

Collection of analytical reports No. 1

Diagnostics of the local labor markets in North Macedonia



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Labour market diagnostics in the municipality of Bitola

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the education and skills mismatch on the labour market in the municipality of Bitola, such as:

- Skilling the unemployed with no occupation into elementary occupations (skill level 1) (in cooperation with ESARNM)
- Strengthening the cooperation between the secondary vocational schools and the business sector, in particular with foreign investors in the municipality of Bitola, including piloting dual education in two or three occupations (in line with the strategy of the Ministry of Education and Science)
- Redesigning the curricula/profiles and skills conferred by the qualifications obtained, in line with the occupations in demand on the labour market in the municipality of Bitola and the skills required (for instance, skills relating to STEM sciences, analytical skills, critical thinking, etc.)
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Bitola is facing overqualification, occupational mismatch and labour shortage. For each required worker with higher education in the Pelagonija region, there are 2.5 unemployed in the municipality of Bitola. The supply exceeds the demand for the occupations at higher skill levels: education professionals; legal and social professionals and professionals in the field of culture; and science and engineering professionals. The demand exceeds the supply for the high skill level occupation - IT professionals, and for the low skill level occupations: information and communications technology technicians; labourers in mining, construction, manufacturing, and transport; and refuse workers and other elementary workers. The lack of workers in elementary occupation in the municipality of Bitola is alarming.

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Bitola and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Bitola is one of the biggest municipalities in the Pelagonija region with a population of 92,203¹, thus accounting for 40% of the total population in the Pelagonija region.

Currently, the labour market in the Pelagonija region is favourable; it is ranked fourth² in terms of the unemployment rate and second³ in terms of the employment and activity rates as

compared to the other seven regions. In 2019, the unemployment rate of the population aged 15 and above was 13.1% (12.4% for women and 13.6% for men), the employment rate was 56⁴, while the activity rate was 64.5%. The favourable trend is also reflected in the average gross salary: with MKD 35,177, the Pelagonija region is ranked second (Regions in the Republic of North Macedonia, SSO, 2020).

The favourable location, highly arable agricultural land, as well as the biggest coal deposits sites in the region make up the natural prerequisites for favourable labour market performance. Furthermore, the region is attractive to foreign investments and several big companies are located in the immediate vicinity of Bitola, thus contributing significantly to the employment in the region, in general, and in the municipality of Bitola, in particular.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²Following the Vardar region (10.8%), Eastern region (7.8%) and the Southeastern region (6.3%)

³Following the Southeastern region (63.3%)

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Bitola
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Bitola; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Bitola.

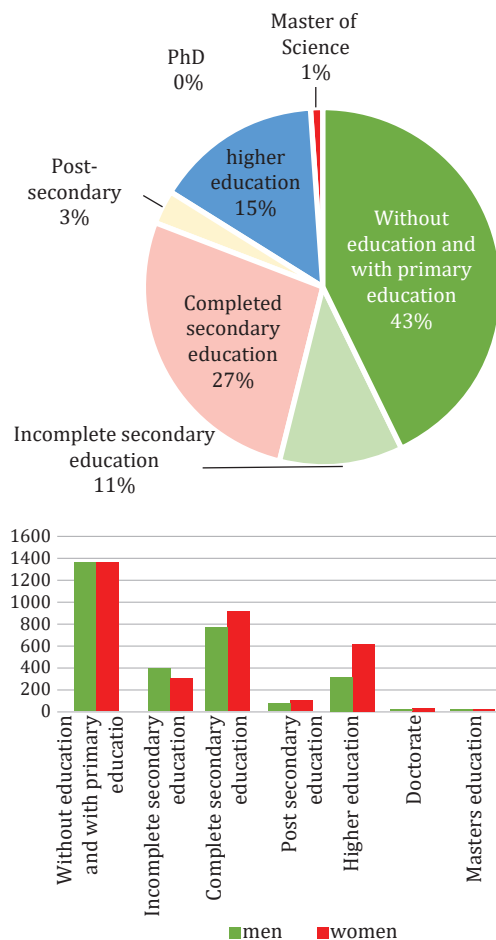
One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level. The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Out of the total registered unemployed who were active job seekers in the municipality of Bitola in 2020, 53% were women and 47% were men. In terms of education, persons with lower educational attainment are predominant. More than one half (54%) of the unemployed were persons with primary or no education (43%) and incomplete secondary education (11%) (Figure 1).

