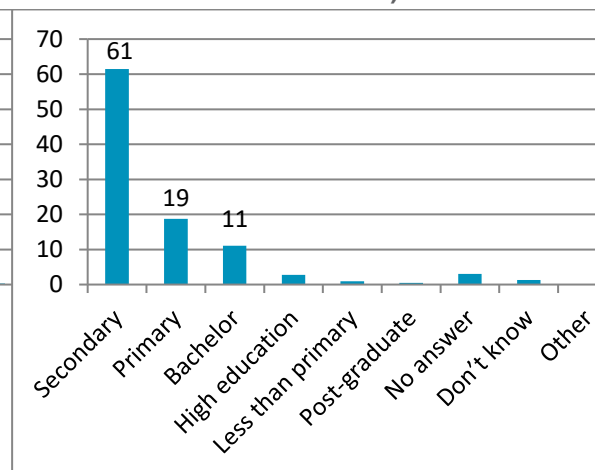
Source: Tracer study 2016.

Completed secondary education is the most frequent level of education among the parents of VET students. For 64% of VET students, the highest completed level of education of fathers is secondary education, followed by 13% of fathers who completed a university degree (bachelor's degree) and 12% who completed primary education (see **FIGURE 2.4**). A majority of the mothers of VET students (61%) have completed secondary education; 19% have primary education and 11% have completed university education (bachelor's degree). The fathers of VET students seem to have a better educational background than the mothers.

FIGURE 2.4 FATHERS' LEVEL OF EDUCATION (AS % OF RESPONDENTS)
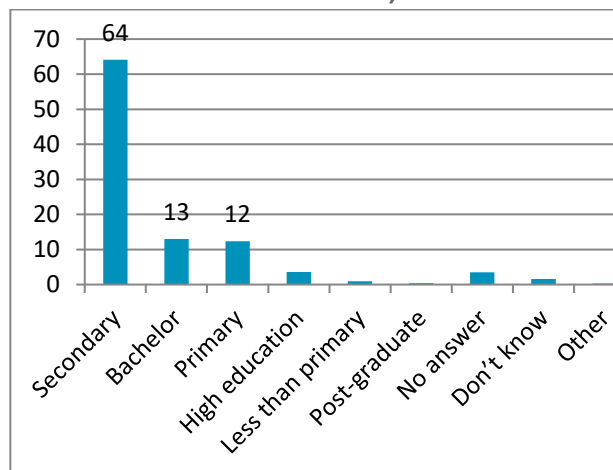
FIGURE 2.5 MOTHERS' LEVEL OF EDUCATION (AS % OF RESPONDENTS)
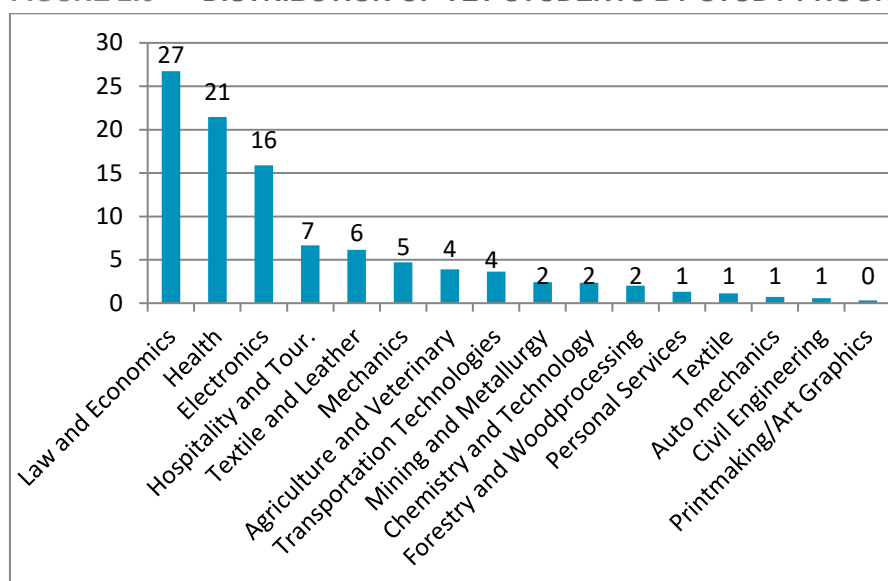

Source: Tracer study 2016.

Source: Tracer study 2016.

Law and economics are the most popular field of study, with 27% of VET graduates opting for this study programme (**FIGURE 2.6**). This is followed by health, which was studied by 21% of VET graduates, and electronics, which was studied by 16% of VET graduates.

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[9] NUTS is a geocode standard for referencing the subdivisions of countries for statistical purposes. The acronym is based on the French *Nomenclature des unités territoriales statistiques* (Classification of Territorial Units for Statistics).

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FIGURE 2.6   DISTRIBUTION OF VET STUDENTS BY STUDY PROGRAMME (IN %)

Source: Tracer study 2016.

However, significant gender differences are apparent among VET graduates when it comes to the study programme that they choose (see **TABLE 2.1**). The data shows that 26% of male VET graduates were enrolled in electronics and 20% studied law and economics. Health and hospitality and tourism were studied by a total of 20% of male VET graduates, equally distributed between these two programmes. On the other hand, the structure of female VET graduates by study programme is much more concentrated, with 69% of females enrolled in either law and economics (35%) or in health (34%) study programmes.

TABLE 2.1   DISTRIBUTION OF VET GRADUATES BY STUDY PROGRAMME AND GENDER

Males		Females	
Study programme	Share (in %)	Study programme	Share (in %)
Electronics	26	Law and economics	35
Law and economics	20	Health	34
Health	10	Textiles and leather	7
Hospitality and tourism	10	Electronics	5

Source: Tracer study 2016.

A small number (3%) of respondents reported that they had some education (vocational training or post-secondary school courses) prior to attending the VET secondary school. In most cases, this was related to language acquisition. Only 1% stated that they had had some form of employment before studying at the VET institution.

FIGURE 2.7 shows the average hours that VET graduates spent per week attending courses and classes. Most graduates (52%) reported that they spent 30 to 39 hours per week, on average, at school. Another 16% stated that they spent 40 to 49 hours per week, whereas 13% spent 20 to 29 hours per week. A small proportion of VET graduates reported that they attended classes for more than 50 hours per week.

FIGURE 2.7   AVERAGE HOURS PER WEEK ATTENDING COURSES AND CLASSES
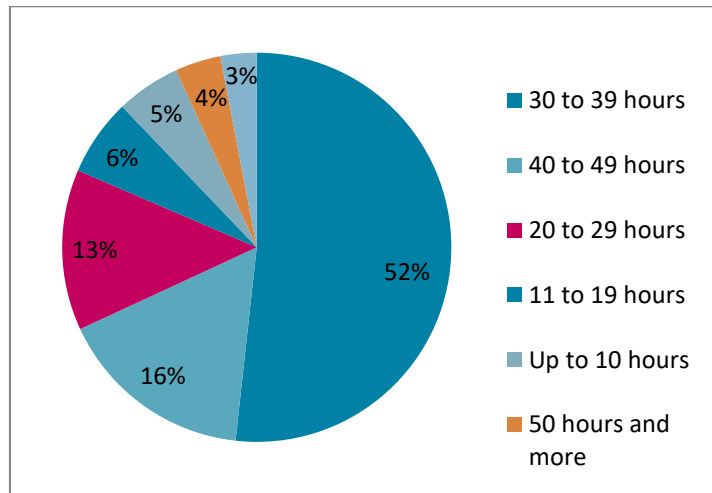
Source: Tracer study 2016.

VET graduates also stated that they engaged in some study activities outside of school: 61% reported that they spent an average of up to 10 hours each week on study activities outside of school, 27% reported that they spent 11 to 19 hours and 3% reported spending 20 to 29 hours each week on study activities outside of school. Another 9% did not provide an answer, which may imply that they did not engage in any such study activities.

2.2 Internships and work experience while studying

The tracer study collected information on VET graduates' experience of internships and work experience while they were studying. The study found that 62% of VET graduates were involved in internships during their studies. This leaves a large proportion of VET graduates (37%) who did not take up any internships while they were studying and missed out on an opportunity to gain some workplace skills and experience. Of those graduates who took up an internship, an equal number (34%) reported that they had one and two mandatory internships (see **FIGURE 2.8**); 18% stated that they were engaged in three mandatory internships; and 12% engaged in four or more internships.

Of the VET graduates who reported that they were involved in some form of internship during their studies, 43% stated that they were also engaged in one voluntary internship and 13% were involved in two voluntary internships. One-third of those who reported that they were engaged in internships did not provide an answer to this question (regarding voluntary internships). This cohort probably includes those students who did not take up such internships.

In most cases, the internship lasted one month (for 48% of VET graduates) and for 15% of them it lasted two months (see **FIGURE 2.9**). About one-fifth of the graduates reported that they were engaged in an internship for more than four months. It is uncommon for VET students in the former Yugoslav Republic of Macedonia to combine work and study. A small number of VET graduates (3%) reported that they worked during their studies. Of those graduates, 38% were employed for more than 24 months, 32% for 1 to 6 months and 15% were employed for less than 1 month.

FIGURE 2.8 NUMBER OF INTERNSHIPS WHILE STUDYING[10] (AS % OF RESPONDENTS)
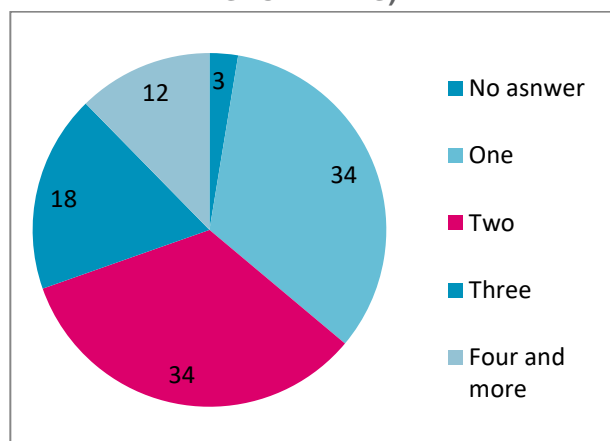
Source: Tracer study 2016.

FIGURE 2.9 AVERAGE DURATION OF INTERNSHIPS (AS % OF RESPONDENTS)
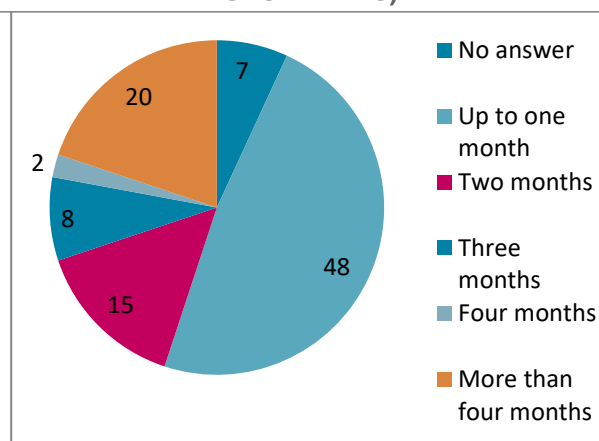
Source: Tracer study 2016.

2.3 Study conditions and study provisions at VET institutions

This section presents the opinions and perceptions of VET graduates on the quality of the study conditions and provisions during their studies at VET institutions. **TABLE 2.2** presents their views with regard to 14 aspects of the study conditions, including the quality of teaching, learning materials, access to teachers, relationships with peers and library resources. The most positive aspect of the study conditions as reported by VET graduates was the contact with fellow students: 86% of the students assessed this study condition as either good or very good (in addition, this aspect has also the highest average grade of 4.5). The other conditions which were rated highly were: the quality of teaching delivered by the lecturers (74% of students rated it as good or very good), the opportunity to consult with the teaching staff (74%) and the teaching and grading system (which was assessed positively by 68% of respondents). On the other hand, the following three aspects of the study conditions were considered to be the worst aspects: the quality of the teaching equipment, the chance to influence the VET institution's policies and the availability of technical equipment. This analysis shows that, in general, the study environment for students is relatively good (including relations with teachers and peers), but the equipment and learning resources are lacking or are of low quality.

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[10] In most cases, we also provide the instances of 'no answer'. We do so for two reasons. One is that the number of respondents who did not provide answers varied substantially between questions and hence excluding that option does not provide a realistic picture of the answers. Second, in some cases, due to the formulation of the question, it seems that that option provides additional information, such as a lack of internships, rather than just showing who has not answered the question.

TABLE 2.2   VET GRADUATES' OPINIONS ON STUDY CONDITIONS (% OF STUDENTS CHOOSING A PARTICULAR OPTION)

Study conditions	1 (very bad)	2	3	4	5 (very good)	NA	Average grade	Number of respond-ents
Quality of classroom learning	3	6	29	43	18	1	3.7	1 227
Student recreational facilities on campus	6	10	26	33	23	1	3.6	1 222
Supply of learning materials (e.g. books, internet access)	4	8	23	34	29	1	3.8	1 218
Opportunity to consult with teaching staff	1	4	18	34	40	2	4.1	1 207
Teaching quality of lecturers	1	4	19	41	33	2	4.0	1 212
Teaching and grading system	1	5	23	42	26	2	3.9	1 207
Internship programme	5	10	22	30	29	3	3.7	1 198
Contacts with fellow students		2	8	22	64	3	4.5	1 203
Chance for students to have an influence on VET institution's policies	6	14	34	29	15	3	3.3	1 204
Availability of technical equipment	8	11	27	32	18	4	3.4	1 189
Quality of technical equipment	8	12	30	33	14	4	3.4	1 190
Supply of teaching materials	3	9	23	39	24	3	3.7	1 195
Quality of buildings	4	7	24	43	18	4	3.7	1 191
Library resources	7	8	24	36	23	3	3.6	1 194

NA: no answer.
Source: Tracer study 2016.

VET graduates also provided their opinions and perceptions about several elements relating to employment and work during their studies. As **TABLE 2.3** shows, VET graduates held the most positive view about the practical experience of the teaching staff, which was assessed as either good or very good by 73% of respondents (with an average grade of 4.1). This was followed by the professional advice and guidance that the teaching staff provided to students (positively assessed by 71% of VET graduates) and mandatory work practice or internships (69% of answers were positive). The graduates considered the worst aspect to be the lack of employment and job search support.

TABLE 2.3   VET GRADUATES' OPINIONS ON STUDY PROVISIONS (% OF STUDENTS CHOOSING A PARTICULAR OPTION)

	1 (very bad)	2	3	4	5 (very good)	NA	Average grade	Number of respondents
Professional advice and guidance provided by teaching staff	2	5	21	45	26	2	3.9	1 216
Individual occupational advice in your field	2	7	24	39	25	2	3.8	1 212
Support for practice/internship search	3	9	23	30	32	3	3.8	1 197
Practice/internship-oriented teaching content	3	12	23	33	27	2	3.7	1 208
Practical experience of teaching staff	1	6	18	34	39	2	4.1	1 206
Mandatory practice/internships	3	7	18	32	37	3	4.0	1 201
Employment/job search support	8	17	20	27	26	2	3.5	1 211
Preparation for work	5	9	21	32	30	2	3.8	1 207

NA: no answer.
Source: Tracer study 2016.

2.4 Competences and satisfaction with the study programme

In general, VET graduates provided a positive assessment of the extent to which they acquired certain skills or competences during the course of their studies. The average assessment for seven out of the eight skills or competences that the graduates acquired is above 3.8 (where 5 means that skills were acquired to a very high extent) (see **TABLE 2.4**). Students, on average, reported that they learned best to work efficiently towards a goal (reported as a skill learned to a high and very high extent by 77% of respondents) and the ability to work in a team (reported by 81% of respondents as a skill learned to a high and very high extent).

TABLE 2.4   ACQUISITION OF SKILLS AND/OR COMPETENCES BY VET GRADUATES (IN %)

	1 (not at all)	2	3	4	5 (to a very high extent)	NA	Average	Number of respondents
Mastery of my field/subject-specific knowledge	0	3	21	47	27	2	4.0	1 213
Ability to develop new ideas and solutions	0	5	22	42	29	2	4.0	1 207
Ability to adapt to changing conditions	1	4	21	43	28	2	4.0	1 208
Analytical thinking	1	6	30	38	21	5	3.8	1 176
Ability to organise my work processes efficiently	0	4	22	38	32	3	4.0	1 198
Ability to work efficiently towards a goal	0	3	18	39	38	2	4.2	1 214
Ability to work in a team	0	3	13	33	48	3	4.3	1 197

NA: no answer.
Source: Tracer study 2016.

VET graduates show a high level of satisfaction with their studies (see **TABLE 2.5**). In particular, 80% of respondents stated that they would choose the same field of study or training if they had to choose again (responded as either likely or very likely). Similarly, 79% would choose the same VET institution in which they studied. Overall, VET graduates reported a high level of satisfaction with their studies, with 80% stating that they were satisfied or very satisfied with their studies in general. Only 5% felt dissatisfied with their studies.

TABLE 2.5   SATISFACTION WITH VET STUDIES (AS % OF STUDENTS)

Looking back, …	1 (not at all likely/satisfied)	2	3	4	5 (very likely/very satisfied)	NA	Average	Number of respondents
how likely would you be to choose the same field of study or training?	4	4	10	22	58	2	4.3	1 215
how likely would you be to choose the same VET institution?	5	5	9	21	58	2	4.2	1 210
how satisfied are you with your studies in general?	1	4	13	32	48	1	4.2	1 217

NA: no answer.
Source: Tracer study 2016.

2.5 Experience after graduation

This section provides information on the status and labour market activity of VET graduates six months after graduation. As **FIGURE 2.10** shows, half of the VET graduates (51%) continued on to further education (i.e. university education) in the six months following their graduation[11]. Almost one-fifth (17%) of the graduates found a job, and 23% were looking for a job but could not find one (i.e. they were unemployed). Small numbers of VET graduates continued on to further vocational education or training (3%), held a part-time job (2%) or were engaged in an internship (2%).

FIGURE 2.10   STATUS OF VET GRADUATES SIX MONTHS AFTER GRADUATION (IN %)
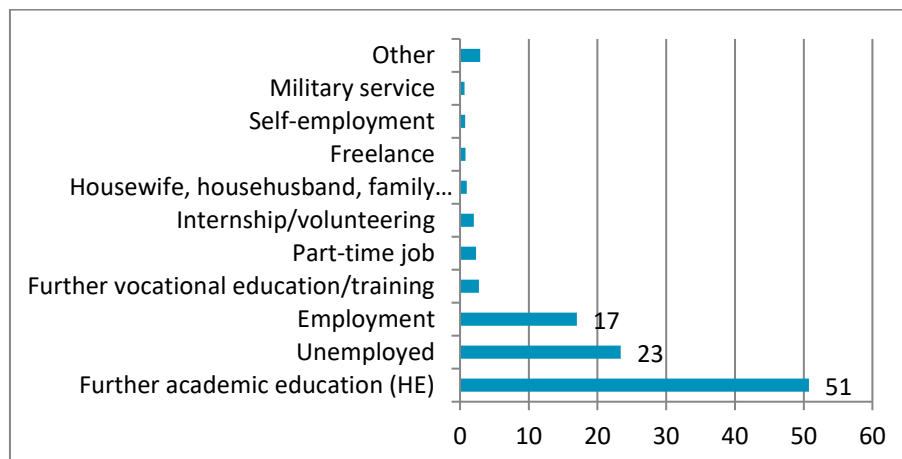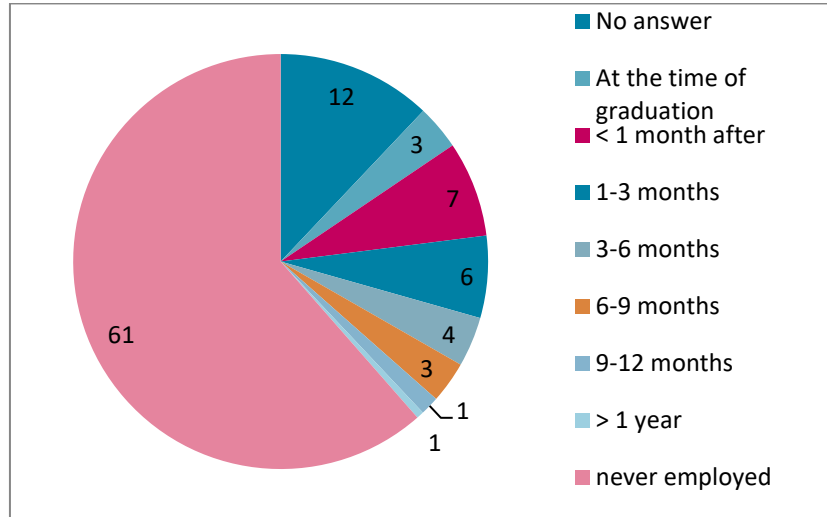

Source: Tracer study 2016.

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[11] As a note, VET graduates were allowed to choose more than one option/answer to the question. Hence, the frequencies presented in the graph total more than 100.

Most respondents (61%) stated they had not had a job since graduating (**FIGURE 2.11**). Another 17% found their first job within six months of graduating: 7% found a job in less than a month after graduation, 6% in one to three months after graduation and 4% in three to six months. A small number of VET graduates (3%) found a job at the time of graduation. A large number of students (12%) did not provide an answer to this question, which may signal that they continued their education and hence were not able to answer this question. Indeed, a further analysis shows that 64% of those who responded that they had never had a job or did not provide an answer to the question were actually pursuing higher education. An additional 28% of those two categories reported being unemployed.