Figure 1: Unemployed persons in the municipality of Bitola, by educational attainment

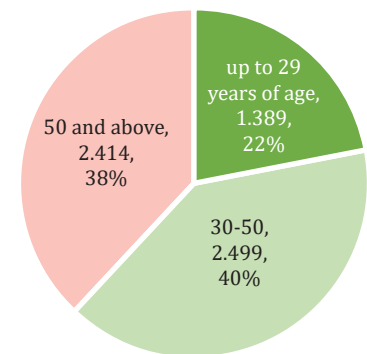


Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed are aged 30-50 (40%), and the share of unemployed aged 50 or more is similar (38%) (Figure 2). The relatively low share of young people in the total structure (33%) is probably owing to the late activation on the labour market due to education,

as well as to the proportionally lower share of young people in the population.

Figure 2: Structure of unemployed by age

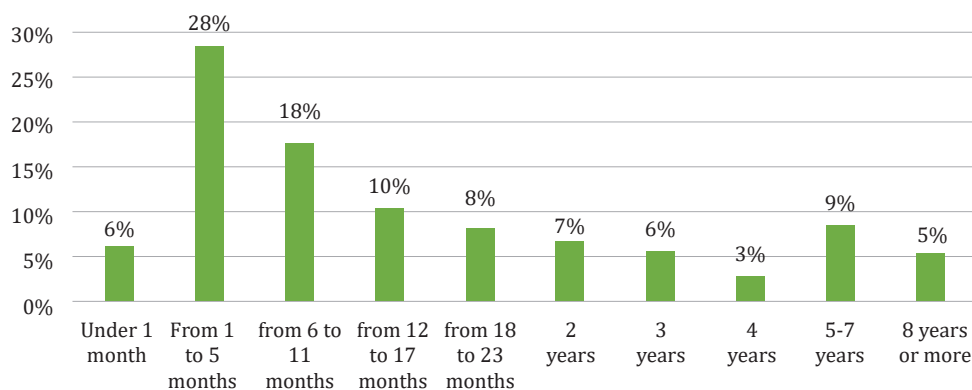


Source: Employment Service Agency of the Republic of North Macedonia

52% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. Although such structure may appear encouraging, one third of the unemployed are waiting for employment for more than two years, which indicates a possibility of structural unemployment.

In addition to the unemployed active job seekers, the persons registered as passive job seekers also have a significant share in the unemployed in the municipality of Bitola. According to the Employment Service Agency, this category includes 4,274 persons, which represents a share of 80% in the total number of active job seekers. 39% of the passive job seekers have completed primary education, while additional 11% of them have incomplete secondary education. This indicates that these persons are mostly with low educational attainment.

Figure 3: Unemployed in the municipality of Bitola, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

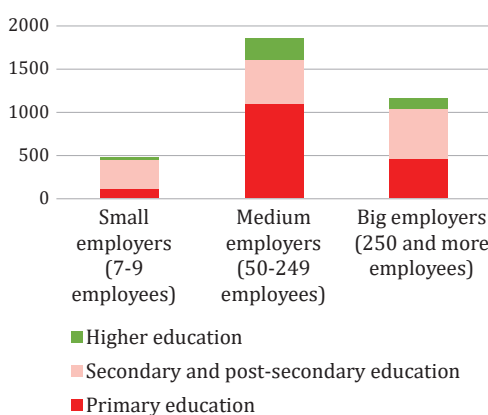
However, 13% of this group have completed higher education. The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

Demand

According to the regional labour demand survey in 2020, the total demand for the Pelagonija region is 3,491 jobs, which accounts for 55.4% of the unemployed labour force in the municipality of Bitola.

Figure 4 provides an overview of the labour demand by education and company size. It is expected that one half of the vacancies will be generated by medium to large employers, additional 33% by big companies and 13% by small employers. In terms of the demand by education, the demand for workers who completed primary (47%) and secondary education (40%) is predominant.

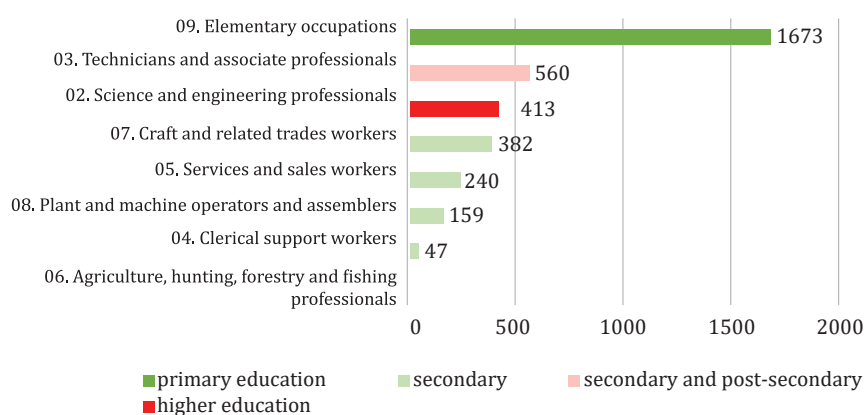
Figure 4: Labour demand by education and company size



Source: Employment Service Agency of the Republic of North Macedonia

Cross-referencing the demand by education and occupation (NCO-ISCO 08) (Figure 5) shows that the entire demand for workers who completed primary education concerns the group of elementary occupations (predominantly for elementary workers, tobacco preparers and labourers in loading, unloading and transport of cargo). The demand for workers with secondary education is more heterogeneous in terms of occupations. In absolute figures, the demand for occupations with secondary vocational school is greater than the one for those with general secondary education. 16% of the total demand for workers and 40% of the demand for workers with secondary and post-secondary education are for technicians and related occupations, with nearly 90% concerning technicians-operators. It is followed by occupations of craft and related trade workers, including: sewers, shopkeepers, heavy truck and lorry drivers, waiters, locksmiths, stock clerks, welders, cooks, and similar occupations. Next on the list of workers with secondary education are services and sales workers and plant and machine operators and assemblers. All workers with higher education are in the occupation of professionals and science professionals. One third of them are systems administrators and 17% are programmers.

Figure 5: Labour demand by occupation and education for the Pelagonija region



Source: ESARNM, regional labour market skills needs survey in RNM in 2020⁴

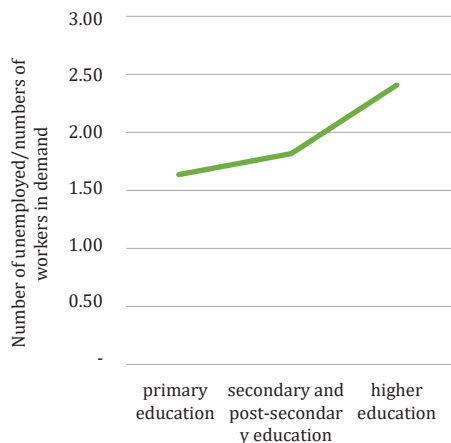
⁴ The survey has been conducted on a sample of 3,295 employers from the private sector with seven or more employees, stratified by region and by employer sectors. The sample includes all medium and large employers, while other employers have been selected randomly until the required sample size has been achieved.

Labour market gap by education and occupation

The labour market gap in the municipality of Bitola is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation.

Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results have indicated that the gap is the greatest for higher education. For every worker with higher education required by the companies in the Pelagonija region, there are 2.5 unemployed persons in the municipality of Bitola, while for secondary and post-secondary education this ratio is 1.8, while for primary education it is the lowest at 1.6.

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply.

Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Bitola.

The gap may be analyzed according to the educational attainment within an occupation (horizontally) and

vertically, for different occupations. The gap where the supply is greater than the demand is marked in red (dark red – severe gap, light red – moderate gap). Light yellow indicates that the matching of the supply and demand is nearly complete and there is no gap. The green shading marks a deficiency gap, where the demand for jobs is greater than the supply (dark green – severe gap, light green – moderate gap).