FIGURE 2.11   TIME TO FIRST JOB (AS % OF RESPONDENTS)

Source: Tracer study 2016.

FIGURE 2.12 shows the main labour market indicators for VET graduates six months after graduation. As it shows, only 41% of VET graduates were active in the labour market, either as employed or unemployed (those without a job and searching for a job). Around one-fifth of VET graduates (21%) were employed whereas the unemployment rate was 53%[12].

FIGURE 2.12   LABOUR MARKET INDICATORS SIX MONTHS AFTER GRADUATION
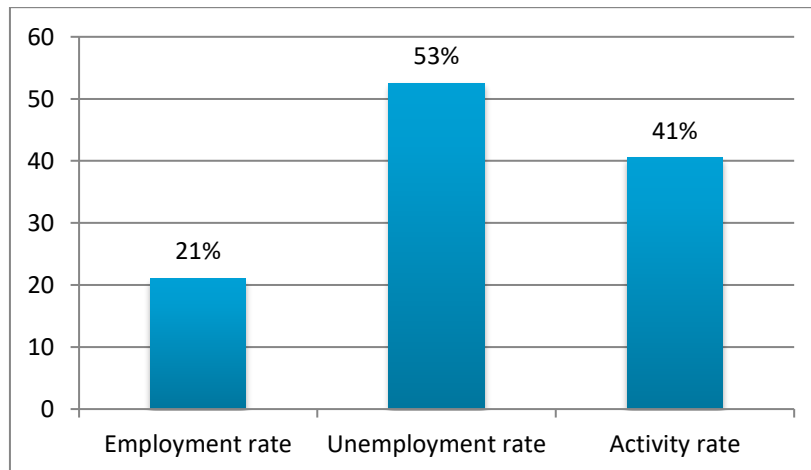
Source: Tracer study 2016.

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[12] The employment rate is calculated as the sum of those who are employed, self-employed, engaged in freelance work and part-time work as a share of all VET graduates. The activity rate is calculated as the sum of all employed and unemployed individuals (i.e. active young people) divided by all VET graduates. The unemployment rate is obtained by dividing the number of unemployed individuals by all individuals currently in the active population.

TABLE 2.6 provides information about the pathways followed by VET graduates six months after graduation. This information is based on study programme. It shows that graduates who had studied mechanics, geological mining, chemistry and technology had a very successful transition to employment (in terms of proportion of graduates who reported their status as employed six months after graduation). However, this does not necessarily imply that those study programmes bring the best rewards as some other programmes are more likely to lead graduates to further education (enrolment in university education). For instance, while only 7% of VET graduates who had studied a health-related subject were employed, 72% of them were enrolled in higher education. A similar finding holds for the graduates of law and economics and forestry and wood processing. However, high unemployment rates are more common among graduates of some study programmes, e.g. 75% of printmaking and graphic design graduates, 63% of personal services graduates and 36% of mechanics graduates were unemployed.

TABLE 2.6   STATUS OF VET GRADUATES SIX MONTHS AFTER GRADUATION, BY STUDY PROGRAMME (% OF STUDENTS)

|	Total students	Employ-ed	Intern-ship	Higher educa-tion	Further VET	House-wife	Unem-ployed	Other
Textiles and leather	76	20	1	33	5	4	30	1
Health	265	7	4	72	6	1	10	2
Personal services	16	0	6	25	6	0	63	0
Law and economics	330	8	1	69	2	1	18	2
Agriculture and veterinary technician	48	33	0	23	0	4	31	6
Mechanics	58	48	0	7	0	0	36	2
Electronics	196	21	1	50	1	0	20	4
Textiles	14	21	21	7	0	14	29	7
Printmaking/graphic design	4	0	0	25	0	0	75	0
Geological mining and metallurgical fields	30	47	0	17	0	0	33	7
Civil engineering	7	14	0	29	0	0	29	0
Transportation technologies	45	11	2	53	2	0	29	0
Chemistry and technology	29	38	7	17	3	0	24	10
Hospitality and tourism	82	32	1	12	2	0	54	2
Forestry and wood processing	25	16	0	64	0	0	20	0
Car mechanics	9	33	0	11	11	0	44	11

Note: Several categories are not presented due to the very small numbers of graduates engaged in them (self-employment, freelance and military).
Source: Tracer study 2016.

Half of the VET graduates responded that they had searched for a job following their graduation. Data was collected regarding the most widely used job search methods. Those students who searched for a job relied mainly on the help of their family contacts (parents and relatives). This was true for 47% of the students who searched for a job. Another 34% replied to a job ad or announcement, 22% used the personal contacts of friends, fellow students and others, and 11% used the public employment service as a job search method. Nobody used the teaching staff at the VET institution.

In the case of respondents who reported that they were searching for a job, **FIGURE 2.13** shows the length of time spent searching before they found their first job. It shows that 24% of students were searching for a job for less than one month prior to finding their first job, 16% were searching for one to three months and 14% were searching for more than a year. However, a significant percentage of students (14%) did not provide information on the length of time they spent searching for a job.

FIGURE 2.13 **TIME SPENT SEARCHING BEFORE FINDING A FIRST JOB, INCLUDING JOB SEARCH PERIOD BEFORE GRADUATION (AS % OF STUDENTS WHO SEARCHED FOR A JOB)**
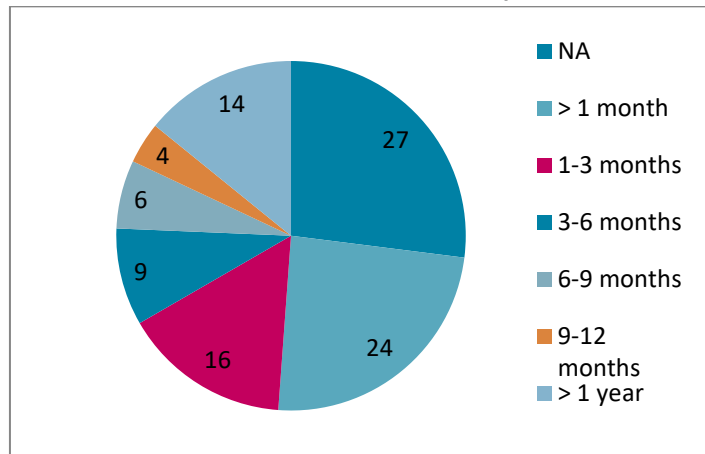
NA: no answer.
Source: Tracer study 2016.

The most successful method for finding a first job, as reported by 58% of VET graduates was by replying to job announcements. A quarter of the graduates found a job through the help of family contacts and 5% through personal contacts of friends, fellow students and others. The effectiveness of other job search channels was negligible.

Data was also collected on the intensity of the job search, which is approximated by the number of employers contacted as part of the job search process. Most students who searched for a job contacted only one employer (29%) (see **FIGURE 2.14**). One-fifth contacted two to five employers and 17% did not approach any employer (they probably found their job through relatives and friends). A large number of graduates who searched for a job did not answer this question (26%).

Nearly half (41%) of the graduates who searched for a job received a call for an interview from two to five employers, 26% were offered an interview by one employer and 8% were offered an interview by ten to twenty employers. A quarter of the graduates did not receive any call for an interview.

The main reason for not searching for a job (reported by 76% of VET graduates who did not search for one) was that the graduate was continuing his or her studies. The remaining graduates did not choose any of the other options provided (working, being self-employed and/or freelancing), but stated the option 'Other'.

**FIGURE 2.14   NUMBER OF EMPLOYERS CONTACTED BEFORE GETTING FIRST JOB (IN %)**
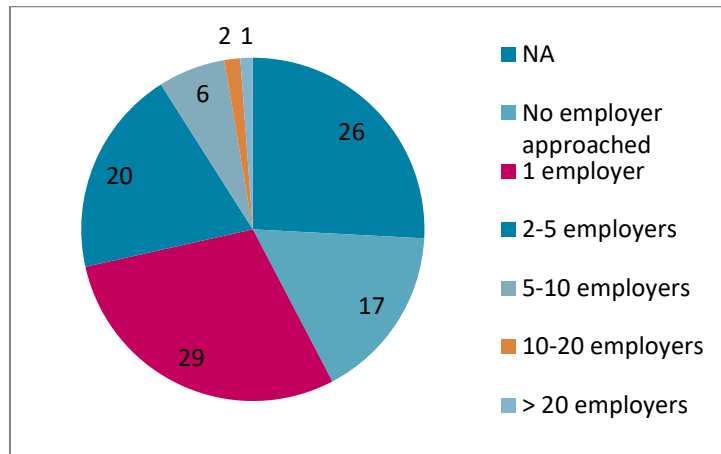
NA: no answer.
Source: Tracer study 2016.

2.6 Current employment status

This section analyses data related to the current situation of the cohort of 2014/15 VET graduates[13].
Half (50%) of the cohort stated that at the time of the survey they were enrolled in higher education
(**FIGURE 2.15**). A quarter of the graduates stated that they were unemployed and 17% reported that they
were employed. A negligible number had occasional work or were enrolled in further vocational education.

FIGURE 2.15   CURRENT STATUS OF VET GRADUATES (AS % OF RESPONDENTS)
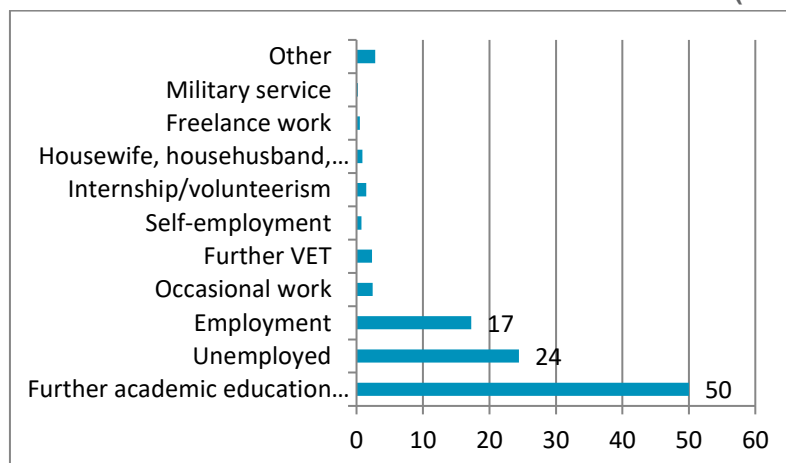
Source: Tracer study 2016.

Most VET graduates (90%) did not have any international experience after completing their VET studies;
7% reported that they continued their studies or training abroad and 1% stated that they worked abroad.

About 71% of VET graduates reported that they never held a job after graduation, which is to be
expected given that half of them continued their education (see **FIGURE 2.16**). One-fifth of the
graduates held only one job, 4% held two jobs.

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[13] Current status is actually the status they had at the time of the interview, June–October, 2016.

FIGURE 2.16   NUMBER OF JOBS HELD AFTER GRADUATION (AS % OF RESPONDENTS)
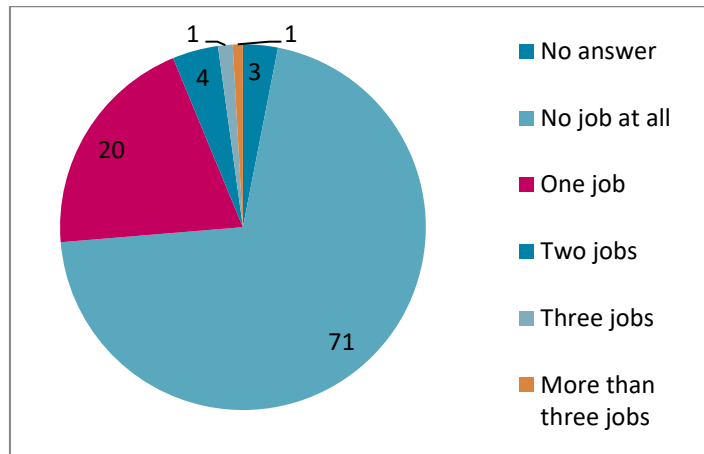
Source: Tracer study 2016.

Most employed VET graduates (48%) reported that they worked 41 to 50 hours per week, on average, and 38% worked from 31 to 40 hours (**FIGURE 2.17**). A small number of them (5%) worked more than 50 hours, which is much longer than the regular working week of 40 hours defined in the labour legislation.

FIGURE 2.17   NUMBER OF HOURS WORKED PER WEEK (% OF STUDENTS CHOOSING THE OPTION)
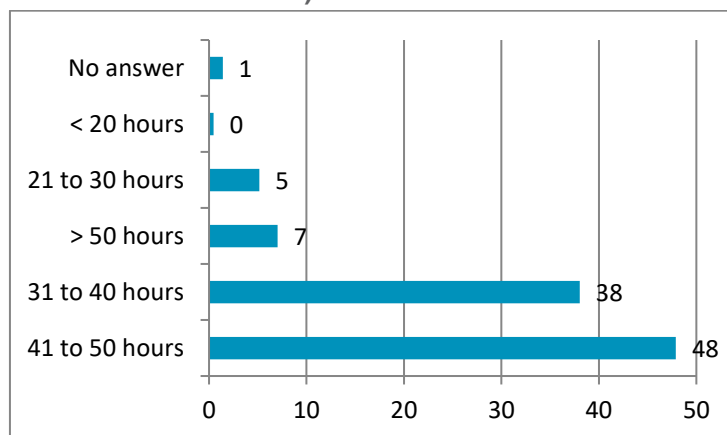
Source: Tracer study 2016.

Of the employed VET graduates, 54% stated that they had a permanent employment contract, whereas 38% did not have such a contract. In addition, 4% reported that they were self-employed (and hence the question was not applicable to them) and 4% did not provide an answer.

For 40% of employed VET graduates, the transition from VET school to job took less than one month (see **FIGURE 2.18**). For an additional 17% of the employed graduates (at the time of the interview) the transition to their current job took one to three months and for 13% it took three to six months. This information shows that VET graduates manage to find their first job in a relatively short time, which is unexpected given the country's high youth unemployment rate and the findings of Mojsoska-Blazevski (2016), which show that it takes VET graduates an average of two and a half years to find their first stable or satisfactory job in the former Yugoslav Republic of Macedonia (for young people aged 15 to 29).

FIGURE 2.18 **TIME TO FIND CURRENT JOB AFTER GRADUATION (AS % OF RESPONDENTS)**
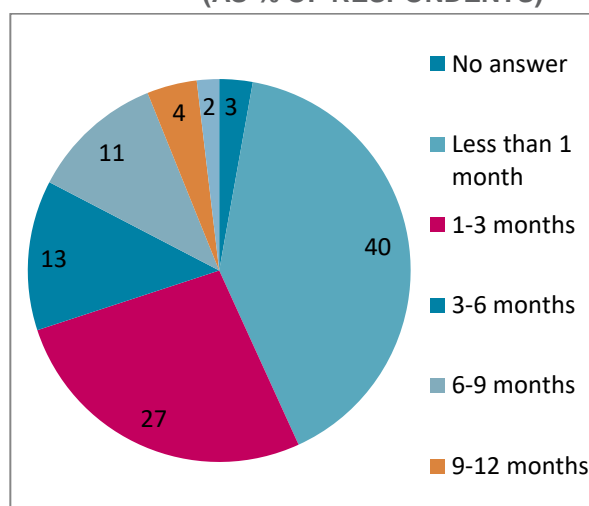
FIGURE 2.19 **TIME IN CURRENT JOB (AS % OF RESPONDENTS)**
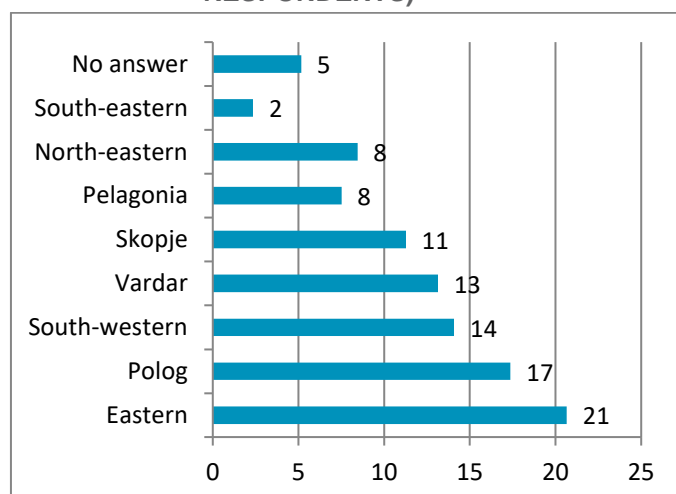

Source: Tracer study 2016.
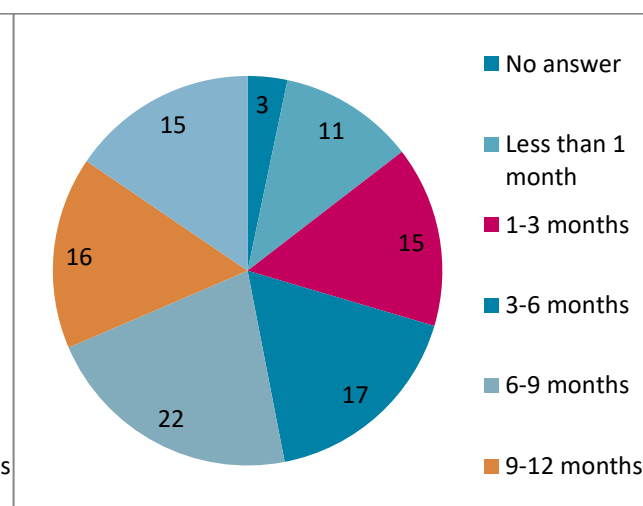
Source: Tracer study 2016.

Most VET graduates (22%) have had their current job for six to nine months, 17% have had it for three to six months and 16% have had it for up to a year (**FIGURE 2.19**). This corresponds with the previous information that they managed to find their current job relatively quickly after graduation. Just over a quarter (26%) have had their current job for less than three months.

Given that the job vacancy rate is highest in the Skopje region and that most respondents are from this region, it was expected that most employed VET graduates found their job in this region. Contrary to that expectation, however, most employed VET graduates reported that their job was in the Eastern region (21%), followed by 17% of employed young people who found work in the Polog region and 14% who found work in the Southwestern region (**FIGURE 2.20**).

FIGURE 2.20 **REGION IN WHICH VET GRADUATES CURRENTLY HOLD A JOB (AS % OF RESPONDENTS)**

Source: Tracer study 2016.

Most employed VET graduates (91%) work for private companies. A small number (4%) work for the public sector or government. Small numbers (1% in each case), reported that they were either self-employed or working for an NGO.

TABLE 2.7 shows the distribution of employment of VET graduates by economic sector. The wholesale, retail and motor vehicle repair sector is the major employer of VET graduates, accounting

for 23% of total employment. This is followed by accommodation and food services (20%), other service activities, construction and manufacturing. The other sectors account for either zero or a very small share of employment; 12% of employed VET graduates did not answer this question.

TABLE 2.7   DISTRIBUTION OF EMPLOYMENT BY ECONOMIC SECTOR

Industry sector	Share of total employed graduates
Wholesale and retail trade; repair of motor vehicles and motorcycles	23
Accommodation and food service activities	20
Other service activities	11
Construction	9
Manufacturing	7
Human health and social work activities	6
Agriculture, forestry and fishing	4

Source: Tracer study 2016.

Most employed VET graduates (37%) stated that they received a monthly salary of between MKD 9 001 and 12 000 (approximately EUR 150 to 200). At a national level, most workers (30% in 2015) earned between MKD 10 001 and 14 000. Among VET graduates, 22% reported that they earned less than MKD 9 000 which is a very low wage, and below the statutory minimum wage of MKD 10 080 in 2016 in net terms.

FIGURE 2.21   SALARY AT CURRENT JOB (% OF GRADUATES)
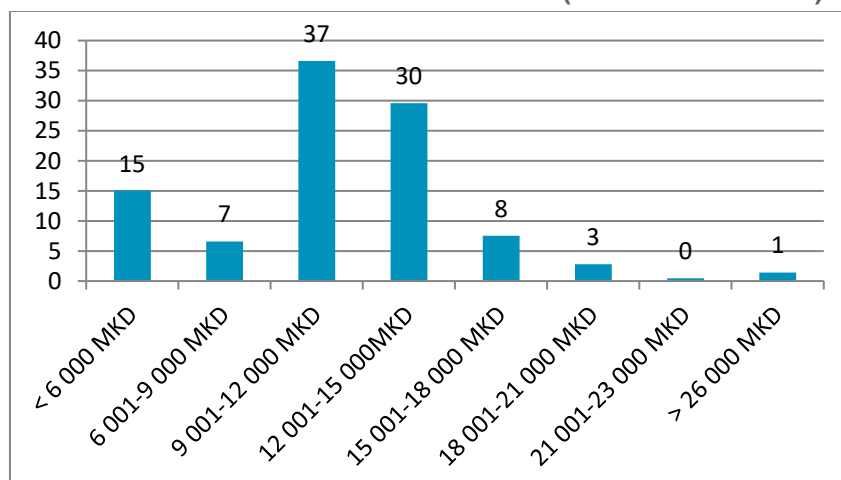
Source: Tracer study 2016.