The results show that for higher level skills there is a gap for eight out of nine occupations. For five of the occupations the gap is positive, of which for three higher education occupations there is a potential overqualification (education professionals; legal and social professionals and professionals in the field of culture; and science and engineering professionals). There is a severe surplus gap for occupations of science and engineering associate professionals; business and administration associate professionals with secondary education, but the magnitude of the gap declines or it transitions into a deficiency gap with the transition to higher education. This indicates the presence of occupations with potential underqualification. There is a deficiency gap for four occupations, of which two with a severe gap (information and communications technology professionals and technicians), which implies that it is an occupation in demand, notwithstanding the educational attainment. On the other hand, there is a deficit of labour force with higher education in the business and administration occupations.

For medium skill level occupations, there is a surplus gap, where the labour supply exceeds the demand, only for one of 11 occupations (metal workers, machinery fitters and related occupations) for any level of education, which indicates a surplus in this occupation. For other occupations at medium skill level, there is either a moderate surplus or deficiency gap. Occupations in moderate surplus are precision mechanics, handicraft workers, printers and electrotechnology

workers), which may be explained by discrepancies of temporary nature. On the other hand, for food preservers, wood, textile and leather workers and related occupations the positive gap disappears with the increase of the educational attainment from primary to secondary education. This indicates that the persons with primary education require upskilling. The following occupations are also moderately deficient: accounting and bookkeeping clerks, statistical, finance and insurance clerks, material recording and transport clerks; personal services workers; sales workers; security guards; building construction workers and related construction workers; machine and plant operators and drivers of motor vehicles, mobile plant operators and deck crew.

In occupations at low skill level the gap is typically owing to inadequate education. There is a deficit of labourers in mining, construction, manufacturing and transport and elementary workers, refuse workers and other elementary workers with secondary education, which is not the case for those workers with primary education. On the other hand, there is a surplus of unemployed labour for persons without any occupation and the persons who have completed general secondary education. Therefore, the gap in low skill occupations could be reduced if the person without occupation are upskilled to the level of elementary workers and are adequately matched to the demand for such occupation. It would be necessary to undertake upskilling and/or re-skilling measures for persons with general secondary education.

The overall conclusion is that the surplus gap (when the supply exceeds the demand) occurs for higher skill level occupations, in particular with social sciences and educational occupations. There is a predominant deficiency gap for occupations at medium and low skill levels, with a shortage of workers with secondary education for various occupations. Nevertheless, when compared to occupations at higher skill levels, the educational gap is more present

with occupations at medium and low skill levels. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling. Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important. A World Bank study

(2020) has identified that the training offered by the educational system does not match the companies' needs. The same study has identified that the students lack adequate practical skills matching their diplomas⁵.

Table 1: Labour market gaps by occupation – educational profile

Skill	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	21	Science and engineering professionals				
	22	Health Professionals				
	23	Teaching professionals				
	24	Business and administration professionals				
	25	Information and communications technology professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	35	Information and communications technicians				
	33	Business and administration associate professionals				
Medium skill level	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks				
	51	Personal services workers				
	52	Sales workers				
	54	Security guards				
	71	Building construction workers and related construction workers				
	72	Metal workers, machine assemblers and related occupations				
	73	Precision mechanics, handicraft workers and printers				
	74	Electrotechnology workers				
	75	Food preservers, wood, textile and leather workers and related occupations				
	81	Machine and plant operators				
	83	Drivers of motor vehicles, mobile plant operators and deck crew				
Low skill level	92	Agricultural, forestry and fishery labourers				
	93	Labourers in mining, construction, manufacturing and transport				
	96	Refuse workers and other elementary workers				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

Significant surplus
Surplus

Adequately matched
Deficit
Significant deficit

⁵World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#).

Educational profiling as a factor in bridging or broadening the gaps

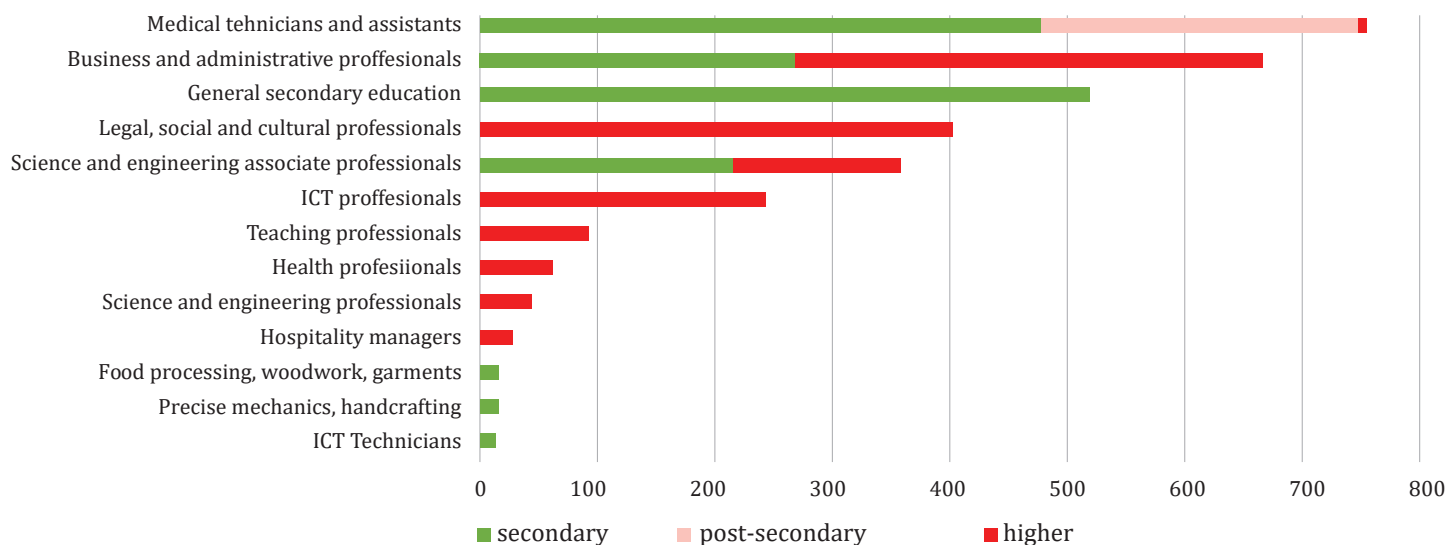
There are six secondary schools, 15 higher education institutions and one upskilling and re-skilling centre in the municipality of Bitola. In the forthcoming two years these institutions are expected to produce 3,194 profiled professionals for the labour market. 84% of the total supply of educational profiles fall within five occupations: health associate professionals and technicians; business and administration professionals; legal and social professionals; science and engineering associate professionals and persons who completed general secondary education, classified as persons without occupation. These results indicate that the municipality of Bitola has established an educational infrastructure to produce profiled labour force, in particular higher education and vocational profiles in several areas. In order to identify to which extent are those profiles matching the demand on the labour market, in Table 2 we are matching the identified gap with the expected profiles to be produced in the next two years. The results show that the deficiency gap for information

and communications technology professionals may be bridged by the production of graduates of the Faculty of Information and Communications Technologies in Bitola. Those persons who have completed secondary education for the technician profile will need additional education to the post-secondary level.

On the other hand, any further production of the educational profiles: teaching professionals; legal, social and cultural professionals; and business and administration associate professionals would broaden the surplus gap and create further labour market disruptions. In terms of profiles with general secondary education, the labour market opportunities would depend solely on whether these persons would upskill to deficient or surplus occupations, but in any case if they remain with only general secondary education, they would diminish their prospects. Finally, the upskilling and re-skilling centres are relatively under-represented and these institutions should received incentives to develop programmes that would help produce profiles in the deficient occupations, in particular those at low skill level.