The majority of employed VET graduates (80%) have health insurance and 68% have pension insurance. This information can serve as an indicator of the extent of informal employment among young people, as the registration of employed workers for health, pension and disability insurance is mandatory[14]. The study found that 16% of employed graduates received a transportation allowance but 13% reported that they did not receive any of the fringe benefits listed in the questionnaire.

Micro companies are major employers of VET graduates. As **FIGURE 2.22** shows, 35% of employed VET graduates were employed in companies with between one and nine employees. Another 29%

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[14] The fact that more young people reported having health insurance compared to pension insurance may be related to the greater awareness of health insurance, which is related to the immediate need of workers (to visit medical institutions), whereas they are not well informed about or not interested in pension insurance as they are still young.

worked for small companies of between 10 and 49 employees. Large companies with more than 1 000 workers employ 12% of currently employed VET graduates.

FIGURE 2.22   SIZE OF EMPLOYER (IN %)

Pie chart legend:
- No answer
- 1-9 employees
- 10-49
- 50-99
- 100-249
- 250-999
- 1000+

Values shown: 7, 12, 5, 5, 7, 29, 35
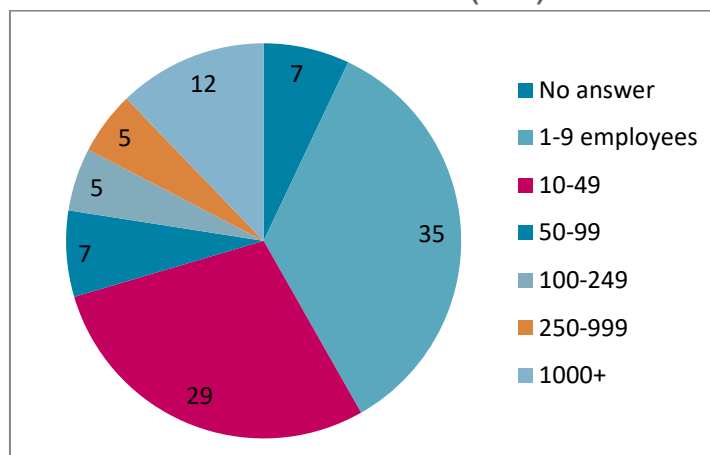
Source: Tracer study 2016.

2.7 Work requirements

Employed graduates reported that the most important skills and/or competences required at their current job are the ability to organise their work processes efficiently and the ability to work productively in a team (reported as 4 and 5, where 5 is very important) (see **TABLE 2.8**). These two skills and/or competences are also most important as assessed by the average grade (for both, it is 3.7, on a scale of 1 to 5). The next most important skill is the ability to work efficiently towards a goal (69% of students graded it with 4 or 5) and a willingness to question ideas (for 68% of the students). IT and foreign language skills were the least important skills and/or competences. This finding may be important for policymakers given the current focus of active employment programmes on these skills.

2.8 Relationship between study and employment

Less than half of employed VET graduates (45%) reported that they use the knowledge and skills that they acquired during their education in their current job (they provided answers 4 and 5 on a scale of 1 to 5). Another 23% of students believe that their knowledge and skills are useless (they do not use their skills at all or use them very little) and 30% stated that they use their skills to a medium extent. Similarly, only half (52%) responded that their own field of study was most suitable for their current job. Less than one-quarter (22%) stated that their job requires a totally different field of study and 23% stated that their job does not require any specific field of study. These two questions may be used as an approximation for the extent of mismatch between skills and job requirements (tasks).

The next question also provides some information about the extent of the vertical mismatch between skills and job requirements (see **FIGURE 2.23**). More than half (59%) believe that their education and/or qualifications match the requirements of the job. Another 27% reported that they are over-educated for the job they hold (i.e. the job requires lower qualifications than their qualifications or does not require any qualifications) and 7% are under-educated for the job that they hold[15].

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[15] Matched means that workers reported that they hold the same level of education as that required by the job. Over-educated refers to cases where: i) the worker has a higher level of education and/or qualifications than the level required or ii) the job does not require any qualifications but the worker nevertheless has certain qualifications.

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TABLE 2.8   IMPORTANCE OF SKILLS IN CURRENT EMPLOYMENT

	1 (not at all important)	2	3	4	5 (very import-ant)	NA	Average	Number of respond-ents
Mastery of my field/subject-specific knowledge	4	7	30	40	20	0	3.7	213
Ability to develop new ideas and solutions	2	9	27	42	19	1	3.7	210
Ability to adapt to changing conditions	1	6	22	39	28	3	3.9	207
Analytical thinking	5	8	31	33	18	4	3.5	205
Willingness to question my ideas and others' ideas	2	5	22	49	19	3	3.8	206
Ability to work efficiently towards a goal	0	5	22	37	32	4	4.0	205
Ability to organise my work processes efficiently	1	5	17	39	35	2	4.0	209
Ability to work productively with others/teamwork	0	7	15	36	38	3	4.1	206
Ability to perform well under pressure	5	9	25	34	25	2	3.7	208
Planning skills	3	7	21	39	28	2	3.8	208
IT/computer skills	9	23	26	24	16	2	3.1	209
Foreign languages	6	21	30	28	14	2	3.2	209

NA: no answer.
Source: Tracer study 2016.

A World Bank study (2016) shows that there are relatively large vertical mismatches for workers of all levels of education. However, the largest mismatches (both vertical and horizontal) appear for workers with higher levels of technical and vocational training. The study also shows that the most significant skill gaps are related to vocational training.

FIGURE 2.23   VERTICAL MATCHING BETWEEN EDUCATION LEVEL AND JOB REQUIREMENTS (IN %)
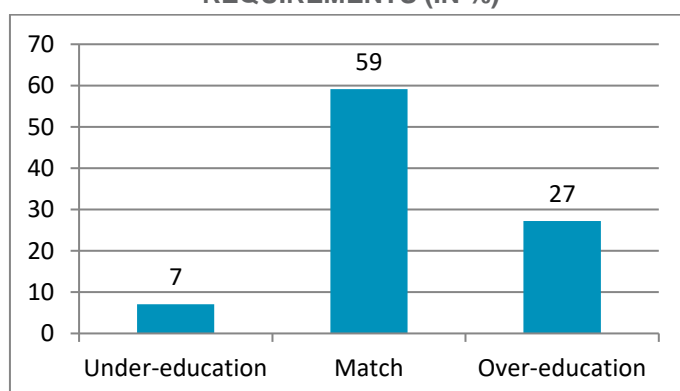
Note: The percentages do not add up to 100% due to a number of non-responses.
Source: Tracer study 2016.

A total of 38% of employed VET graduates stated that their professional position within the company is appropriate to their course of study. For 36% that is relatively true and 23% believe that their professional position does not match their course of study.

The employed VET graduates who responded that their job is not close to their course of study (about three-quarters of employed VET students), also provided information on how they have chosen their current job. For equal percentages of these students (29% each), they chose their current job based on the consideration that it was a stepping stone to a more appropriate job and because they could not find a more appropriate one (**TABLE 2.9**). For 15%, the current job was chosen due to a higher salary despite the fact that the job did not match their field of study. For 14%, the choice was made in order to be able to better balance work and family life.

TABLE 2.9   REASONS FOR CHOOSING AN INAPPROPRIATE JOB

Reasons for choosing current job	In %
My current job is only a temporary stepping stone	29
I have not found an appropriate job (yet)	29
I receive a higher salary in my current job	15
It allows me to take into consideration the interests of my family and/or children	14
It offers more security	11
It is based on geographical location	11
My current job allows a flexible time schedule	5
My interests have changed	4
Other	9

Source: Tracer study 2016.

When asked to assess their studies on the basis of several criteria, employed VET graduates did not find them very useful (see **TABLE 2.10**). Most of them (59%) found their studies to be useful for developing their personality (answered with 4 or 5, on a scale of 1 to 5 with 5 being very useful). A total of 55% believe that their studies were useful and very useful for finding a suitable job and for their future professional development. They found their studies least useful for supporting the economic growth of the country. We should note, however, that between one-quarter and one-third of employed VET graduates answered this question with a grade of 3, which is a neutral answer, and not many provided a negative answer (19% at most).

TABLE 2.10   USEFULNESS OF STUDIES

Usefulness of your studies	1 (not at all useful)	2	3	4	5 (very useful)	NA	Average	Number of respond-ents
For finding a suitable job after finishing your studies?	6	11	25	37	18	3	3.7	1 188
For performing your present professional tasks, if applicable?	6	7	34	36	15	3	3.8	1 140
For your future professional development/career?	5	9	28	38	17	3	3.9	1 188
For the development of your personality?	5	8	25	36	23	2	4.0	1 192
For the economic development of your country?	9	10	33	32	14	2	3.6	1 177

Source: Tracer study 2016.

2.9 Work orientation and job satisfaction

Despite the relatively large mismatch between the graduates' skills and the requirements of their jobs, a large proportion of them (65%) were satisfied with their job. One-fifth (20%) provided a neutral answer and 11% reported that they were not satisfied. The average rating for this question is 3.48 on a scale of 1 to 5.

In terms of different elements of overall job satisfaction, VET graduates are most satisfied with the good work atmosphere (70% answered with 4 or 5 – very satisfied) (**TABLE 2.11**). This is followed by 66% of students who are satisfied with the clear and regulated work tasks, 63% with job security and 61% with the possibility for professional development. A similar 'rating' is obtained when the assessment is based on an average grade of each element or criterion.

TABLE 2.11   SATISFACTION WITH DIFFERENT ASPECTS OF CURRENT JOB SITUATION

	1 (not at all satisfied)	2	3	4	5 (very satisfied)	NA	Average	Number of respondents
Opportunity to implement own ideas	3	9	35	37	13	2	3.5	257
High salary	3	16	33	33	12	2	3.3	256
Interesting work tasks	3	8	32	41	14	2	3.5	258
Clear and regulated work tasks	0	4	26	41	25	4	3.9	253
Opportunity to apply acquired competences	1	4	31	38	20	5	3.7	252
Job security	1	9	23	37	26	3	3.7	254
Social status and recognition	1	13	33	35	15	2	3.5	256
Good work atmosphere	1	5	22	36	34	1	4.0	258
Opportunity for further professional advancement	3	9	21	40	21	6	3.7	249
Opportunity to have a social influence	2	11	33	33	14	6	3.5	248
Challenges	2	12	36	34	14	3	3.5	256
Possibility to do something useful for society	2	12	33	36	11	5	3.5	249
Good conditions for balancing work and private life	1	7	37	36	15	3	3.6	253
Sufficient time for leisure activities	3	8	35	37	15	3	3.6	255

Source: Tracer study 2016.

2.10 Further education after studying at VET institution

In this section, more than half of the respondents (53%) stated that they continued their education after graduating from the VET institution. Of those, 97% reported that they were still studying. However, there is some inconsistency in the answers as respondents did not fully understand some of the questions. In particular, when asked when they started their further education (after completing VET education), 95% stated that they started their further education in 2011 (which is actually the year when they started at the VET school). Hence, we do not provide further information on the continuation of their studies.

The main trigger for enrolment in higher education was the graduates' desire to achieve a higher academic or professional degree (93% of the respondents answered that this reason applies to a high or very high degree). This is followed by their desire to improve their chances for promotion (selected by 89% of respondents) and their wish to increase their chances of finding a job (a positive response was given by 87%).

Most VET graduates continued their further studies in the field of medicine (11% of graduates, who continued their education at a higher education institution). Another 9% enrolled in ICT programmes and 8% studied law (see **TABLE 2.12**). The other fields of study attracted very few students (2% or less).

TABLE 2.12   DISTRIBUTION OF STUDENTS ENROLLED AT HIGHER EDUCATION INSTITUTIONS, BY STUDY PROGRAMME

Field of study at higher education institution	Share of total enrolments in higher education
Medicine	11
ICT	9
Law	8
Management and administration	7
Finance, banking and insurance	6
Military and defence	4
Economics	4

Source: Tracer study 2016.

2.11 Overall satisfaction with the questionnaire

Lastly, the respondents were asked to state their level of satisfaction with the questionnaire. This can be assessed as relatively good (see **TABLE 2.13**). For 83% of respondents, the questions were clear (respondents answered with options 4 and 5 – very good); for 78%, the questions were relevant; 76% believed that the questions related to the labour market situation were very informative; and 73% considered the length of the questionnaire to be good.

TABLE 2.13   SATISFACTION WITH THE QUESTIONNAIRE (IN %)

	1 (very bad)	2	3	4	5 (very good)	NA	Average	Number of respond-ents
Length of the questionnaire	2	3	16	37	36	5	4.0	1 168
Clearness of the questions	1	2	10	32	51	5	4.4	1 170
Relevance of the questions to improving the VET/HE programme	0	1	15	35	43	5	4.3	1 171
Relevance of the questions to providing information about the labour market situation of graduates	1	2	16	36	40	6	4.2	1 159

Source: Tracer study 2016.

3. TRACER STUDY FINDINGS: HIGHER EDUCATION GRADUATES

3.1 Characteristics of higher education graduates and general study information

The sample for this study consisted of 1 718 graduates of higher education (HE) institutions, who were engaged in undergraduate, master's or PhD studies[16]. Females were more represented in the sample of higher education graduates who responded to the survey, with a share of 54%. About 40% of respondents were male, and some 6% did not provide an answer. A similar gender structure of higher education graduates applies for the overall population of graduates, which shows that 57% of the 2015 cohort of graduates were females.

Two-thirds of the graduates (70%) were ethnic Macedonians (**FIGURE 3.1**). One-fifth were ethnic Albanian. However, a large number (6%) did not provide an answer to this question. Most respondents (35%) were from the Skopje region (the capital city), 11% from Polog and 10% from each of the following regions: Pelagonia, Southwestern and Eastern region **(FIGURE 3.2)**.

FIGURE 3.1 **NATIONALITY OF RESPONDENTS (AS % OF RESPONDENTS)**
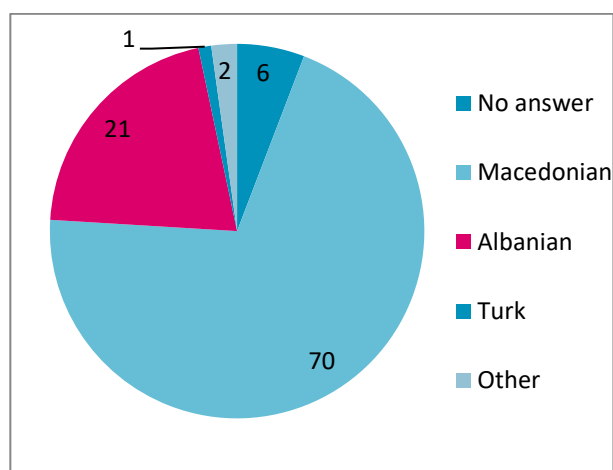
FIGURE 3.2 **DISTRIBUTION OF RESPONDENTS BY REGION (NUTS-3 REGIONS) (AS % OF RESPONDENTS)**
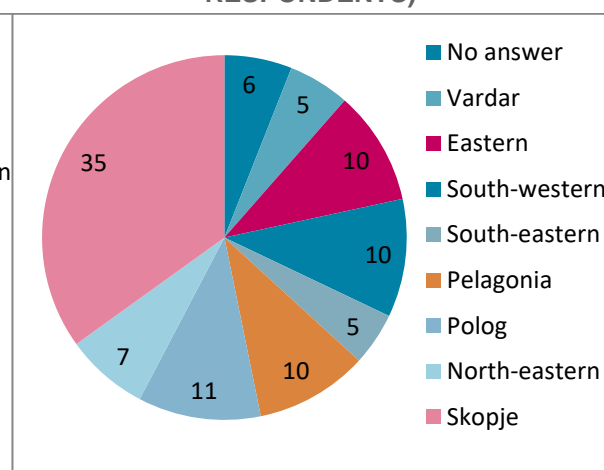
Source: Tracer study 2016.

Source: Tracer study 2016.

Completed secondary education is the most frequent level of education of the parents of higher education graduates. For 48% of higher education graduates, the highest completed level of education of their fathers is secondary education, followed by 24% of fathers who completed a university degree (bachelor's degree) and 10% who completed primary education or less (**FIGURE 3.3**). The mothers of a majority of higher education graduates completed secondary education (48%). This is followed by 20% who have a bachelor's degree and 16% who completed primary education or less (**FIGURE 3.4**). Compared to the education of the parents of VET graduates, the education of the parents of higher education graduates is on average higher.

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[16] As previously stated, the population for the study is the cohort of graduates of higher education institutions who graduated in the 2014/15 academic year, including undergraduate, master's and PhD graduates. However, very little information was collected from master's and PhD graduates.

| FIGURE 3.3 | FATHERS' LEVEL OF EDUCATION | FIGURE 3.4 | MOTHERS' LEVEL OF EDUCATION |
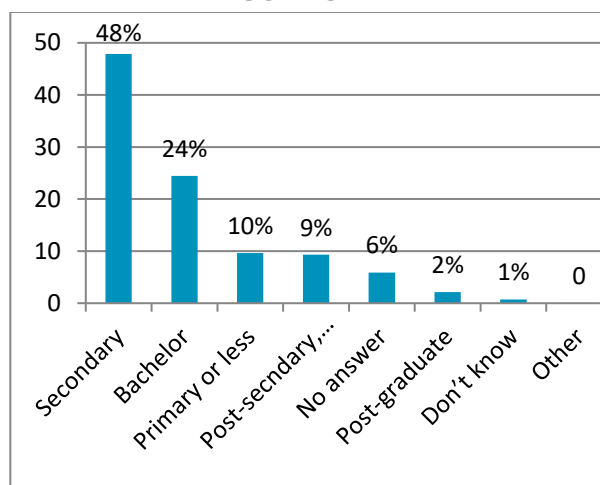
Source: Tracer study 2016.
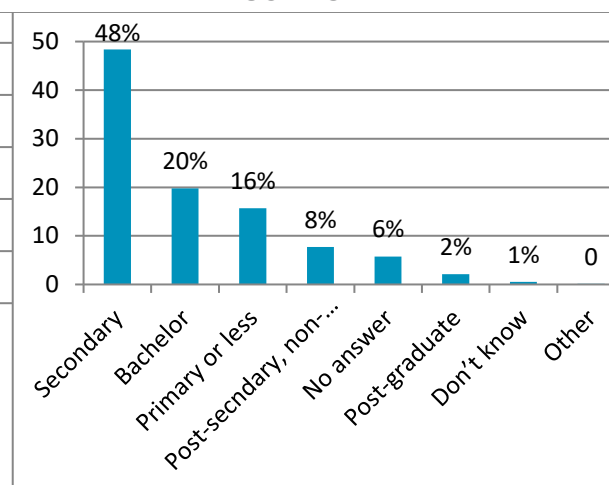
Source: Tracer study 2016.

Almost all respondents reported that they had graduated between September 2014 and September 2015, with the exception of 3% who did not provide an answer to this question. A small percentage (3% in total) of respondents either did not provide an answer to the next question on how many years their studies lasted (1% of all respondents), or answered that their studies lasted two years (2%). Of those who were enrolled in three-year study programmes, 86% completed their studies on time (studied for three years). The same holds for 71% of students who enrolled in four-year programmes. About 10% of higher education graduates had studied for six and seven years, which is indicative of late graduation as there are no six- or seven-year study programmes, or they were also considering their undergraduate and graduate studies in total.

A total of 8% of higher education graduates reported that they attended some vocational or post-secondary training course prior to enrolment in higher education. In the majority of cases (52%), this related to foreign language training; 9% attended training in accounting and finance and 8% had ICT training.

Among higher education graduates, 17% stated that they had worked before commencing their studies. Of those, 60% worked for more than four years (see **FIGURE 3.5**).

FIGURE 3.5   WORK EXPERIENCE PRIOR TO STUDIES (SHARE OF STUDENTS WHO WERE EMPLOYED)
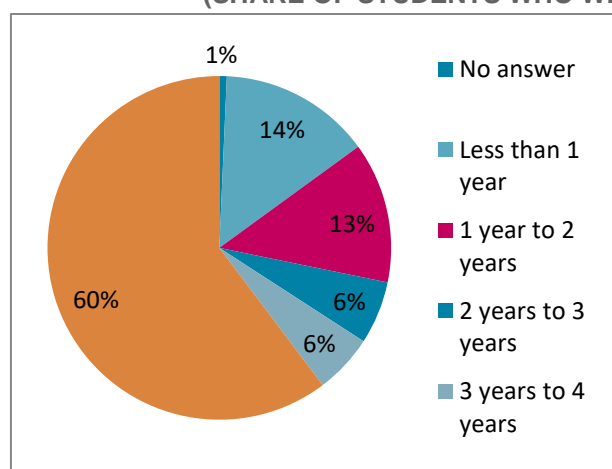
Source: Tracer study 2016.

Business, administration and law were the main areas of study for higher education graduates and 34% of them graduated from such programmes. This was followed by arts and humanities (9%), health and welfare (9%), social sciences, journalism and information (9%), ICT (8%), and services (7%). (see **TABLE 3.1**). The table also provides information on gender differences in the study programmes. These differences are not large, at least compared to the differences that existed among VET graduates. Males are more inclined to study ICT, engineering, agriculture and services, whereas females are more represented in the natural sciences, health and welfare and business, administration and law.

TABLE 3.1   DISTRIBUTION OF HIGHER EDUCATION GRADUATES BY STUDY PROGRAMME (IN %)

Study programme	All	Males	Females
Education	1	1	1
Arts and humanities	9	8	10
Social sciences, journalism and information	9	8	10
Business, administration and law	34	32	35
Natural sciences, mathematics and statistics	6	5	8
ICT	8	11	5
Engineering, manufacturing and construction	4	5	3
Agriculture, forestry and veterinary	3	4	2
Health and welfare	9	6	11
Services	7	9	6
N/A	10	12	7
Total	100	100	100

Source: Tracer study 2016.

There is a relatively large variation among higher education graduates in terms of the hours spent on classes per week. In response to the question, 24% reported that they had 20 to 29 hours of classes per week, 21% had less than 10 hours and 20% had 11 to 19 hours (**FIGURE 3.6**). A majority of students (53%) studied for up to 10 hours outside of regular classes, per week. An additional 19% studied for 11 to 19 hours per week outside of regular classes (see **FIGURE 3.7**).

FIGURE 3.6   AVERAGE HOURS PER WEEK ATTENDING COURSES/ CLASSES
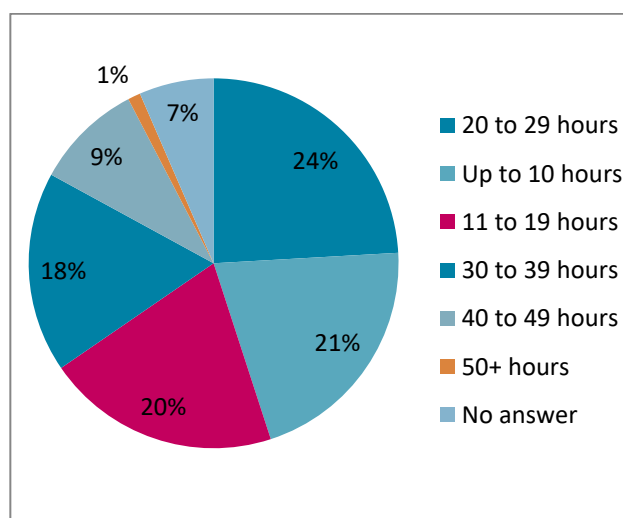
FIGURE 3.7   AVERAGE HOURS PER WEEK ON STUDY ACTIVITIES OUTSIDE COURSES/CLASSES

Source: Tracer study 2016.
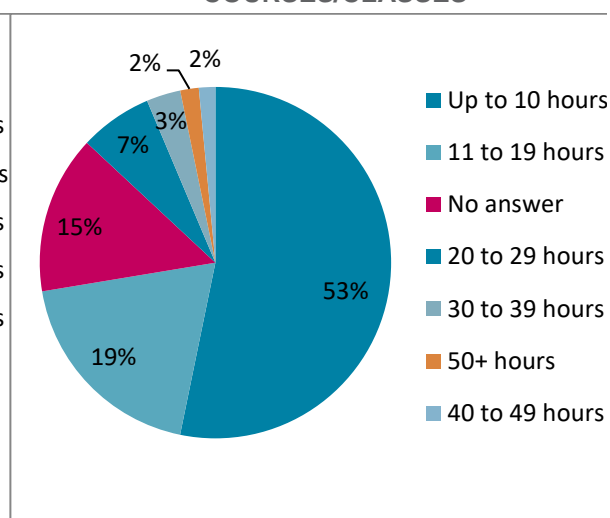
Source: Tracer study 2016.

3.2 Internship and work experience while studying

When asked about internships, only 70% of higher education graduates stated that they had been involved in an internship during the course of their studies, despite the legislative requirement that every higher education student attends at least one internship in each year of their study[17]. This leaves a large proportion of higher education graduates who did not acquire any practical skills during their studies.

Of those students who undertook an internship, most were engaged in three mandatory internships (31%) (see **FIGURE 3.8**). A quarter took up one internship, 23% took up two internships and one-fifth of the graduates took up four or more internships. Of the students who were involved in an internship, 60% also took up some kind of voluntary internship. In most cases, they were engaged in one voluntary internship.

FIGURE 3.8   NUMBER OF INTERNSHIPS WHILE STUDYING (IN %)
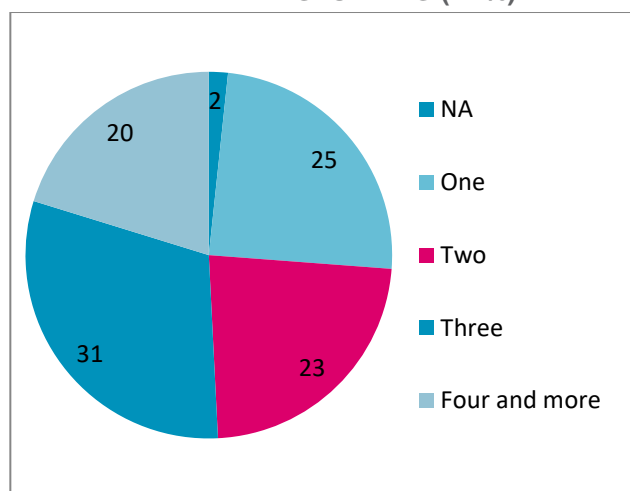
Source: Tracer study 2016.

FIGURE 3.9   AVERAGE DURATION OF INTERNSHIPS (IN MONTHS) (%)
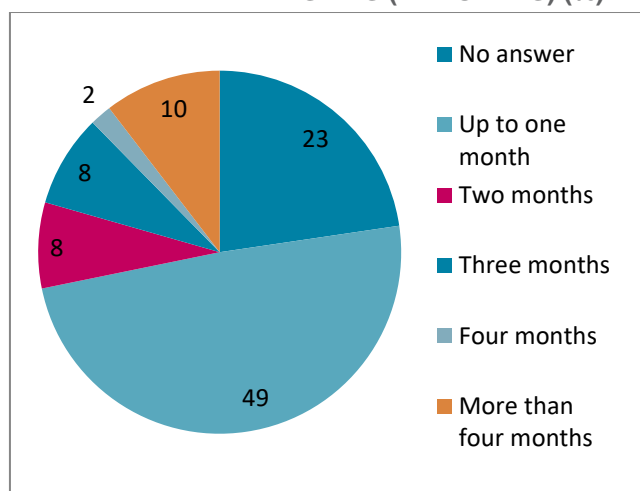
Source: Tracer study 2016.

For most respondents, an internship lasted one month (for 49% of higher education graduates) and for 10% of them it lasted more than four months (see **FIGURE 3.9**). Equal shares (8%) of higher education graduates were engaged in an internship for two or three months. However, a large number of respondents (23%) did not provide an answer to this question.

One-fifth of higher education graduates reported that they had worked while studying. In most cases (74%), they were employed for more than 24 months during the course of their studies.

3.3 Study conditions and study provisions at higher education institutions

This section presents the opinions and perceptions of higher education graduates on the quality of the study conditions and provisions during their studies at higher education institutions. **TABLE 3.2** presents the views related to some aspects of the study conditions. The average grade for each study condition is above 3.4, which is relatively good. The most positive aspect of the study conditions as reported by higher education graduates was contact with fellow students: 77% of students assessed this study condition as either good or very good (an average of 4.3). The other conditions that were rated highly were: the opportunity to consult with teaching staff (73%), the teaching quality of the lecturers (70% of students rated it as good or very good) and the quality of classroom learning (a positive assessment by 69% of respondents). On the other hand, the following aspects of the study

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[17] This obligation was introduced in 2012.

conditions were assessed most negatively: student recreational facilities on campus and the chance to influence the higher education institution's policies. Although there is some overlap between the top study conditions between VET and higher education graduates, the views of higher education graduates are generally less positive.

TABLE 3.2   HIGHER EDUCATION GRADUATES' OPINION OF STUDY CONDITIONS (% OF STUDENTS CHOOSING A PARTICULAR OPTION)

Study conditions	1 (very bad)	2	3	4	5 (very good)	NA	Average	Number of respond- ents
Quality of classroom learning	2	6	22	33	36	1	4.0	1 698
Student recreational facilities on campus	13	11	23	24	26	4	3.4	1 657
Supply of learning materials (e.g. books, internet access)	3	10	23	27	35	1	3.8	1 694
Opportunity to consult with teaching staff	1	6	18	27	46	2	4.1	1 687
Teaching quality of lecturers	1	6	21	32	38	3	4.0	1 675
Teaching/grading system	2	6	21	33	35	2	3.9	1 684
Internship programme	7	11	21	27	29	5	3.6	1 629
Contact with fellow students	1	4	15	24	53	3	4.3	1 675
Chance for students to influence HE institution's policies	8	14	30	25	20	3	3.4	1 665
Availability of technical equipment	6	11	25	28	28	3	3.6	1 662
Quality of technical equipment	5	12	26	28	26	3	3.6	1 662
Supply of teaching materials	3	11	23	29	33	2	3.8	1 677
Quality of buildings	3	11	23	29	33	2	3.8	1 681
Library resources	5	11	20	29	32	3	3.7	1 674

NA: no answer.
Source: Tracer study 2016.

Higher education graduates also provided their opinions and perceptions on several elements related to some aspects of study provisions. As **TABLE 3.3** shows, the views of higher education graduates were most positive about the professional advice and guidance provided by the teaching staff (positively assessed by 68% of respondents) and the practical experience of the teaching staff (assessed as either good or very good by 73% of respondents). On the other hand, the least positive views were expressed about employment and job search support, practice-oriented teaching and support for internships.

TABLE 3.3   **HIGHER EDUCATION GRADUATES' OPINIONS ON STUDY PROVISIONS (% OF RESPONDENTS)**

	1 (very bad)	2	3	4	5 (very good)	NA	Average	Number of respond-ents
Professional advice and guidance provided by teaching staff	5	8	18	36	31	1	3.8	1 693
Individual occupational advice in your field	5	9	21	32	32	1	3.8	1 693
Support for practice/internship search	8	11	23	27	26	4	3.5	1 645
Practice/internship-oriented teaching content	9	11	23	26	25	5	3.5	1 630
Practical experience of teaching staff	5	8	19	31	35	3	3.9	1 673
Mandatory practice/internships	7	9	21	28	29	5	3.7	1 625
Employment/job search support	16	17	21	24	20	3	3.2	1 673
Preparation for work	10	12	20	29	26	2	3.5	1 679

NA: no answer.
Source: Tracer study 2016.

3.4 Competences and satisfaction with the study programme

Higher education graduates were generally satisfied with the skills and competences that they acquired during the course of their studies. The average assessment for each of the eight skills or competences that the graduates acquired is close to 4 (where 5 means that skills were acquired to a very high extent). On average, the graduates believe that they acquired a high mastery of their own field or subject of study (positively assessed by 84% of graduates), but also of all other skills or competences (see **TABLE 3.4**).

Higher education graduates show a high level of satisfaction with their studies (see **TABLE 3.5**). Overall, 79% stated that they were satisfied or very satisfied with their studies in general (an average grade of 4.3 reflecting a high to very high satisfaction level). Only 5% felt dissatisfied with their studies. Almost four-fifths (79%) of respondents stated that they would choose the same field of study or training if they had to choose again (they responded as either likely or very likely) and 76% reported that they would choose the same higher education institution.

TABLE 3.4 ACQUISITION OF SKILLS AND/OR COMPETENCES BY HIGHER EDUCATION GRADUATES (IN %)

	1 (not at all)	2	3	4	5 (very high extent)	NA	Average	Number of respond-ents
Mastery of my field/subject-specific knowledge	0	2	12	42	43	2	4.3	1 682
Ability to develop new ideas and solutions	0	2	12	37	46	2	4.3	1 684
Ability to adapt to changing conditions	0	3	12	32	50	3	4.3	1 675
Analytical thinking	0	2	14	35	46	3	4.3	1 675
Ability to organise my work processes efficiently	1	2	13	32	51	3	4.3	1 675
Ability to work efficiently towards a goal	1	3	11	30	53	2	4.4	1 677
Ability to work in a team	0	3	11	24	60	2	4.4	1 678

NA: no answer.
Source: Tracer study 2016.

TABLE 3.5 SATISFACTION OF HIGHER EDUCATION STUDENTS WITH THEIR STUDIES (AS % OF STUDENTS)

Looking back, ...	1 (not at all likely/ satisfied)	2	3	4	5 (very likely/ very satisfied)	NA	Average	Number of respond-ents
How likely would you be to choose the same field of study/training?	5	4	10	20	59	1	4.2	1 694
How likely would you be to choose the same HE institution?	6	5	11	20	56	2	4.2	1 682
How satisfied are you with your studies in general?	1	4	14	29	50	2	4.3	1 690

Source: Tracer study 2016.
NA: no answer.

3.5 Experience after graduation

This section provides information on the status and labour market activity of higher education graduates shortly after graduation, i.e. six months after they completed their studies. As **FIGURE 3.10** shows, 43% of graduates found a job within six months of graduating. Almost one-third (30%) claimed to be unemployed (they did not have a job and were searching for one) and 15% were continuing their education. A small number of graduates were engaged in an internship (5%) and 4% had a part-time job.

FIGURE 3.10 **STATUS OF HIGHER EDUCATION GRADUATES SIX MONTHS AFTER GRADUATION (IN %)**
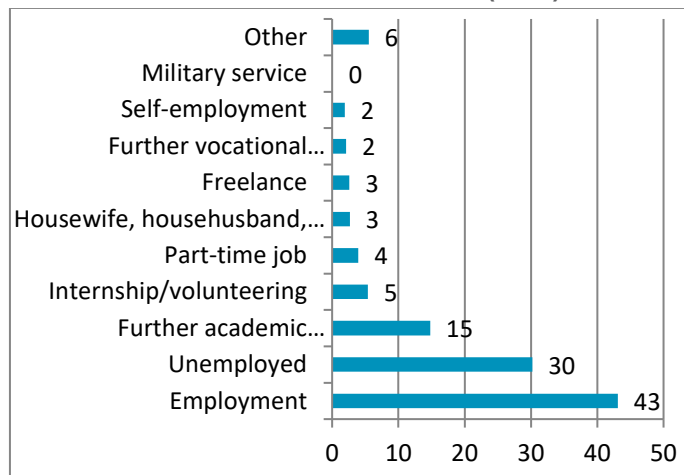
Source: Tracer study 2016.

FIGURE 3.11 shows the main labour market indicators for the higher education graduates six months after graduation. As it shows, 73% of higher education graduates were active in the labour market, either as employed or unemployed. Half of the respondents were employed and the unemployment rate was 41%[18].

FIGURE 3.11 **LABOUR MARKET INDICATORS SIX MONTHS AFTER GRADUATION**
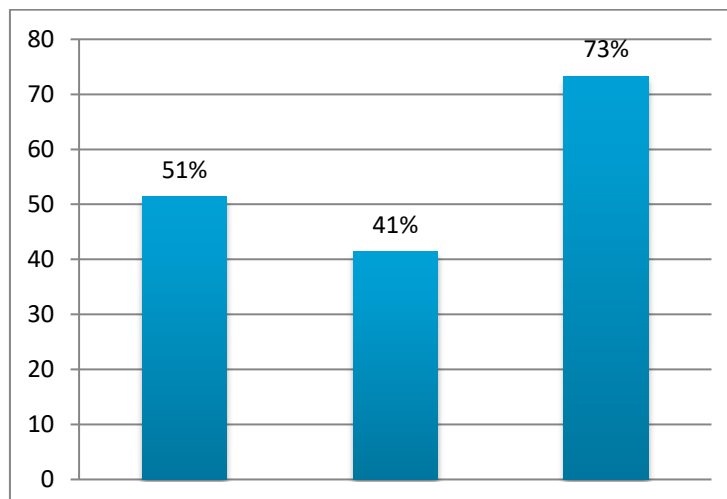
Source: Tracer study 2016.

About 31% of respondents stated they had never held a job since graduating. Of all the higher education graduates, 79% reported that they were searching for a job after graduation. Data was collected regarding the most widely used job search methods. Those students who searched for a job mainly applied to job advertisements (reported by 47% of higher education graduates), relied on the help of their family contacts (parents and relatives) (33%) or used the personal contacts of friends, fellow students (18%) and others. Only 8% used the public employment service as a job search method.

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[18] The employment rate is calculated as the sum of those who are employed, self-employed, engaged in freelance work and part-time work, as a share of all higher education graduates. The activity rate is calculated as the sum of all employed and unemployed individuals (i.e. active young people) divided by all higher education graduates. The unemployment rate is obtained by dividing the number of unemployed individuals by all individuals currently in the active population.

TABLE 3.6 shows the pathways followed by higher education graduates six months after graduation, by study programme. This can be considered an indirect way to assess the effectiveness of different study programmes in placing graduates in jobs. Based on this data, we can conclude that ICT and health and welfare are the most rewarding study programmes. For instance, 58% of ICT graduates were employed six months after completing their studies, and 20% were unemployed. However, 19% of them continued their studies. Graduates of medicine and health-related subjects exhibit similar results. It seems that the worst results are achieved by graduates in the social sciences, journalism and information, engineering, manufacturing and construction. For these graduates, employment rates are low and unemployment is high, although large numbers of them continued their education.

TABLE 3.6   PATHWAYS FOLLOWED BY HIGHER EDUCATION GRADUATES SIX MONTHS AFTER GRADUATION

Main field of study	Employed	Self-employed	Freelance	Part-time job	Internship	Further HE	Further VET	House-wife	Unem-ployed
Education	38	0	0	0	0	14	0	5	43
Arts and humanities	41	5	1	4	3	16	2	4	33
Social sciences, journalism and information	30	5	1	5	5	18	3	12	34
Business, administration and law	36	1	2	4	6	19	2	2	32
Natural sciences, mathematics and statistics	42	1	6	6	5	9	2	5	36
ICT	58	3	4	1	7	19	3	1	20
Engineering, manufacturing and construction	35	3	6	6	6	17	0	0	35
Agriculture, forestry and veterinary	49	0	2	2	10	4	0	0	37
Health and welfare	59	1	3	3	8	4	3	1	24
Services	57	1	0	4	1	8	1	2	21

Source: Tracer study 2016.

In most cases (43% of higher education graduates), the job search activity started after graduation and in 16% of cases it started around the time of graduation (**FIGURE 3.12**). However, a quarter of the students were already engaged in searching for a job during their studies. **FIGURE 3.13** shows how long it took before finding a first job. higher education graduates seem to have different experiences in finding their first job: some manage to find their first job quite quickly (22% found their first job in less than a month after graduation) and some struggled with finding their first job (for 17% it took more than a year). A large percentage of students (21%) did not provide information on the length of their job search.

The most successful method for finding a first job, as reported by 59% of higher education graduates who searched for a job, was by replying to job announcements. Family contacts helped 16% of graduates find a job and 4% used the personal contacts of friends, fellow students and others. The use of other job search channels brought very little success in finding a job.

FIGURE 3.12 WHEN DID THE JOB SEARCH ACTIVITY START?
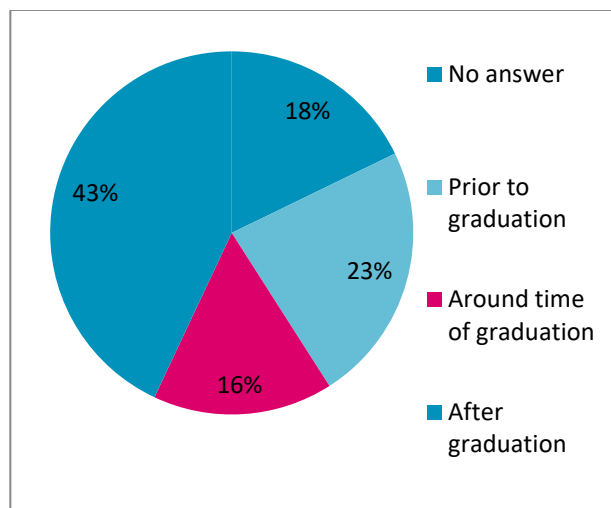
Source: Tracer study 2016.

FIGURE 3.13 TIME TAKEN TO FIND FIRST JOB (AS % OF RESPONDENTS)
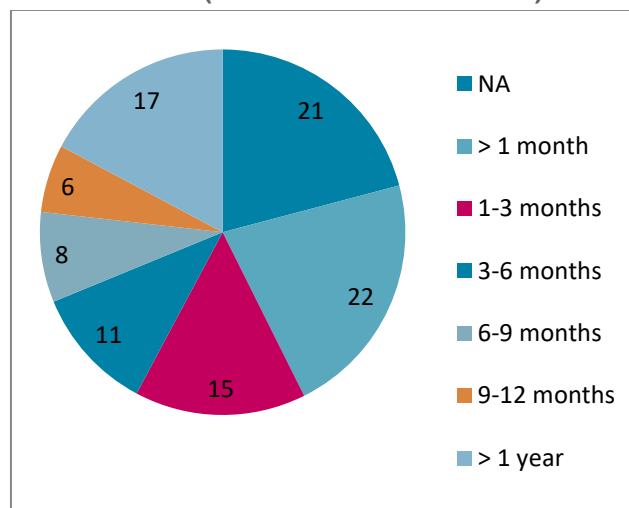
Source: Tracer study 2016.