Figure 7: Supply of profiled labour force by educational institutions in the next two years



Source: Educational institutions within the territory of the municipality of Bitola, data collected by the municipality of Bitola

Table 2: Matching the gap with the supply of profiles from the educational institutions in the next two years

Code	Occupation/Educational profile	Gaps				Supply from educational institutions		
		Primary	Secondary	Post-secondary	Higher	Secondary	Post-secondary	Higher
14	Hospitality, retail and wholesale trade and other services managers							27
21	Science and engineering professionals							42
22	Health Professionals							61
23	Teaching professionals							91
24	Business and administration professionals							0
25	Information and communications technology professionals							242
26	Legal, social and cultural professionals							400
31	Science and engineering associate professionals					214		142
32	Health associate professionals					477	269	6
35	Information and communications technicians					12		
33	Business and administration associate professionals					267		397
43	Accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks							
51	Personal services workers							
52	Sales workers							
54	Security guards							
71	Building construction workers and related construction workers							
72	Metal workers, machine assemblers and related occupations							
73	Precision mechanics, handicraft workers and printers					14		
74	Electrotechnology workers							
75	food preservers, wood, textile and leather workers and related occupations					15		
81	Machine and plant operators							
83	Drivers of motor vehicles, mobile plant operators and deck crew							
92	Agricultural, forestry and fishery labourers							
93	Labourers in mining, construction, manufacturing and transport							
96	Refuse workers and other elementary workers							
	No occupation							
	General secondary education					518		

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

- Significant surplus
- Surplus
- Adequately matched
- Deficit
- Significant deficit

CONCLUSIONS AND RECOMMENDATIONS

The diagnostic analysis of the labour market in the municipality of Bitola has shown that the greatest education-to-occupation gap is the one for the persons with higher education. For each required worker with higher education in the Pelagonija region, there are 2,5 unemployed persons in the municipality of Bitola. For the persons with high level skills, there is a severe surplus gap for the following occupations: teaching professionals; legal, social and cultural professionals; and science and engineering professionals. There is a deficiency gap with a demand greater than the supply for the occupation of information and communications technology professionals. With regard to low skill levels, there is a deficiency gap for the following occupations: information and communications technology technicians; labourers in mining, construction, manufacturing, and transport; and refuse workers and other elementary workers. The educational institutions in the municipality of Bitola have the potential to address the gap in deficient occupations, but some of them are only broadening the gap for the surplus occupations by intensive and mass production of surplus educational profiles.

RECOMMENDATIONS

Recommendations for the Employment Centres and ESARNM

To design active labour market measures for the unemployed active job seekers in the municipality of Bitola, in particular:

- Skilling of persons with primary education and no occupation into elementary workers. The upskilling and re-skilling centres, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- Upskilling/re-skilling of persons who completed general secondary education in some of the deficient occupations (for instance, information and communications technology technicians)
- Upskilling/re-skilling of persons with secondary education in the occupation of business and administration associate professionals in the following occupations: accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks; personal services workers; sales workers; security guards; building construction workers and related construction workers
- Community work with different skill requirements for the persons classified in occupations/education profiles with significant surplus gap:
 - o Work with low skill requirement for persons without occupation (cleaning the community, refuse collection, collection of bulk waste for recycling, etc.)
 - o Work with high skill requirements for persons with high level skills in surplus occupations (learning support for students belonging to the vulnerable groups, support to schools and kindergartens, etc.)

For the educational institutions and the Ministry of Education and Science

- To bridge the gap in deficient occupations short-term through:
 - o Educational institutions which have established programmes in the deficient occupations should increase the attractiveness and enrollment quotas so as to produce more graduates
 - o The upskilling and re-skilling centres, in cooperation with ESARNM and the Employment Centre, should be stimulated to intensify their work
 - o Secondary vocational schools should improve their cooperation with the private sector, in particular with big companies and foreign investors located in the municipality of Bitola or the immediate vicinity (for instance, Kromberg&Schubert, Genterm, etc.). The cooperation could be promoted through:
 - Regular internship for students of secondary vocational schools in relevant companies
 - Pilot-project for deficient occupations (e.g., technicians-operators)
 - Potential matching of companies and secondary vocational schools: "Gjorgji Naumov", having potential to produce ICT technicians, could be matched with the following foreign companies: Kromberg&Schubert, Genterm, and VIK; "Jovan Kalauzi", having potential to produce health technicians and assistants, could be matched with the private hospital "Plodnost"; "Taki Daskalo" should be matched with the textile companies in the municipality and its immediate surrounding

- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:

- o The programmes and profiles of the educational institutions should be designed in line with the occupations in demand on the labour market in the municipality of Bitola