FIGURE 3.14 NUMBER OF EMPLOYERS CONTACTED IN GETTING A FIRST JOB (IN %)
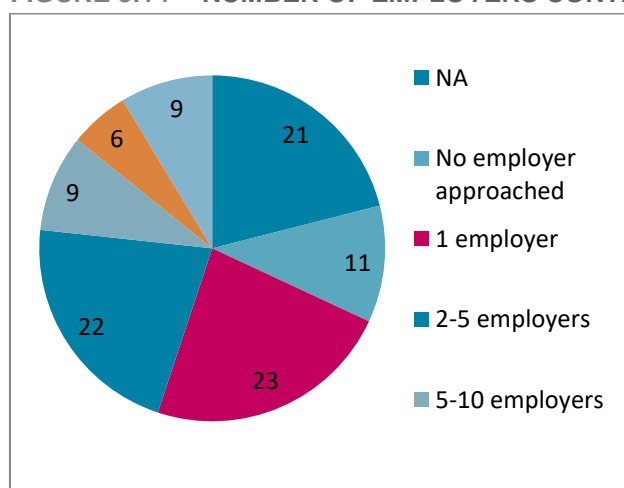
NA: no answer.
Source: Tracer study 2016.

Of those higher education graduates who contacted employers, 41% were invited to an interview by one employer, 26% did not receive any invitation and 8% received a call for interview from two to five employers. A large percentage of students who searched for a job (25%) did not answer this question.

For the 21% of higher education graduates who were not searching for a job after graduation, the main reason for this was that they were continuing their education (for 36% of those graduates). In 13% of cases, the graduates continued the job that they had held prior to graduation. However, a large majority (49%) responded by stating 'other' as the main reason.

3.6 Current employment status

This section analyses data related to the current situation of the cohort of 2014/15 higher education graduates[19]. Slightly less than half of the higher education graduates (48%) were employed at the time of the interview (see **FIGURE 3.15**). This shows that employment increased slightly after the initial

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period after graduation when 43% of graduates were employed (six months after graduation). A total of 29% of graduates stated that they were unemployed and 12% were engaged in further education.

A large majority of higher education graduates (88%) did not have any experience related to study or employment abroad. A small number (5%) stated that they had worked abroad since their graduation and 2% had studied abroad. The remaining graduates did not provide an answer to this question.

FIGURE 3.15   CURRENT EMPLOYMENT STATUS (% OF RESPONDENTS)
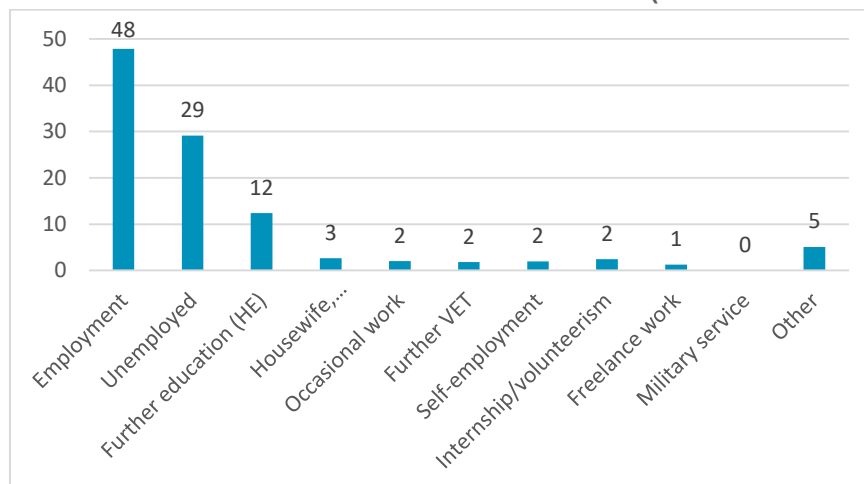
Source: Tracer study 2016.

A large percentage of the 2014/15 higher education graduates (38%) had not managed to find a job by the date of the interview (see **FIGURE 3.16**). Another 40% held only one job and 11% held two jobs. A small number of all higher education graduates (6%) held three or more jobs.

FIGURE 3.16   TOTAL NUMBER OF JOBS HELD SINCE GRADUATION (AS % OF GRADUATES)
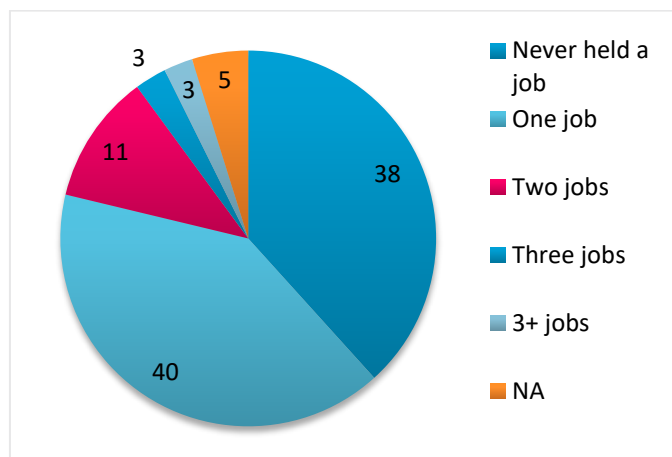
NA: no answer.
Source: Tracer study 2016.

Of the currently employed graduates, 60% work 31 to 40 hours per week, which matches the regular, 40-hour working week stipulated by national legislation (**FIGURE 3.17**). On the other hand, 31% work longer hours, between 41 and 50 hours per week.

Of those who were employed, 63% stated that they are in permanent employment and 26% reported that they do not have permanent employment. This question was not applicable for 10% of respondents as they were self-employed. The remaining respondents did not answer this question.

FIGURE 3.17   NUMBER OF HOURS WORKED PER WEEK (% OF STUDENTS CHOOSING THE OPTION)
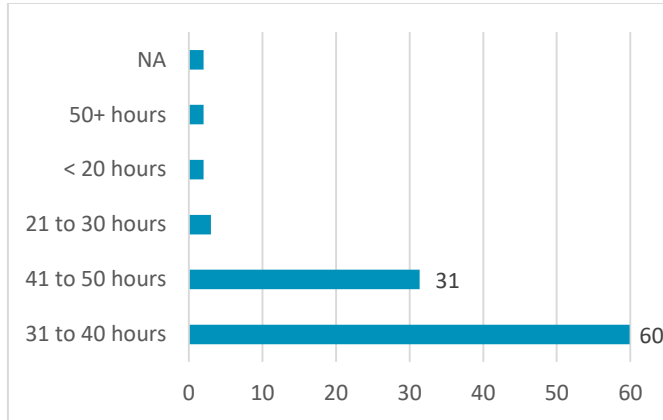
NA: no answer.
Source: Tracer study 2016.

In general, the school-to-work transition seems to be relatively fast, as 66% of higher education graduates managed to find their current job in less than six months (**FIGURE 3.18**). This is contrary to some other studies, which show a long period of transition from school to work for young Macedonians (Mojsoska-Blazhevski, 2016). As **FIGURE 3.19** shows, 41% of employed higher education graduates were in their current job for over a year; 11% were in the job for between 9 and 12 months.

FIGURE 3.18   TIME TAKEN TO FIND CURRENT JOB AFTER COMPLETION OF STUDIES
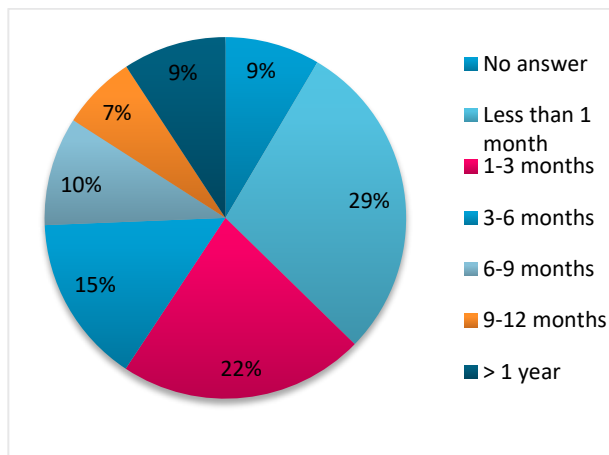
Source: Tracer study 2016.

FIGURE 3.19   LENGTH OF TIME IN CURRENT JOB (IN %)
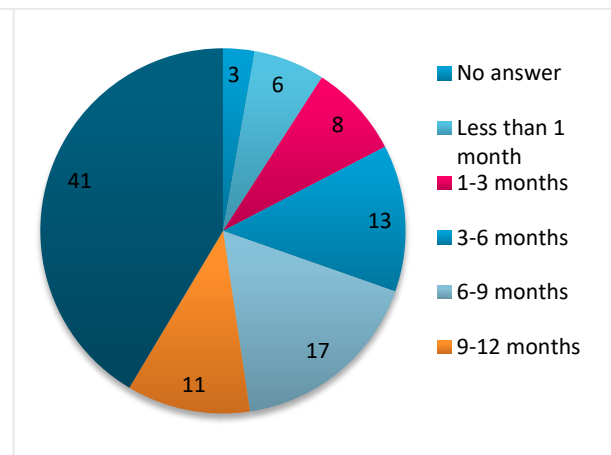
Source: Tracer study 2016.

Most employed higher education graduates (48%) are employed in the Skopje region, which is higher than the percentage of graduates from the Skopje region in the overall sample (35%). All other regions have fewer graduates working in them relative to the number of graduates who actually live in these regions (see **FIGURE 3.20**). However, this may be because some young people commute daily to work in the Skopje region.

Almost two-thirds (62%) of the employed higher education graduates were working in the private sector at the time of the interview, whereas 33% were employed in public administration. A considerably higher proportion of higher education graduates work for the public sector relative to VET graduates, but that is to be expected as most jobs in public administration require tertiary education qualifications.

FIGURE 3.20   REGION OF EMPLOYMENT (% OF EMPLOYED GRADUATES)
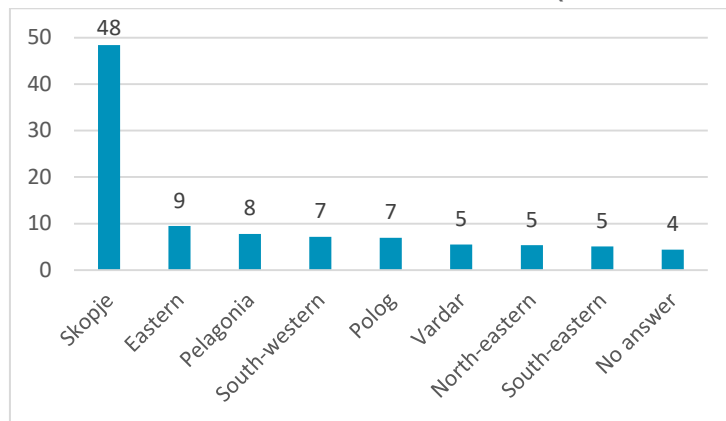
Source: Tracer study 2016.

As **FIGURE 3.21** shows, most employed higher education graduates (30%) stated that they received a monthly salary of between MKD 15 001 and 21 000 (approximately EUR 250 to 340). Another 15% of higher education graduates reported that they earned less than MKD 9 000, which is very low, and below the statutory minimum wage of MKD 10 080 in 2016 in net terms). However, as expected, wages among higher education graduates are in general higher than those of VET graduates.

FIGURE 3.21   SALARY AT CURRENT JOB (% OF GRADUATES)
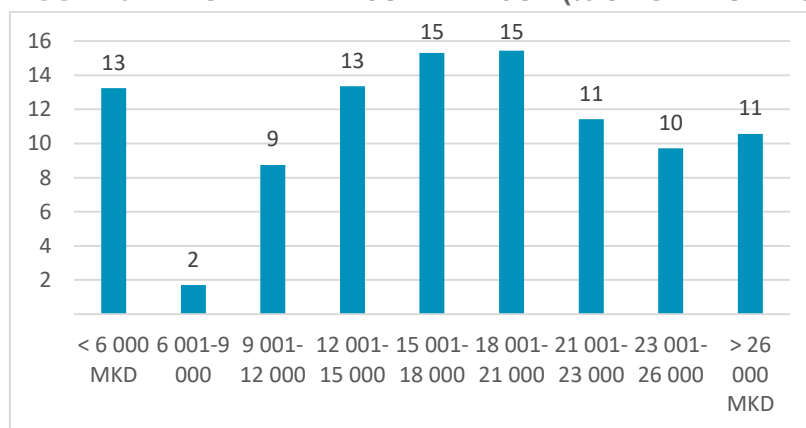
Source: Tracer study 2016.

Most employed higher education graduates (87%) receive health insurance at their current job. This implies that the remaining 13% are most likely working informally. Almost two-thirds (63%) are covered by pension insurance, although those employees who receive health insurance (if that is the indicator for formal job), should also be covered for pension and disability insurance. A small number of employed graduates (13%) receive a transport allowance and 5% receive some in-kind benefits for education and training.

Most higher education graduates are employed either in small companies (27% work in companies with 10 to 49 employees) or in micro companies (22% work in companies employing up to 9 workers). About 18% work in large companies with more than 250 employees (**FIGURE 3.22**). This breakdown according to company size is to be expected as the economy is dominated by micro and small firms, but the number of foreign direct investment (FDI) companies, which are larger in size, is also increasing.

FIGURE 3.22   EMPLOYMENT BY SIZE OF EMPLOYER (% OF GRADUATES)
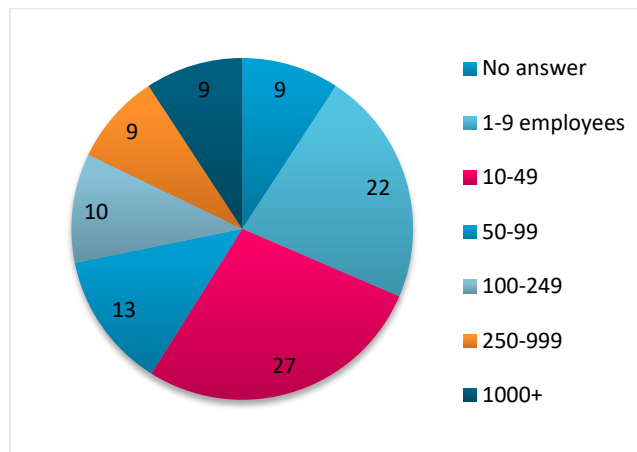
Source: Tracer study 2016.

3.7 Work requirements

Two-thirds of employed higher education graduates reported that the skills and knowledge they gained at the higher education institution are important or very important at their current job. However, 12% of graduates did not use these skills, nearly half of this group did not use them at all. The remaining students provided a neutral answer (answered with 3, on a scale of 1 to 5).

The most utilised and important skills or competences reported by employed higher education graduates are knowledge of the subject field and the ability to work in a team (84% reported that these skills are important or very important) (see **TABLE 3.7**). These skills are followed by the ability to work efficiently towards a goal and the ability to organise one's work processes efficiently (reported by 83% of employed higher education graduates). As with the VET graduates, the higher education graduates reported as least important their knowledge of foreign languages and IT skills. Similar results are obtained when looking at the average grade, which is above 4.1 for any specific skill or competence, although the average overall grade is slightly lower at 3.9.

3.8 Relationship between study and employment

The following section provides some further insight into the extent of the match or mismatch between the education and job requirements of employed higher education graduates. Most employed higher education graduates (69%) believe that their current job requires the same or a related field of study as their own. Another 13% of respondents stated that the job requires completely different skills (i.e. a different field of study) which is a proxy for the horizontal mismatch. An additional 10% stated that the job does not require any specific skills. In terms of the vertical mismatch (whether the job requires the same level of education as the one possessed by the employee), the match is good in 57% of the cases (see **FIGURE 3.23**). One-fifth of employed higher education graduates reported that they are under-educated for the job they hold (the job requires a higher level than their own level of education) and 19% consider themselves to be over-educated (the job either requires a lower level of education or does not have any educational requirements).

TABLE 3.7   IMPORTANCE OF ACQUIRED SKILLS AND/OR COMPETENCES IN CURRENT EMPLOYMENT

	1 (not at all important)	2	3	4	5 (very important)	NA	Average	Number of respond-ents
Mastery of my field/subject-specific knowledge	1	2	10	34	50	3	4.3	801
Ability to develop new ideas and solutions	1	3	12	35	45	4	4.2	790
Ability to adapt to changing conditions	1	2	12	30	52	3	4.4	797
Analytical thinking	2	3	12	33	48	4	4.3	794
Willingness to question my ideas and others' ideas	1	3	13	30	49	4	4.3	787
Ability to work efficiently towards a goal	1	2	10	27	56	4	4.4	788
Ability to organise my work processes efficiently	1	2	10	26	58	4	4.4	790
Ability to work productively with others/teamwork	1	2	9	25	59	4	4.5	791
Ability to perform well under pressure	1	5	14	29	47	4	4.2	789
Planning skills	1	3	10	30	51	4	4.3	789
IT/computer skills	3	5	14	32	43	3	4.1	797
Foreign languages	3	4	17	30	42	4	4.1	791
Overall	5	7	15	35	32	6	3.9	776

NA: no answer.

Source: Tracer study 2016.

FIGURE 3.23   VERTICAL MATCHING BETWEEN LEVEL OF EDUCATION AND JOB REQUIREMENTS
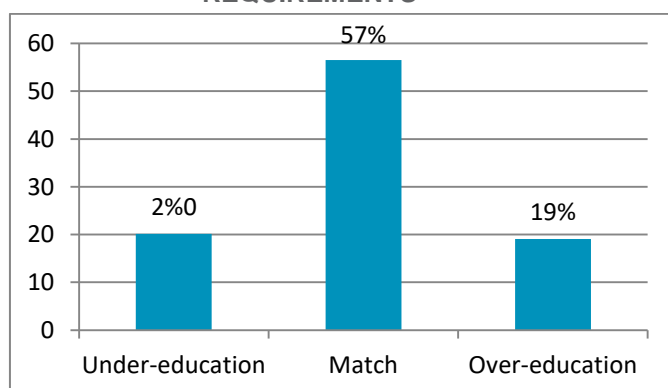
Source: Tracer study 2016.

A previous study (Mojsoska-Blazevski and Bartlett, 2016) finds that about one-third of higher education graduates have a qualification in a field of study that is not well matched to the requirements

of their job (horizontal mismatch), whereas one-third of employed graduates are over-educated – and one-fifth under-educated – for the job they are in (vertical mismatch).

Most respondents (70%) stated that their professional position is appropriate to their course of study either to a high or very high extent. For 15% of them, the position is not appropriate at all.

Graduates who reported that their job does not match their course of study were asked why they still chose to accept that particular job. In most cases (13% of respondents), they consider their current job as a stepping stone to a more appropriate job (see Error! Not a valid bookmark self-reference.**3.8**). Not being able to find a more appropriate job was the reason given by 10% of respondents, while some chose the job due to a higher salary (7%) or greater security (6%).

TABLE 3.8   REASONS FOR ACCEPTING AN INAPPROPRIATE JOB

If your job is not closely related to your course of study, why did you choose this job?	In %
My current job is only a temporary stepping stone	13
I have not found an appropriate job (yet)	10
I receive a higher salary in my current job	7
It offers more security	6
My interests have changed	3
My current job allows a flexible time schedule	2
It is based on geographical location	2
It allows me to take into consideration the interests of my family/children	2
Other	6

Source: Tracer study 2016.

TABLE 3.9 shows the perceptions of employed higher education graduates regarding the usefulness of their studies as assessed by several criteria. More than three-quarters (76%) of respondents believe that their studies were useful or very useful for their professional development or career and for their personal development. A large percentage (73%) found the studies useful or very useful in finding a suitable job.

TABLE 3.9   USEFULNESS OF STUDIES (IN %)

Usefulness of your studies	1 (not at all useful)	2	3	4	5 (very useful)	NA	Aver-age	Number of respond-ents
For finding a suitable job after finishing your studies?	3	4	14	32	41	6	4.1	777
For performing your present professional tasks, if applicable?	2	4	14	30	41	8	4.1	756
For your future professional development/career?	2	4	13	31	45	6	4.2	774
For the development of your personality?	2	4	13	30	46	6	4.2	776
For the economic development of your country?	4	6	17	32	34	7	3.9	767

NA: no answer.
Source: Tracer study 2016.

3.9 Work orientation and job satisfaction

Despite the relatively large mismatch between the graduates' skills and the requirements of their jobs, a large proportion of them (76%) were satisfied or very satisfied with their job (average grade of 4.2 on a scale of 1 to 5) (see Error! Not a valid bookmark self-reference.**3.10**). Respondents gave mostly positive answers (either satisfied or highly satisfied) to the following aspects: opportunity to apply acquired competences at their current job, clear and regulated work tasks and a good work atmosphere. On the other hand, they were least satisfied with the salary and with the opportunity to have a social influence.