- o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)

- o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

- When recruiting elementary workers, to make persons without occupation eligible to apply to the vacancy ads

- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications

For the Municipality of Bitola, regional chambers, secondary schools

- To raise the awareness of young people about which educational profiles are in demand, and which are redundant, so as to help them make an informed decision when they are selecting their educational pathways

For the business sector

- To intensify the cooperation with the secondary vocational schools and take active participation in the potential establishment of dual education or pilot-occupations

- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies

For the State Statistical Office

- To collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)

Labour market diagnostics in the municipality of Resen

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the education and skills mismatch on the labour market in the municipality of Resen, such as:

- Skilling the unemployed with no occupation into elementary occupations (skill level 1) (in cooperation with ESARNM)
- Activate of passive job seekers of working age through a campaign for activation of passive job seekers
- Production of profiles by the upskilling and re-skilling centres in the Pelagonija region for the most demanded occupations: tobacco preparers, sewers, salespersons, heavy truck and lorry drivers
- Strengthening the cooperation between the secondary vocational school “Car Samuil” and the relevant companies in the municipality
- Redesigning the curricula/profiles and skills conferred by the qualifications obtained, in line with the occupations in demand on the labour market in the municipality of Resen and the skills required (for instance, skills relating to STEM sciences, analytical skills, critical thinking, etc.)
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Resen is facing a shortage of qualified labour force and a deficiency gap for medium and low skill occupations. For each worker with primary education required by the companies in the Pelagonija region, there are 0.42 unemployed persons in the municipality of Resen. There is a predominant deficiency gap in the municipality of Resen, which implies a shortage of qualified labour force that is particularly prominent for medium and low skill occupations. For persons with high level skills, there is a surplus gap with the supply drastically exceeding the demand for the occupation of legal, social, and cultural professionals: At the same time, there is a severe surplus gap created by persons who completed primary education and have no occupation and by those who completed general secondary education. The educational institutions in the municipality of Resen have a moderate potential to address the gap with deficient occupations. Furthermore, they should be careful with any further production of profiles that broaden the surplus gap. Greater efforts need to be taken to overcome the problem with the shortage of labour.

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Resen and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Resen is the third biggest municipality in the Pelagonija region, with population of 16.352¹, thus accounting for 7% of the total population in the Pelagonija region.

Currently, the labour market in the Pelagonija region is favourable; it is ranked fourth² in terms of the unemployment rate and second³ in terms

of the employment and activity rates as compared to the other seven regions. In 2019, the unemployment rate of the population aged 15 and above was 13.1% (12.4% for women and 13.6% for men), the employment rate was 56%, while the activity rate was 64.5%. The favourable trend is also reflected in the average gross salary: with MKD 35,177, the Pelagonija region is ranked second (Regions in the Republic of North Macedonia, SSO, 2020). The favourable location, highly arable agricultural land, as well as the biggest coal deposits sites in the region make up the natural prerequisites for favourable labour market performance. Furthermore, the region is attractive to foreign investments and several big companies are located there, thus contributing significantly to the employment in the region.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²Following the Vardar region (10.8%), Eastern region (7.8%) and the Southeastern region (6.3%)

³Following the Southeastern region (63.3%)

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Resen
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Resen; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Resen.