TABLE 3.10   SATISFACTION WITH CURRENT JOB

	1 (not at all satis-fied)	2	3	4	5 (very satis-fied)	NA	Aver-age	Number of respond-ents
Opportunity to implement own ideas	2	5	15	38	34	6	4.0	774
High salary	4	7	20	35	27	7	3.8	764
Interesting work tasks	2	4	18	33	38	6	4.1	773
Clear and regulated work tasks	1	4	15	28	46	6	4.2	776
Opportunity to apply acquired competences	1	3	14	32	44	6	4.2	772
Job security	1	5	15	34	39	6	4.1	775
Social status and recognition	1	4	18	34	36	6	4.1	770
Good work atmosphere	1	3	14	31	45	6	4.2	773
Opportunity for further professional advancement	3	4	15	31	40	6	4.1	771
Opportunity to have a social influence	3	7	19	33	31	7	3.9	756
Challenges	2	5	20	32	34	6	4.0	770
Opportunity to do something useful for the society	2	7	17	30	38	6	4.0	772
Good conditions for balancing work and private life	2	5	17	38	32	6	4.0	768
Sufficient time for leisure activities	3	6	19	37	28	7	3.9	784

NA: no answer.
Source: Tracer study 2016.

3.10 Further education after studying at higher education institution

One-fifth of higher education graduates reported that they started further education after completing their current level of studies. For 73%, their graduation in 2014/15 was the highest educational qualification that they had achieved; 6% did not answer the question. The main reasons behind continuing education were: a personal wish to improve their academic background, a wish to improve employment prospects and to improve their prospects of promotion with their employer.

Of the higher education graduates who continued their studies, 79% were still involved in education, 18% had completed their studies and 2% had ceased any further studies. As in the case of VET graduates, the higher education graduates who continued their studies reported that they enrolled in those further studies in the period between 2010 and 2012, which means that they misunderstood the questions (as they graduated from higher education in 2014/15).

A total of 21% of higher education graduates enrolled in further education at higher education institutions. Of these graduates, most continued their education in law (15%), management and administration (14%), finance and banking (10%) and ICT (8%). Only 6% of students who continued their studies were enrolled in foreign universities (mainly in Austria, Serbia and Canada).

A small percentage (9%) continued their education in some VET institutions. The main areas of further vocational education reported by respondents were ICT (for 10% of those who reported that they were continuing their education), management and administration (9%) and law (9%). The other areas accounted for very small percentages of students.

3.11 Evaluation of the questionnaire

Lastly, the respondents were asked to state their level of satisfaction with the questionnaire. This can be assessed as relatively good (see **TABLE 3.11**). For 82% of respondents, the questions were clear (respondents answered with options 4 and 5 – very good); for 79%, the questions were relevant to improving the higher education programme and 77% believed that the questions related to the labour market situation were very informative. Almost three-quarters (74%) of respondents considered the length of the questionnaire to be good.

TABLE 3.11   SATISFACTION WITH THE QUESTIONNAIRE (IN %)

	1 (very bad)	2	3	4	5 (very good)	NA	Average	Number of respondents
Length of the questionnaire	2	5	11	33	42	8	4.2	1 588
Clearness of the questions	1	2	9	29	53	8	4.4	1 588
Relevance of the questions to improving the higher education programme	1	2	11	32	47	7	4.3	1 591
Relevance of the questions to providing information about the labour market situation of graduates	1	2	11	31	47	8	4.3	1 580

Source: Tracer study 2016.

CONCLUSIONS AND RECOMMENDATIONS

This report presents the findings of the first nationwide tracer study conducted in 2016 in the former Yugoslav Republic of Macedonia. The study was conducted by the World Bank's project Skills Development and Innovation Support and the Ministry of Education and Science, with the support of the ETF. The initiative contributes to overall efforts to obtain more information on the supply of graduates and to improve matching between labour supply and demand. The tracer study aimed to supplement existing knowledge about the skills that graduates of secondary vocational schools (VET schools) and higher education institutions have to offer, and to learn about the experiences of the graduates in their transition from education to the world of work. It collected and analysed information on the labour market success of graduates, on the adequacy and quality of training and on many other aspects that can help to assess the market orientation of the educational and vocational training system.

What have we learned from this first tracer study? At a most aggregated level, the analysis shows that VET and higher education graduates are relatively satisfied with their learning experiences. Most complaints relate to equipment, sport activities and similar. In addition, there is relatively low satisfaction with the support services (for internship and/or employment) provided by the educational institutions. Although internships are mandatory by law, many VET and higher education graduates do not participate in any internships while studying. The transition from education to work does not seem to present a large problem for graduates, although many of them continue their education further. Employment experience varies for VET and higher education graduates in that VET graduates have more negative perceptions about their job, the use of skills they gained in the education system and the extent of the mismatch. Below we provide detailed findings for the two groups of respondents.

What are the main findings of this first tracer study?

Quality of education and in-school support to gain labour market-related skills

The study found that almost 68% of VET graduates and 66% of higher education graduates successfully transitioned from school to work and/or from school to higher education six months after their graduation. However, 23% of VET students were looking for a job but could not find one. Furthermore, the analysis also implied that some study programmes are more likely to lead VET and higher education graduates to further education (enrolment in university education) but other study programmes show high unemployment rates after graduation.

While the government has introduced measures for strengthening the cooperation between educational institutions and employers by developing curricula relevant to the needs of the labour market, there is still considerable room for improvement in this area. The same holds for the need to reinforce the support services provided by the VET and higher education institutions. Indeed, VET and higher education graduates reported that they are least satisfied with the support provided by HE institutions in relation to job searching, internships and practice-oriented teaching. Furthermore, both groups assessed their chances of influencing VET and higher education institutional policies as relatively poor.

VET and higher education graduates reported a high level of satisfaction with study conditions. However, among all categories of study conditions, the availability of teaching equipment in VET schools and student recreational facilities in higher education institutions were evaluated as poor.

Transition from education to the labour market

VET and higher education graduates face many challenges in their transition from education to the labour market, i.e. in finding an appropriate and stable job. While the government has introduced measures in recent years to assist graduates in obtaining work experience through internship programmes (either as part of the curriculum or after completion of formal education), the study shows that these efforts have not brought about the intended effect. In particular, despite the legislative requirement that all VET and higher education students attend mandatory internships during their studies, the study found that 37% of VET students and 30% of higher education graduates were not involved in any internship during the course of their studies, which leaves a large number of graduates who did not acquire any practical skills during their studies.

Graduates lack effective career guidance services that would provide them with accurate information on the labour market situation and on job opportunities. In the absence of effective career guidance, family and friends are the most important source of assistance in finding a job after graduation. Both VET and higher education graduates reported that they are least satisfied with the employment and job search support that they receive from the schools and higher education institutions. Moreover, the study confirms that applications to job announcements and informal job search channels (family and friends) are the most frequent methods for finding their first job. The effectiveness of other job search channels, in the form of the services of public and private employment agencies and career centres, was evaluated as negligible.

It is not very common for VET and higher education graduates to combine work and study or to look for a job while still in the education process. The study shows that the majority of VET and higher education students started their job search after graduation; a very small number started to search for a job prior to graduation and/or around the time of graduation. Once the graduates find a job, they show a relatively high level of satisfaction (true both for VET and higher education graduates) with the job. This is slightly contradictory to the finding that in about one-third of cases, there is a mismatch between the acquired skills or competences and those required for the job. Graduates reported that they mainly utilise the following skills or competences in their job: specific subject area knowledge, the ability to work efficiently towards a goal and the ability to organise work processes efficiently. The least utilised skills are foreign language and IT skills. In addition, the collected data shows that a relatively large number of employed VET and higher education graduates are not covered by pension insurance, signalling informal employment. Data on employment (e.g. hours worked, salary) generally shows that VET graduates have worse employment conditions than higher education graduates.

The research findings and conclusions set out above clearly demonstrate that actions are needed both on the part of VET and higher education institutions and on the part of government and the public employment service in order to achieve better education and labour market outcomes. Based on the findings, we suggest a range of policy measures that need to be implemented to improve prospects for graduates when they enter the labour market.

Policy recommendations

Recommendations for VET an higher education institutions

1. VET and higher education institutions should provide more information to potential applicants on the likely labour market demand for various study programmes. A better information flow to pupils (for instance, through information sessions in local schools) on employment rates for the different study programmes and the skills that are needed on the labour market would mitigate the risk of having VET and higher education graduates with qualifications and skills that are not in demand on the labour market.

2. There is a need to improve practice-oriented teaching at VET and higher education institutions. The educational institutions should organise capacity building sessions for professors to train them and encourage them to use participant-centred learning, case study methods, stimulation techniques and similar. Moreover, the institutions should establish student satisfaction surveys to evaluate the teaching staff and teaching methods (and other aspects of the operation of the institution) on a regular basis, and introduce specific policies for teachers or professors whose performance is assessed below a certain benchmark (e.g. teachers with a score of less than 70% on a scale of 0–100 should undertake training in teaching methods). Public disclosure of the average scores for the whole school and/or programme could also be beneficial to the students in making their schooling decisions.

3. VET institutions should continue to improve the technical equipment in the schools. Even though it is quite difficult to improve this aspect as it entails significant financial costs, some alternative could be used to rent specific equipment, contracts could be signed with employers to outsource practical classes or equipment could be procured jointly by several schools that have similar study programmes. In HE institutions, the availability of recreational facilities (which was assessed as very bad) could also be improved by signing contracts whereby the HE institution could rent sports and recreational facilities available in the country. This would not impose a great financial burden on the universities and would improve the provision of recreational services to students.

4. Links with employers should be strengthened to provide internships both at secondary school and university level so that students are provided with more relevant skills that will boost their employability. Continuous cooperation with the business community should be established at all levels. Students should also be motivated to undertake internships and the legislation should be strictly applied (for instance, students should not be allowed to enter a higher year of study if they did not undertake an internship in the previous academic year).

5. VET and higher education institutions should provide more adequate career guidance and counselling services to students to assist them in finding internships and jobs. The career centres in secondary schools and universities should be developed and strengthened to provide more and better information to students on internships and available jobs in their field of study. They should also offer various courses to better prepare the graduates to apply for jobs and/or internships. The career centres should also raise awareness among students about informal employment and their employment rights.

6. It is extremely important that the career centres offer job search services to students at least one year before graduation and continue to provide career guidance to graduates once they have found their first job and for up to one year after graduation.

7. Systems for tracing students after graduation should be established within the VET and higher education institutions, or, if they already exist, they should be strengthened further. The establishment of an alumni organisation is another efficient method for maintaining links with former graduates at secondary and university level. Alumni organisations are also good potential sources of internships and/or jobs for current students.

8. VET and higher education institutions should also consider the possibility of publishing the employment success rates of their graduates and use this indicator as a competitive factor to attract students.

Recommendations for public/private employment services

1. The public and private employment service providers could continue to improve their services and to try to reach out to more VET and higher education students. The establishment of a constant form of mutual cooperation between the Employment Service Agency (ESA) and the career centres within VET and higher education institutions could be beneficial as it would cut the costs of service provision for the career centres, provide better quality services and appeal to a wider audience. ESA could also increase the number of annual information sessions for students, covering active labour market programmes and other services they offer, at VET and higher education institutions.

Recommendations for government

1. The strengthening of the functions of the Skills Observatory within the Ministry of Education and Science is considered vital for the proper dissemination of information to students on the potential programmes offered at VET and higher education institutions, employment rates of the study programmes and the skills that are in demand on the labour market. The Observatory should start producing and disseminating information to the public (potential students and parents) about the skills in demand on the labour market and the successfulness of different programmes (such as employment rate and graduate wage). The Observatory may consider establishing online professional testing of the personal abilities of students, which could be a cost-effective way (in addition to ESA professional testing services) to help young people choose an appropriate study programme. Moreover, the Observatory could also support VET schools and higher education institutions by providing reliable information on labour market demand for graduates of different fields of study.

2. The Ministry of Education and Science should introduce awareness campaigns on a regular basis to provide more information to potential applicants on the likely labour market demand for various study programmes.

3. More and better cooperation between the educational institutions and the business community should be supported by establishing grant schemes or financial incentives for the intake of students in internship programmes or by establishing other administrative arrangements that will bring together the business community, educational institutions and local and regional government bodies to identify skills needs and take joint actions.

4. The Ministry of Education and Science should also continue its efforts to improve study conditions in the educational institutions by renewing equipment, procuring new equipment and establishing recreational and sports facilities where needed.

Finally, we would like to note that there are two general drawbacks of this study which necessitate a word of caution about the generalisation of the findings. The first one is related to the size of the samples of respondents, i.e. the cohorts of graduates, which range between 10 and 15% of the graduate population. In particular, despite the aim of the study to collect information on all graduates of VET and higher education institutions in the 2014/15 school or academic year (meaning that the target was the whole population of graduates), data was actually collected from a much smaller sample: between 10 and 15% of the population. Second, the format and type of some of the questions were ineffective in providing more useful information both for the students and for the policymakers. Hence, we suggest that these two issues are corrected in the next round of the tracer study in order to collect even more valuable information, which will provide strong evidence for policymakers in designing their education and employment policies. These methodological concerns also limit the

generalisability of our findings[20]. This is one of the reasons why the report does not provide individual information about the effectiveness of each VET or higher education institution. In this regard, we would like to add some additional recommendations related to the tracer study.

1. Raise awareness among the public about the need for and importance of carrying out tracer studies on a regular basis. A specific target group in this awareness campaign should be students. They should be informed that: i) such an exercise is performed each year, and ii) that they are one of the major beneficiaries of the findings of tracer studies.

2. Improve the awareness among VET and higher education institutions about the implementation of the tracer study, but also communicate clearly to them their role in conducting the tracer study.

3. The Ministry of Education and Science should support (through training sessions) the administrative staff at each VET school and higher education institution (preferably, school by school, not at university level) in learning how to effectively collect and update contact databases of students.

4. Amend the questionnaire used for the tracer study to take into consideration all issues that were found during this current analysis.

5. The Ministry of Education and Science should build a comparative database to monitor improvements in the relevance of education to the labour market.

6. Introduce an employer survey, which could be conducted every three years, to monitor if the satisfaction of employers with the skills offered by the VET and higher education graduates improves over time.

7. Once the tracer study becomes a regular, high-quality exercise, include the findings from the study as part of the quality assurance indicators for the VET and higher education institutions.

8. Consider expanding the tracer study to cover general secondary education.

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[20] Although we generally use the terms VET and higher education graduates, we refer to the respondents, which may not be a representative sample of the overall population of graduates (cohort of graduates).

ETF Working together Learning for life

ANNEXES

Annex 1. Methodologies behind the recent studies on graduates and their transition to the labour market

	School-to-work transition study	From university to employment	Tracer study
Sponsoring institution	International Labour Organisation	European Commission, Directorate-General for Education and Culture	Ministry of Education and Science, World Bank loan project, ETF
Target population	Young people aged 15 to 29	Graduates of higher education institutions (and employers hiring higher education graduates)	Graduates of VET secondary schools and universities
Methodology and sample	Data was collected using a standard, ILO-developed questionnaire, which is also implemented in other countries. The questionnaire was distributed to a representative sample of young people aged 15 to 29 regardless of whether they were still in education or had exited education. The size of the 2014 sample was 2 474 young people. Data was collected by the State Statistical Office.	Data was collected using three data collection tools: 1. a questionnaire which was specifically developed for this study (two questionnaires, one for graduates and one for employers); 2. semi-structured interviews with the management staff of the higher education institutions, ministries, employers' organisations, trade unions and non-governmental organisations; 3. a focus group with Erasmus Mundus alumni. It was administered online, through the contractor, the London School of Economics Institute. The choice of the sample was based on available contact details of graduates taken from the universities, i.e. convenient sampling. Data was collected from 442 graduates and 227 employers.	Data was collected using a standard tracer study questionnaire adopted to the country context. It was administered online, through a data collection agency, the Institute of Sociological, Political and Juridical Research. VET and higher education institutions were obliged to provide e-mail addresses for their graduates. The online survey was supplemented by a phone survey as the initial response rate was too low. In total, 2 953 responses were collected.

	School-to-work transition study	From university to employment	Tracer study
Main focus	The transition from education to labour market. Collects rich demographic information, although the main focus is the process of transition, its length and success factors for easy transition.	The skills offered by graduates and their (mis)match with the skills demanded by employers. The study also provided future projections on the demand for graduates, and assessed the extent of horizontal and vertical mismatch.	Supplement the current knowledge about the skills that graduates of VET schools and higher education institutions have to offer, and learn about their experiences while in education and in the process of transition to the world of work.
Importance for policy making	Learn how to ease and speed up the transition to the labour market, which is related both to education and employment policy.	Provide evidence on what can be done by policymakers and higher education institutions to support young people in getting appropriate, market-relevant knowledge and skills. Findings can be used for both education and employment policy making.	Learn about the experiences of VET and higher education graduates within the education system and the world of work, and assess the extent of (mis)match of skills and knowledge. Findings can be used for both education and employment policy making.
Major drawbacks	There are no significant drawbacks to this study, and its main strength comes from being based on a representative sample.	The use of convenient sampling in such a way that some universities or schools within the universities were not included in the study. This reduces the generalisability of the findings. However, the large sample size still adds significant value to the study.	Small sample size, especially compared to the initial plan to conduct the study on the total population of graduates (and not a sample). In addition, the questionnaire was lengthy and some questions could be modified and/or improved. Moreover, the survey shows a very positive assessment and results which may suggest that there is a bias in terms of responses (those who felt more positive about their experience in education or the labour market) were more likely to respond to the questionnaire.

Annex 2.   Graduate survey: the questionnaire

Macedonian Graduate Survey

Survey of 2014/15 graduates
(Master version)

Dear graduate,

As head of the research group, I kindly request your participation in a survey of graduates who completed their studies in the 2014/15 school/academic year.

We would like to find out what happened to you after you completed your studies. Did you find a job or are you still looking for a job, did your studies prepare you well for the workplace, and do you use the knowledge and skills that you learned during your studies?

The results of this survey will be published on the website of the Ministry of Education and Science (www.mon.gov.mk).

Please fill in the online questionnaire.

Thank you very much in advance for your cooperation.

Implementation team
Ministry of Education and Science

Explanatory notes

How long does it take to fill in the questionnaire?

You will need about half an hour.

How to answer the questions

Please answer all questions applicable to you. In some cases, you will note that the questionnaire suggests that you disregard some questions not applicable to you (e.g. → Please continue with question B7).

Please complete the questionnaire legibly.

Please mark the most appropriate answer like this → ⊠

Your help to improve the survey is welcome

This questionnaire is used in different VET and higher education (HE) institutions with a wide range of different fields of study. We could not take into consideration every specific detail of study and work that might be relevant for the survey. Therefore we would appreciate your comments and additional information.

Overview of the content of the questionnaire

A. Vocational education/training before studying at the VET/HE institution

B. Course of studies at the VET/HE institution

C. Practice and work experience while studying at the VET/HE institution

D. Evaluation of study conditions and study provisions at the VET/HE institution

E. Competences and satisfaction with the study programme

F. After graduation from the VET/HE institution

G. Employment and work

H. Work requirements

I. Relationship between study and employment

J. Work orientation and job satisfaction

K. Further education after studying at the VET/HE institution

L. Further vocational/professional training

M. Individual background

N. Migration and regional mobility

O. Further comments and recommendations

TH		Macedonian Graduate Survey 2014/15		TI01
N001		Project identification: MGS2016a		MGS2016a-TI01

SE	A	Vocational education/training received before studying at the VET/HE institution		SE01
N002				MGS2016a-SE01

CV	A1	At what type of institution did you complete your studies in 2014/15?		Q001
N003				MGS2016a-Q001
1	☐	VET		V001
2	☐	HE		
SU		Type of institution		

EX		*Please provide us with a few details about your vocational education/training and employment before studying at the VET/HE institution.*		EX01
N004				MGS2016a-EX01

CV	A2	Did you attend any vocational training/post-secondary school courses before studying at the VET/HE institution?		Q002
N005				MGS2016a-Q002
1	☐	Yes		V002
2	☐	No (*Please continue with question A4*)		
SU		Subject: Vocational training/post-secondary school courses before studying at the VET/HE institution		

TE	A3	Please specify the vocational training/post-secondary school courses you attended before studying at the VET/HE institution.		Q003
N006				MGS2016a-Q003
1				V003_TXT
FI		Filter:show_if variable="V002" value="1" ref="MGS2016a-Q002"		
FT		Only graduates who attended vocational training/post-secondary school courses before studying at the VET/HE institution		
SU		Subject: Kind of vocational training/post-secondary school courses before entering the VET/HE institution		

CV	A4	Were you employed before studying at the VET/HE institution?		Q004
N007				MGS2016a-Q004
1	☐	Yes		V004
2	☐	No (*Please continue with question B1*)		
SU		Subject: Employment before VET/HE education/training		

CV	A5	How long were you employed before studying at the VET/HE institution?	Q005
N008			MGS2016a-Q005
1	☐	Less than 1 year	V005
2	☐	1 year to 2 years	
3	☐	2 years to 3 years	
4	☐	3 years to 4 years	
5	☐	More than 4 years	
FI		Filter:show_if variable="V004" value="1" ref="MGS2016a-Q004"	
FT		Only graduates who were employed before studying at the VET/HE institution	
SU		Subject: Duration of employment before VET/HE education/training	

SE	B	Course of studies at the VET/HE institution	SE02
N009			MGS2016a-SE02

EX		*In this section, please refer in your answers only to the studies that you finished in the 2014/15 school/academic year at the VET/HE institution. If you acquired more than one degree at the VET/HE institution in that year, please refer to the degree (or course of studies) that is most important to you.*	EX02
N010			MGS2016a-EX02

CV	B1	At which VET institution did you complete your studies?	Q006
N011			MGS2016a-Q006
1	☐	VET Institution 01	V006
2	☐	VET Institution 02	
3	☐	VET Institution 03	
4	☐	VET Institution 04	
5	☐	VET Institution 05	
6	☐	VET Institution 06	
7	☐	VET Institution 07	
8	☐	VET Institution 08	
9	☐	VET Institution 09	
10	☐	VET Institution 10	
11	☐	VET Institution 11	
12	☐	VET Institution 12	
13	☐	VET Institution 13	
14	☐	VET Institution 14	
15	☐	VET Institution 15	
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68	☐	VET Institution 68	
69	☐	VET Institution 69	
70	☐	VET Institution 70	
71	☐	VET Institution 71	
72	☐	VET Institution 72	
FI		Filter:show_if variable="V001" value="1" ref="MGS2016a-Q001"	
SU		Subject: Name of the VET institution	

CV	B2	What was the name of the study programme at the VET institution?	Q007
N012			MGS2016a-Q007
1	☐	Textiles and leather	V007
2	☐	Health	
3	☐	Personal services	
4	☐	Law and economics	
5	☐	Agriculture and veterinary technician	
6	☐	Mechanics	
7	☐	Electronics	
8	☐	Textiles	
9	☐	Printmaking/graphic design	
10	☐	Geological mining and metallurgical fields	

11	☐	Civil engineering	
12	☐	Transportation technologies	
13	☐	Chemistry and technology	
14	☐	Hospitality and tourism	
15	☐	Forestry and wood processing	
16	☐	Car mechanics	
FI		Filter:show_if variable="V001" value="1" ref="MGS2016a-Q001"	
SU		Subject: Name of the study programme	

CV	B3	At which HE institution did you complete your studies?	Q008
N013			MGS2016a-Q008
1	☐	HE Institution 01	V008
2	☐	HE Institution 02	
3	☐	HE Institution 03	
4	☐	HE Institution 04	
5	☐	HE Institution 05	
6	☐	HE Institution 06	
7	☐	HE Institution 07	
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18	☐	HE Institution 18	
19	☐	HE Institution 19	
20	☐	HE Institution 20	
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22	☐	HE Institution 22	
FI		Filter: hide_if variable="V001" value="1" ref="MGS2016a-Q001"	
SU		Subject: Name of the HE institution	

CV	B4	At which faculty did you complete your studies?	Q009
N014			MGS2016a-Q009
1	☐	Faculty 001	V009
2	☐	Faculty 002	
3	☐	Faculty 003	
4	☐	Faculty 004	
5	☐	Faculty 005	
6	☐	Faculty 006	
7	☐	Faculty 007	
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109	☐	Faculty 109	
110	☐	Faculty 110	
FI		Filter: hide_if variable="V001" value="1" ref="MGS2016a-Q001"	
SU		Subject: Name of the faculty	

TE	B5	What was the name of the study programme at the HE institution?	Q010
N015			MGS2016a-Q010
1			V010_TXT
FI		Filter:hide_if variable="V001" value="1" ref="MGS2016a-Q001"	
SU		Subject: Name of the study programme	

CV	B6	When did finish your studies at the VET/HE institution?	Q011
N016			MGS2016a-Q011
1	☐	September 2014	V011
2	☐	October 2014	
3	☐	November 2014	
4	☐	December 2014	
5	☐	January 2015	
6	☐	February 2015	
7	☐	March 2015	
8	☐	April 2015	
9	☐	May 2015	
10	☐	June 2015	
11	☐	July 2015	
12	☐	August 2015	
13	☐	September 2015	
SU		Subject: Date of graduation	

CV	B7	What level of education did you achieve at the VET/HE institution?	Q012
N017			MGS2016a-Q012
1	☐	Second level (vocational training)	V012
2	☐	Third level (vocational education)	
3	☐	Fourth level (vocational education)	
4	☐	Fifth level (post/secondary education)	
5	☐	Graduate student (three-year programme)	
6	☐	Graduate student (four-year programme)	
7	☐	One-year postgraduate studies/master's studies	
8	☐	Two-year postgraduate studies/master's studies	
9	☐	PhD	
10	☐	Other	
TE		Kind of qualification (text answer)	V012_TXT
SU		Subject: Kind of qualification	

CV	B8	How many years did you study at the VET/HE institution?	Q013
N018			MGS2016a-Q013
1	☐	2 years	V013
2	☐	3 years	
3	☐	4 years	
4	☐	5 years	
5	☐	6 years	
6	☐	7 or more years	
SU		Subject: Duration of the study programme	

CV	B9	Did you study predominantly on a part-time basis?	Q014
N019			MGS2016a-Q014
1	☐	Yes	V014
2	☐	No	
SU		Subject: Part-time study	

CV	B10	On average, how many hours per week did you spend attending courses/classes during the course of your studies?	Q015
N020			MGS2016a-Q015
1	☐	Up to 10 hours	V015
2	☐	11 to 19 hours	
3	☐	20 to 29 hours	
4	☐	30 to 39 hours	
5	☐	40 to 49 hours	
6	☐	50 hours or more	
SU		Subject: Duration of attending courses (hours)	

CV	B11	On average, how many hours per week did you spend on study activities outside of courses/classes during the course of your studies?	Q016
N021			MGS2016a-Q016
1	☐	Up to 10 hours	V016
2	☐	11 to 19 hours	
3	☐	20 to 29 hours	
4	☐	30 to 39 hours	
5	☐	40 to 49 hours	
6	☐	50 hours or more	
SU		Subject: Duration of study activities outside courses (hours)	

SE	C	Practice and work experience while studying at the VET/HE institution	SE03
N022			MGS2016a-SE03

CV	C1	Did you have any practice/internship outside of the educational institution while you were in high school education/while you were studying?	Q017
N023			MGS2016a-Q017
1	☐	Yes	V017
2	☐	No (*Please continue with question C5*)	
SU		Subject: Practice while studying	

CV	C2	How many mandatory internships did you do in total while you were in high school education/while you were studying?	Q018
N024			MGS2016a-Q018
1	☐	One mandatory internship	V018
2	☐	Two mandatory internships	
3	☐	Three mandatory internships	
4	☐	Four or more mandatory internships	
FI		Filter:show_if variable="V017" value="1" ref="MGS2016a-Q017"	
FT		Only graduates who attended mandatory internships	
SU		Subject: Number of mandatory internships	

CV	C3	How many voluntary internships did you do in total while you were in high school education/while you were studying?	Q019
N025			MGS2016a-Q019
1	☐	One mandatory internship	V019
2	☐	Two mandatory internships	
3	☐	Three mandatory internships	
4	☐	Four or more mandatory internships	
FI		Filter:show_if variable="V017" value="1" ref="MGS2016a-Q017"	
FT		Only graduates who attended voluntary internships	
SU		Subject: Number of voluntary internships	

CV	C4	How long did these internships last?	Q020
N026			MGS2016a-Q020
1	☐	Up to one month	V020
2	☐	Two months	
3	☐	Three months	
4	☐	Four months	
5	☐	More than four months	
FI		Filter:show_if variable="V017" value="1" ref="MGS2016a-Q017"	
FT		Only graduates who attended internships	
SU		Subject: Duration of practice/internships	

CV	C5	Were you employed while you were in high school education/while you were studying? Please include full-time as well as part-time work; internships are excluded.	Q021
N027			MGS2016a-Q021
1	☐	Yes	V021
2	☐	No → *Please continue with question D1*	
SU		Subject: Employment while in high school education/while studying	

CV	C6	For how many months were you employed while you were in high school education/while you were studying? Please include full-time as well as part-time work; internships are excluded.	Q022
N028			MGS2016a-Q022
1	☐	Less than 1 month	V022
2	☐	1 to 6 months	
3	☐	7 to 12 months	
4	☐	13 to 24 months	
5	☐	More than 24 months	
FI		Filter: show_if variable="V021" value="1" ref="MGS2016a-Q021"	
FT		Only graduates who were employed while in high school education/while studying	
SU		Subject: Duration of employment while in high school education/while studying	

SE	D	Evaluation of study conditions and study provisions at VET/HE institution	SE04
N029			MGS2016a-SE04

OR	D1	How would you rate the study conditions and study provisions you experienced at the VET/HE institution?					Q023
N030							MGS2016a-Q023
	Very bad				Very good		
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Quality of classroom learning	V023_01
2	☐	☐	☐	☐	☐	Student recreational facilities on campus	V023_02

3	☐	☐	☐	☐	☐	Supply of learning materials (e.g. books, internet access)	V023_03
4	☐	☐	☐	☐	☐	Opportunity to consult with teaching staff	V023_04
5	☐	☐	☐	☐	☐	Teaching quality of lecturers	V023_05
6	☐	☐	☐	☐	☐	Teaching/grading system	V023_06
7	☐	☐	☐	☐	☐	Internship programme	V023_07
8	☐	☐	☐	☐	☐	Contacts with fellow students	V023_08
9	☐	☐	☐	☐	☐	Chance for students to influence VET/HE institution's policies	V023_09
10	☐	☐	☐	☐	☐	Availability of technical equipment (e.g. lab equipment, measuring instruments, computer lab)	V023_10
11	☐	☐	☐	☐	☐	Quality of technical equipment	V023_11
12	☐	☐	☐	☐	☐	Supply of teaching materials	V023_12
13	☐	☐	☐	☐	☐	Quality of buildings	V023_13
14	☐	☐	☐	☐	☐	Library resources	V023_14
SU						Subject: Rating of study conditions and study provisions	

QR	D2	How do you rate the following elements related to employment and work in your study programme/training?						Q024
N031								MGS2016a-Q024
		Very bad				Very good		
		1	2	3	4	5		
1		☐	☐	☐	☐	☐	Professional advice and guidance provided by teaching staff	V024_01
2		☐	☐	☐	☐	☐	Individual occupational advice in your field	V024_02
3		☐	☐	☐	☐	☐	Support for practice/internship search	V024_03
4		☐	☐	☐	☐	☐	Practice/internship-oriented teaching content	V024_04
5		☐	☐	☐	☐	☐	Practical experience of teaching staff	V024_05
6		☐	☐	☐	☐	☐	Mandatory practice/internships	V024_06
7		☐	☐	☐	☐	☐	Employment/job search support	V024_07
8		☐	☐	☐	☐	☐	Preparation for work	V024_08
SU							Subject: Evaluation of the study elements related to employment and work	

SE	E	Competences and satisfaction with the study programme	SE05
N032			MGS2016a-SE05

OR	E1	To what extent did you acquire the following skills/competences by the time you graduated?	Q025
N033			MGS2016a-Q025

	Not at all			To a very high extent			
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Mastery of my field/subject-specific knowledge	V025_01
2	☐	☐	☐	☐	☐	Ability to develop new ideas and solutions	V025_02
3	☐	☐	☐	☐	☐	Ability to adapt to changing conditions	V025_03
4	☐	☐	☐	☐	☐	Analytical thinking	V025_04
5	☐	☐	☐	☐	☐	Willingness to question my ideas and others' ideas	V025_05
6	☐	☐	☐	☐	☐	Ability to work efficiently towards a goal	V025_06
7	☐	☐	☐	☐	☐	Ability to organise my work processes efficiently	V025_07
8	☐	☐	☐	☐	☐	Ability to work in a team	V025_08
SU						Subject: Acquired competences at the time of graduation	

OR	E2	Looking back, how likely would you be to choose the same field of study/training?	Q026
N034			MGS2016a-Q026

	Not at all likely			Very likely			
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Would you probably choose the same field of study/training?	V026_01
SU						Subject: Satisfaction with selection of field of study	

OR	E3	Looking back, how likely would you be to choose the same VET/HE institution?	Q027
N035			MGS2016a-Q027

	Not at all likely			Very likely			
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Would you probably choose the same VET/HE institution?	V027_01
SU						Subject: Satisfaction with selection of VET/HE institution	

OR	E4	Looking back, how satisfied are you with your studies in general?	Q028
N036			MGS2016a-Q028

	Not at all satisfied			Very satisfied			
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Satisfaction with the studies in general	V028_01
SU						Subject: Satisfaction with the studies in general	

SE	F	After graduation from the VET/HE institution	SE06
N037			MGS2016a-SE06

MD	F1	What did you do in the first six months after graduating? Multiple answers possible	Q029
N038			MGS2016a-Q029
1	☐	Employed	V029_01
2	☐	Self-employed	V029_02
3	☐	Freelance	V029_03
4	☐	Part-time job	V029_04
5	☐	Practice/voluntary work	V029_05
6	☐	Further academic education (higher education)	V029_06
7	☐	Further vocational education/training	V029_07
8	☐	Housewife, househusband, family work	V029_08
9	☐	Not employed, but searching for a job	V029_09
10	☐	Military service	V029_10
11	☐	Other	V029_11
SU		Subject: Employment status after graduation	

CV	F2	When did you start your first job after graduation?	Q030
N039			MGS2016a-Q030
1	☐	At the time of graduation	V030
2	☐	Less than 1 month after graduation	
3	☐	1 to less than 3 months after graduation	
4	☐	3 to less than 6 months after graduation	
5	☐	6 to less than 9 months after graduation	
6	☐	9 to less than 12 months after graduation	
7	☐	More than one year after graduation	
8	☐	I have not been employed since graduation	
SU		Subject: Waiting time until start of first job after graduation	

MD	F3	How did you search for your first job after graduation? Multiple answers possible	Q031
N040			MGS2016a-Q031
1	☐	Replied to job ads/announcements (e.g. newspaper, internet, notice)	V031_01
2	☐	With the help of family contacts of parents, relatives	V031_02
3	☐	With the help of personal contacts of friends, fellow students and others	V031_03
4	☐	Speculative application – independent contact with employers	V031_04
5	☐	Through internships during my studies	V031_05
6	☐	Through internships after graduation	V031_06
7	☐	Through (side) jobs during my studies	V031_07
8	☐	Through (side) jobs after graduation	V031_08
9	☐	I was contacted by an employer	V031_09
10	☐	Job fair	V031_10
11	☐	Through the public employment services	V031_11
12	☐	Through private job agencies	V031_12
13	☐	Through internet (social) networks (e.g. Facebook)	V031_13
14	☐	Through the career centre in the VET/HE institution	V031_14
15	☐	Through teaching staff at the VET/HE institution	V031_15
16	☐	Not applicable, I have not searched for employment	V031_16
17	☐	Other	V031_17
SU		Subject: Job search methods for first job	

MD	F4	If you did not search for employment, what were your reasons? Multiple answers possible	Q032
N041			MGS2016a-Q032
1	☐	I continued studying	V032_01
2	☐	I continued a job I had prior to studying	V032_02
3	☐	I found a job without searching	V032_03
4	☐	I became self-employed/freelancer	V032_04
5	☐	Other	V032_05
FI		Filter: show_if variable="V031_16" value="1" ref="MGS2016a-Q031"	
TE		Reason for not searching for a job (text answer)	V032_TXT
SU		Subject: Reasons for no job search	

FI	→	*If you did not search for employment, please continue with question G1*	FI01
N042			MGS2016a-FI01

CV	F5	When did you start searching for a job?	Q033
N043			MGS2016a-Q033
1	☐	Prior to graduation	V033
2	☐	Around the time of graduation	
3	☐	After graduation	
FI		Filter: hide_if variable="V031_16" value="1" ref="MGS2016a-Q031"	
FT		Filtertext: only graduates who searched for a job after graduation	
SU		Subject: Timing of job search	

CV	F6	How long did you search for your first job? Include also job search period before graduation.	Q034
N044			MGS2016a-Q034
1	☐	Less than 1 month	V034
2	☐	1 to less than 3 months	
3	☐	3 to less than 6 months	
4	☐	6 to less than 9 months	
5	☐	9 to less than 12 months	
6	☐	More than one year	
FI		Filter: hide_if variable="V031_16" value="1" ref="MGS2016a-Q031"	
FT		Filtertext: only graduates who searched for a job after graduation	
SU		Subject: Duration of job search (only graduates who searched for a job after graduation); ignore_if H1=2	

CV	F7	What was the most successful method for finding your first job? Choose only one answer.	Q035
N045			MGS2016a-Q035
1	☐	Replied to job ads/announcements (e.g. newspaper, internet, notice)	V035
2	☐	The help of family contacts of parents, relatives	
3	☐	The help of personal contacts of friends, fellow students and others	
4	☐	Speculative application – independent contact with employers	
5	☐	Through internships during my studies	
6	☐	Through internships after graduation	
7	☐	Through (side) jobs during my studies	
8	☐	Through (side) jobs after graduation	
9	☐	I was contacted by an employer	
10	☐	Job fair	
11	☐	Through the public employment service	
12	☐	Through private job agencies	
13	☐	Through internet (social) networks (e.g. Facebook)	
14	☐	Through the career centre in the VET/HE institution	

15	☐	Through teaching staff at the VET/HE institution	
16	☐	Not applicable, I have not found a job yet	
FI		Filter: hide_if variable="V031_16" value="1" ref="MGS2016a-Q031"	
FT		Filtertext: only graduates who searched for a job after graduation	
SU		Subject: Most successful method for finding the first job	

CV	F8	How many employers did you approach for your first job after completing your study programme?	Q036
N046			MGS2016a-Q036
1	☐	I did not approach any employers	V036
2	☐	1 employer	
3	☐	2 to less than 5 employers	
4	☐	5 to less than 10 employers	
5	☐	10 to less than 20 employers	
6	☐	More than 20 employers	
FI		Filter: hide_if variable="V031_16" value="1" ref="MGS2016a-Q031"	
FT		Filtertext: only graduates who searched for a job after graduation	
SU		Subject: Number of applications for employment	

CV	F9	From how many employers did you receive acknowledgements?	Q037
N047			MGS2016a-Q037
1	☐	From no employer	V037
2	☐	From 1 employer	
3	☐	From 2 to less than 5 employers	
4	☐	From 5 to less than 10 employers	
5	☐	From 10 to less than 20 employers	
6	☐	From more than 20 employers	
FI		Filter: hide_if variable="V031_16" value="1" ref="MGS2016a-Q031"	
FT		Filtertext: only graduates who searched for a job after graduation	
SU		Subject: Number of acknowledgements	

CV	F10	From how many employers did you receive calls for interviews?	Q038
N048			MGS2016a-Q038
1	☐	From no employer	V038
2	☐	From 1 employer	
3	☐	From 2 to less than 5 employers	
4	☐	From 5 to less than 10 employers	
5	☐	From 10 to less than 20 employers	
6	☐	From more than 20 employers	
FI		Filter: hide_if variable="V031_16" value="1" ref="MGS2016a-Q031"	
FT		Filtertext: only graduates who searched for a job after graduation	
SU		Subject: Number of calls for interview	

SE	G	Employment and Work	SE07
N049			MGS2016a-SE07

MD	G1	What applies to your current situation? Multiple answers possible	Q039
N050			MGS2016a-Q039
1	☐	Employed	V039_01
2	☐	Self-employed	V039_02
3	☐	Freelance work	V039_03
4	☐	Occasional work (just to earn money)	V039_04
5	☐	Internship/voluntary work	V039_05
6	☐	Further academic education (higher education)	V039_06
7	☐	Further vocational training	V039_07
8	☐	Housewife, househusband, family care	V039_08
9	☐	Not employed, but searching for a job	V039_09
10	☐	Military service	V039_10
11	☐	Other	V039_11
SU		Subject: Employment status at the time of the survey	

MD	G2	Since completing your study programme at the VET/HE institution have you spent time abroad for study or work? Multiple answers possible	Q040
N051			MGS2016a-Q040
1	☐	Yes, I worked abroad	V040_01
2	☐	Yes, I continued studying/training abroad	V040_02
3	☐	No	V040_03
SU		Subject: International mobility after graduation	

CV	G3	How many jobs in total (including your current one) have you had since graduation?	Q041
N052			MGS2016a-Q041
1	☐	No job, I have not been employed since I graduated	V041
2	☐	One job	
3	☐	Two jobs	
4	☐	Three jobs	
5	☐	More than three jobs	
SU		Subject: Number of jobs since graduation	

FI	→	If you are currently unemployed, please continue with question I6	FI02
N053			MGS2016a-FI02

CV	G4	How many hours do you work per week?	Q042
N054			MGS2016a-Q042
1	☐	Less than 20 hours per week	V042
2	☐	21 to 30 hours	
3	☐	31 to 40 hours	
4	☐	41 to 50 hours	
5	☐	More than 50 hours	
FI		Filter:show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter:show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter:show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter:show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter:show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Working hours per week	

CV	G5	Are you permanently employed?	Q043
N055			MGS2016a-Q043
1	☐	Yes	V043
2	☐	No	
3	☐	Not applicable, I am self-employed	
FI		Filter:show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter:show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter:show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter:show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter:show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Kind of employment contract	

CV	G6	How long did it take you to find your current job after completing your studies in 2014/15?	Q044
N056			MGS2016a-Q044
1	☐	Less than 1 month	V044
2	☐	1 to less than 3 months	
3	☐	3 to less than 6 months	
4	☐	6 to less than 9 months	
5	☐	9 to less than 12 months	
6	☐	More than one year	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Duration of search for current job	

CV	G7	How long have you been working in your current job?	Q045
N057			MGS2016a-Q045
1	☐	Less than 1 month	V045
2	☐	1 to less than 3 months	
3	☐	3 to less than 6 months	
4	☐	6 to less than 9 months	
5	☐	9 to less than 12 months	
6	☐	More than one year	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Duration of work experience	

CV	G8	In which region are you employed?	Q046
N058		Adaptation	MGS2016a-Q046
1	☐	Vardar	V046
2	☐	Eastern	
3	☐	Southwestern	
4	☐	Southeastern	
5	☐	Pelagonia	
6	☐	Polog	
7	☐	Northeastern	
8	☐	Skopje	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Region of employment	

CV	G9	What type of employer do you work for?	Q047
N059		Adaptation of examples	MGS2016a-Q047
1	☐	Public/government	V047
2	☐	Private company	
3	☐	Self-employed	
4	☐	Non-governmental organisation (NGO)	
5	☐	Other	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Type of employer	

TE	G10	In which economic sector are you currently employed (e.g. mining, health, education, agriculture)?	Q048
N060		Adaptation of examples	MGS2016a-Q048
1			V048_TXT
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: Only employed graduates	
SU		Subject: Economic sector of employment	

TE	G11	What is your occupation/job title (e.g. primary school teacher, nurse, cook)?	Q049
N061		Adaptation of examples	MGS2016a-Q049
1			V049_TXT
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Job title	

TE	G12	Outline your three main duties/work tasks.	Q050
N062		Adaptation of examples	MGS2016a-Q050
1			V050_1_TXT
2			V050_2_TXT
3			V050_3_TXT
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Main work duties	

CV	G13	What is your current net monthly income?	Q051
N063		Adaptation of categories	MGS2016a-Q051
1	☐	Less than MKD 6 000	V051
2	☐	MKD 6 001 – 9 000	
3	☐	MKD 9 001 – 12 000	
4	☐	MKD 12 001 – 15 000	
5	☐	MKD 15 001 – 18 000	
6	☐	MKD 18 001 – 21 000	
7	☐	MKD 21 001 – 23 000	
8	☐	MKD 23 001 – 26 000	
9	☐	More than MKD 26 000	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Net monthly income	

MD	G14	What kind of fringe/other benefit(s) do you receive? Multiple answers possible	Q052
N064		Adaptation	MGS2016a-Q052
1	☐	Housing (subsidy, rent allowance)	V052_01
2	☐	Transportation (car/transport allowance)	V052_02
3	☐	Health (medical aid, insurance)	V052_03
4	☐	Education and training (staff development, family study rebate)	V052_04
5	☐	Retirement (pension, gratuity)	V052_05
6	☐	None	V052_06
7	☐	Other	V052_07
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Kind of fringe/other benefit(s)	

CV	G15	How many employees work in your company/organisation in total? Please estimate the number.	Q053
N065			MGS2016a-Q053
1	☐	1 to 9 employees	V053
2	☐	10 to 49 employees	
3	☐	50 to 99 employees	
4	☐	100 to 249 employees	
5	☐	250 to 999 employees	
6	☐	1 000 or more employees	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Size of the company/firm/organisation	

SE	H	Work requirements	SE08
N066			MGS2016a-SE08
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	

OR	H1	How important are the following skills/competences in your current employment?					Q054
N067		Core question; no change					MGS2016a-Q054
	Not at all important				Very important		
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Mastery of my field/subject-specific knowledge	V054_01
2	☐	☐	☐	☐	☐	Ability to develop new ideas and solutions	V054_02
3	☐	☐	☐	☐	☐	Ability to adapt to changing conditions	V054_03
4	☐	☐	☐	☐	☐	Analytical thinking	V054_04
5	☐	☐	☐	☐	☐	Willingness to question my ideas and others' ideas	V054_05
6	☐	☐	☐	☐	☐	Ability to work efficiently towards a goal	V054_06
7	☐	☐	☐	☐	☐	Ability to organise my work processes efficiently	V054_07
8	☐	☐	☐	☐	☐	Ability to work productively with others/teamwork	V054_08
9	☐	☐	☐	☐	☐	Ability to perform well under pressure	V054_09
10	☐	☐	☐	☐	☐	Planning skills	V054_10
11	☐	☐	☐	☐	☐	IT/computer skills	V054_11
12	☐	☐	☐	☐	☐	Foreign languages	V054_12
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"					
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"					
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"					
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"					
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"					
FT		Filtertext: only employed graduates					
SU		Subject: Required competences					

SE	I	Relationship between study and employment	SE09
N068			MGS2016a-SE09

OR	I1	To what extent are the knowledge and skills you acquired during the education process utilised in your current job?	Q055
N069		Core question; no change	MGS2016a-Q055

	Not at all		To a very high extent				
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Utilisation of knowledge and skills	V055_01
FI	Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"						
FI	Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"						
FI	Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"						
FI	Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"						
FI	Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"						
FT	Filtertext: only employed graduates						
SU	Subject: Utilisation of acquired knowledge and skills in the job						

CV	I2	In your opinion, what field of study is most appropriate for your current job?	Q056
N070		Core question; no change	MGS2016a-Q056
1	☐	Only my own field	V056
2	☐	My own or a related field	
3	☐	A completely different field	
4	☐	No particular field	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Appropriateness of field of study for the job	

CV	I3	In your opinion, which qualification/degree level best matches your current job?	Q057
N071		Core question; no change	MGS2016a-Q057
1	☐	A higher degree/qualification	V057
2	☐	My degree/qualification	
3	☐	A lower degree/qualification	
4	☐	No degree/qualification necessary	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Match of job and qualification/degree level	

OR	I4	To what extent is your professional position appropriate to your course of study?	Q058
N072		Core question; no change	MGS2016a-Q058

	Not at all			To a very high extent			
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Appropriateness of professional position	V058_01
FI						Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI						Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI						Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI						Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI						Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT						Filtertext: only employed graduates	
SU						Subject: Appropriateness of position to study	

MD	I5	If your job is not closely related to your course of study, why did you choose this job? Multiple answers possible	Q059
N073		Core question; no change	MGS2016a-Q059
1	☐	Not applicable, my job is closely related to my course of study	V059_01
2	☐	My current job is only a temporary stepping stone, I am still searching for professional orientation	V059_02
3	☐	I have not found an appropriate job (yet)	V059_03
4	☐	I receive a higher salary in my current job	V059_04
5	☐	My current job offers more security	V059_05
6	☐	My interests have changed	V059_06
7	☐	My current job allows a flexible time schedule	V059_07
8	☐	My current job allows me to work in a preferred location	V059_08
9	☐	My current job allows me to take into consideration the interests of my family/children	V059_09
10	☐	Other	V059_10
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	
SU		Subject: Reasons for not having a closely related job	

OR	I6	Overall, how do you rate the usefulness of your studies?	Q060
N074		Core question; no change	MGS2016a-Q060

	Not at all useful			Very useful			
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	For finding a suitable job after finishing your studies?	V060_01
2	☐	☐	☐	☐	☐	For performing your present professional tasks, if applicable?	V060_02

3	☐	☐	☐	☐	☐	For your future professional development/career?	V060_03
4	☐	☐	☐	☐	☐	For the development of your personality?	V060_04
5	☐	☐	☐	☐	☐	For the economic development of your country?	V060_05
SU						Subject: Evaluation of the usefulness of studies	

SE	J	Work orientation and job satisfaction	SE10
N075			MGS2016a-SE10
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	

FI	→	If you are not employed, please continue with question K1	FI03
N076			MGS2016a-FI03

OR	J1						To what extent do the following aspects apply to your current job situation?	Q061
N077							Core question; no change	MGS2016a-Q061
		Not at all			To a very high extent			
		1	2	3	4	5		
1		☐	☐	☐	☐	☐	Opportunity to implement own ideas	V061_01
2		☐	☐	☐	☐	☐	High salary	V061_02
3		☐	☐	☐	☐	☐	Interesting work tasks	V061_03
4		☐	☐	☐	☐	☐	Clear and regulated work tasks	V061_04
5		☐	☐	☐	☐	☐	Opportunity to apply acquired competences	V061_05
6		☐	☐	☐	☐	☐	Job security	V061_06
7		☐	☐	☐	☐	☐	Social status and recognition	V061_07
8		☐	☐	☐	☐	☐	Good work atmosphere	V061_08
9		☐	☐	☐	☐	☐	Opportunity for further professional advancement	V061_09
10		☐	☐	☐	☐	☐	Opportunity to have a social influence	V061_10
11		☐	☐	☐	☐	☐	Challenges	V061_11
12		☐	☐	☐	☐	☐	Possibility to do something useful for society	V061_12
13		☐	☐	☐	☐	☐	Good conditions for managing both work-related and family-related issues	V061_13
14		☐	☐	☐	☐	☐	Sufficient time for leisure activities	V061_14
FI							Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI							Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI							Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI							Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI							Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT							Filtertext: only employed graduates	
SU							Subject: Characteristics of employment and work	

OR	J2	How satisfied are you with your current job situation?	Q062
N078		Core question; no change	MGS2016a-Q062

	Not at all satisfied			Very satisfied			
	1	2	3	4	5		
1	☐	☐	☐	☐	☐	Job satisfaction	V062_01

SU		Subject: Job satisfaction	
FI		Filter: show_if variable="V039_01" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_02" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_03" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_04" value="1" ref="MGS2016a-Q039"	
FI		Filter: show_if variable="V039_05" value="1" ref="MGS2016a-Q039"	
FT		Filtertext: only employed graduates	

SE	K	Further education after studying at the VET/HE institution	SE11
N079		Number of questions for all: 1; 1 variable; Filtered: 8; 17 variables	MGS2016a-SE11

CV	K1	Did you continue with your education after studying at the VET/HE institution?	Q063
N080			MGS2016a-Q063
1	☐	Yes	V063
2	☐	No, I have not started any further course of studies(*Please continue with question L1*)	
SU		Subject: Further studies/training	

MD	K2	Did you complete any further education or another level of education/study? Multiple answers possible	Q064
N081			MGS2016a-Q064
1	☐	Yes, I completed it successfully	V064_01
2	☐	Yes, but I discontinued my further course of studies	V064_02
3	☐	No, I am still studying	V064_03
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Further studies/training	

TE	K3	Please specify the subject area of your further studies.	Q065
N082			MGS2016a-Q065
1			V065_TXT
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Subject(s) of further studies/training	

TE	K4	Please specify the name of the institution(s) where you continued your further studies.	Q066
N083			MGS2016a-Q066
1			V066_TXT
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Institution of further studies/training	

CV	K5	Please specify the country where you continued your further studies.	Q067
N084			MGS2016a-Q067
1			V067_TXT
TE		Country of further studies (text answer)	
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Country of further studies/training	

TE	K6	Please specify the qualification (certificate, diploma, bachelor's degree, master's degree) that you expect to get on completion of your further studies.	Q068
N085			MGS2016a-Q068
1			V068_TXT
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Kind of qualification following further studies/training	

CV	K7	In which year did you start your further education/studies?	Q069
N086			MGS2016a-Q069
1	☐	2010	V069
2	☐	2011	
3	☐	2012	
4	☐	2013	
5	☐	2014	
6	☐	2015	
7	☐	2016	
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Year in which further studies started	

CV	K8	In which month did you start your further education/studies?	Q070
N087			MGS2016a-Q070
1	☐	January	V070
2	☐	February	
3	☐	March	
4	☐	April	
5	☐	May	
6	☐	June	
7	☐	July	
8	☐	August	
9	☐	September	
10	☐	October	
11	☐	November	

12	☐	December	
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Month in which further studies started	

CV	K9	In which year do you expect to finish your further education/studies?	Q071
N088			MGS2016a-Q071
1	☐	2016	V071
2	☐	2017	
3	☐	2018	
4	☐	2019	
5	☐	2020	
6	☐	2021	
7	☐	2022	
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Year in which further studies will be completed	

CV	K10	In which month do you expect to finish your further education/studies?	Q072
N089			MGS2016a-Q072
1	☐	January	V072
2	☐	February	
3	☐	March	
4	☐	April	
5	☐	May	
6	☐	June	
7	☐	July	
8	☐	August	
9	☐	September	
10	☐	October	
11	☐	November	
12	☐	December	
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"	
FT		Only graduates with further studies	
SU		Subject: Month in which further studies will be completed	

OR	K11	How applicable are the following reasons for your further studies?						Q073
N090								MGS2016a-Q073
		Not at all applicable				Very applicable		
		1	2	3	4	5		
1		☐	☐	☐	☐	☐	Wish to achieve a higher academic or professional degree	V073_01
2		☐	☐	☐	☐	☐	Improve chances of finding a job	V073_02
3		☐	☐	☐	☐	☐	Personal interest in a particular subject area	V073_03
4		☐	☐	☐	☐	☐	Required by my employer	V073_04
5		☐	☐	☐	☐	☐	Wish to improve my prospects for promotion	V073_05
6		☐	☐	☐	☐	☐	The training is important for the development of my country	V073_06
FI		Filter:show_if variable="V063" value="1" ref="MGS2016a-Q063"						
FT		Only graduates with further studies						
SU		Subject: Reasons for further studies						

SE	L	Further vocational/professional training	SE12
N091			MGS2016a-SE12

EX		*Please also take into account all forms of further vocational education – not only participation in events/courses.*	EX03
N092			MGS2016a-EX03

CV	L1	Have you continued professional training since completing your studies at the VET/HE institution?	Q074
N093			MGS2016a-Q074
1	☐	Yes	V074
2	☐	No, I have not started a further course of studies(*Please continue with question M 1*)	
SU		Subject: Further studies/training	

TE	L2	Please specify the subject area of your continued professional training.	Q075
N094			MGS2016a-Q075
1		_____	V075_1_TXT
2		_____	V075_2_TXT
3		_____	V075_3_TXT
FI		Filter:show_if variable="V074" value="1" ref="MGS2016a-Q074"	
FT		Only graduates with further professional training	
SU		Subject: Subjects of further professional training received	

TE	L3	In which topics would you like to receive further professional training if you had the opportunity to participate?	Q076
N095			MGS2016a-Q076
1		_____	V076_1_TXT
2		_____	V076_2_TXT
3		_____	V076_3_TXT
FI		Filter:show_if variable="V074" value="1" ref="MGS2016a-Q074"	
FT		Only graduates with further professional training	
SU		Subject: Preferred topics of further professional training	

SE	M	Individual background	SE13
N096			MGS2016a-SE13

EX		*Please provide details about yourself so that we can interpret your work biography as accurately as possible.*	EX04
N097			MGS2016a-EX04

CV	M1	What is your sex?	Q077
N098			MGS2016a-Q077
1	☐	Male	V077
2	☐	Female	
SU		Subject: Sex	

ME	M2	In which year were you born?	Q078
N099			MGS2016a-Q078
1	☐ ☐ ☐ ☐	Year of birth	V078_1_NUM
SU		Subject: Year of birth	

CV	M3	What is the highest level of education achieved by your father?	Q079
N100			MGS2016a-Q079
1	☐	No education	V079
2	☐	Incomplete primary school	
3	☐	Complete primary school	
4	☐	Secondary school	
5	☐	Post-secondary	
6	☐	Level six higher education degree	
7	☐	Higher education degree (bachelor's degree)	
8	☐	Specialisation, master's degree, doctorate	
9	☐	Don't know	
10	☐	Other	
SU	m	Subject: Highest level of education of father	

CV	M4	What was the highest level of education achieved by your mother?	Q080
N101			MGS2016a-Q080
1	☐	No education	V080
2	☐	Incomplete primary school	
3	☐	Complete primary school	
4	☐	Secondary school	
5	☐	Post-secondary	
6	☐	Level six higher education degree	
7	☐	Higher education degree (bachelor's degree)	
8	☐	Specialisation, master's, doctorate	
9	☐	Don't know	
10	☐	Other	
SU		Subject: Highest level of education of mother	

SE	N	Migration and regional mobility	SE14
N102			MGS2016a-SE14

EX		*Please provide some details about your regional background to help us to interpret your answers.*	EX05
N103			MGS2016a-EX05

CV	N1	In which country were you born?	Q081
N104			MGS2016a-Q081
1	☐	The former Yugoslav Republic of Macedonia	V081
2	☐	Other country	
TE		Country of birth (text answer)	V081_TXT
SU		Subject: Country of birth	

CV	N2	In which country did you (mainly) attend secondary education?	Q082
N105			MGS2016a-Q082
1	☐	The former Yugoslav Republic of Macedonia	V082
2	☐	Other country	
TE		Country of attending secondary education (text answer)	V082_TXT
SU		Subject: Country of attending secondary education	

CV	N3	What is your nationality?	Q083
N106			MGS2016a-Q083
1	☐	Macedonian	V083
2	☐	Albanian	
3	☐	Turkish	
4	☐	Serbian	
5	☐	Roma	
6	☐	Vlach	
7	☐	Bosnian	
8	☐	Other nationality	
TE		Nationality (text answer)	V083_TXT
SU		Subject: Nationality	

CV	N4	What is your country of residence?	Q084
N107			MGS2016a-Q084
1	☐	The former Yugoslav Republic of Macedonia	V084
2	☐	Other country	
TE		Country of residence (text answer)	V084_TXT
SU		Subject: Country of residence	

CV	N5	In which region of the former Yugoslav Republic of Macedonia do you live?	Q085
N108			MGS2016a-Q085
1	☐	Vardar	V085
2	☐	Eastern	
3	☐	Southwestern	
4	☐	Southeastern	
5	☐	Pelagonia	
6	☐	Polog	
7	☐	Northeastern	
8	☐	Skopje	
SU		Subject: Region	

SE	O	Further comments and recommendations	SE15
N109			MGS2016a-SE15

EX		*Please share further comments and recommendations about your VET/HE institution/study programme in this part.*	EX06
N110			MGS2016a-EX06

TE	O1	What did you like about your study programme?	Q086
N111			MGS2016a-Q086
1		_____	V086_TXT
SU		Subject: Liked elements of study	

TE	O2	What did you not like about your study programme?	Q087
N112			MGS2016a-Q087
1		_____	V087_TXT
SU		Subject: Not liked elements of study	

TE	O3	*Which important changes would you recommend for your VET/HE institution/study programme?*	Q088
N113			MGS2016a-Q088
1		_____	V088_TXT
SU		Subject: Recommended changes for the VET/HE institution/study programme	

TE	O4	What comments/suggestions regarding this survey would you like to make?	Q089
N114			MGS2016a-Q089
1		_____	V089_TXT
SU		Subject: Comments/suggestions regarding the survey	

TE	O5	What comments/suggestions regarding this questionnaire would you like to make?	Q090
N115			MGS2016a-Q090
1		_____	V090_TXT
SU		Subject: Comments/suggestions regarding the questionnaire	

ME	O6	How many minutes did you need to fill in this questionnaire?	Q091
N116			MGS2016a-Q091
1	☐ ☐ ☐ ☐	Minutes needed to fill in the questionnaire	V091_1_NUM
SU		Subject: Time needed to fill in the questionnaire (minutes)	

OR	O7	How do you rate the following aspects of this questionnaire?						Q092
N117	m							MGS2016a-Q092
		Very bad				Very good		
		1	2	3	4	5		
1		☐	☐	☐	☐	☐	Length of the questionnaire	V092_01
2		☐	☐	☐	☐	☐	Clearness of the questions	V092_02
3		☐	☐	☐	☐	☐	Relevance of the questions to improving the VET/HE programme	V092_03
4		☐	☐	☐	☐	☐	Relevance of the questions to providing information about the labour market situation of graduates	V092_04
SU		Subject: Evaluation of the questionnaire						

Annex 3.   Questionnaire-related methodological issues

- V029_01 up to V029_11 are questions with multiple answers. The possible answers are 'yes' and 'no'. In cases where the response is 'no' it can be analysed either as 'No answer' or the respondent has not chosen that possible variable.

- V032_01 up to V032_05 are questions with multiple answers. The possible answers are 'yes' and 'no'. In cases where the response is 'no' it can be analysed either as 'No answer' or the respondent has not chosen that possible variable.

- V039_01 up to V039_11 are questions with multiple answers. The possible answers are 'yes' and 'no'. In cases where the response is 'no' it can be analysed either as 'No answer' or the respondent has not chosen that possible variable.

- V040 was a question with multiple answers which was later transformed into a single-choice variable (V040_01, V040_02, V040_03 are transformed in V040).

- V052_01 up to V052_07 are questions with multiple answers. The possible answers are 'yes' and 'no'. In cases where the response is 'no" it can be analysed either as 'No answer' or the respondent has not chosen that possible variable.

- V059_01 up to V059_10 are questions with multiple answers. The possible answers are 'yes' and 'no'. In cases where the response is 'no' it can be analysed either as 'No answer' or the respondent has not chosen that possible variable.

- V064 was a question with multiple answers which was later transformed into a single-choice variable (V064_01, V064_02, V064_03 are transformed in V064).

- We noticed one extra variable (V081_01). Due to the fact that this is the same question as V081, we merged this variable with V081_01. V081 was deleted afterwards.

ACRONYMS

Cedefop	Centre européen pour le développement de la formation professionnelle (European Centre for the Development of Vocational Training)
ESA	Employment Service Agency
ETF	European Training Foundation
EUR	Euro
HE	Higher education
ICT	Information and communications technology
ILO	International Labour Organisation
IT	Information technology
MKD	Denar (national currency)
NUTS	Nomenclature des unités territoriales statistiques (Classification of Territorial Units for Statistics)
PISA	Programme for International Student Assessment
VET	Vocational education and training

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