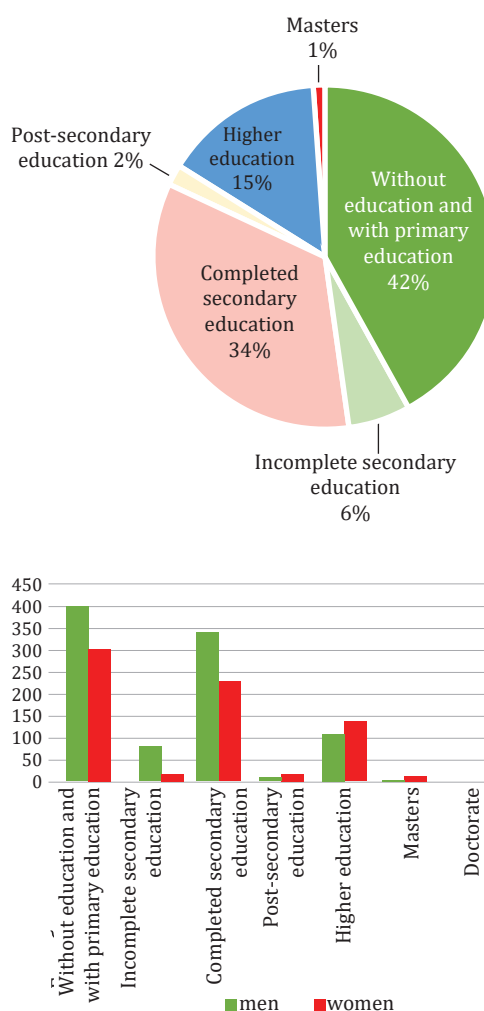
One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level. The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Out of the total registered unemployed who were active job seekers in the municipality of Resen in 2020, 43% were women and 57% were men. In terms of education, persons with lower educational attainment are predominant. Nearly one half (48%) of the unemployed were persons with primary or no education (42%) and incomplete secondary education. However, 15% of the unemployed are with higher education (Figure 1).

Figure 1: Unemployed persons in the municipality of Resen, by educational attainment

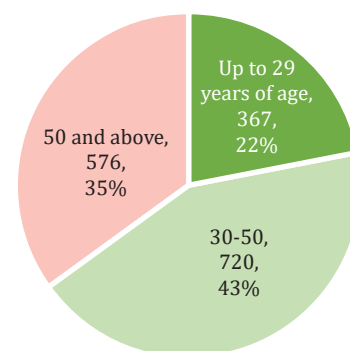


Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed are aged 30-50 (43%), followed by the unemployed aged 50 or more (35%) (Figure 2).

The relatively low share of young people in the total structure (22%) is probably owing to the late activation on the labour market due to education, as well as to the proportionally lower share of young people in the population.

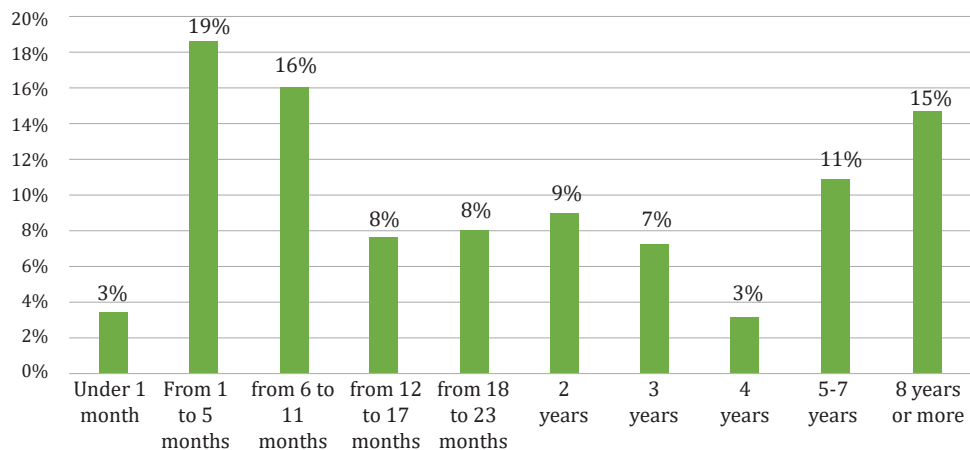
Figure 2: Structure of unemployed by age



Source: Employment Service Agency of the Republic of North Macedonia

39% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. However, long-term unemployment is one of the more serious problems in the municipality of Resen. 46% of the unemployed persons are waiting for employment for more than two years, which indicates a possibility of structural unemployment.

Figure 3: Unemployed persons in the municipality of Resen, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

In addition to the unemployed active job seekers, the persons registered as passive job seekers also have a moderate share in the unemployed in the municipality of Resen. According to the Employment Service Agency, this category includes 597 persons, which represents a share of 35% in the total number of active job seekers. One half (49 %) have no education or primary education, 41% are with secondary education (34%) or incomplete secondary education (7%). Furthermore, only eight per cent of this group have completed higher education. The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

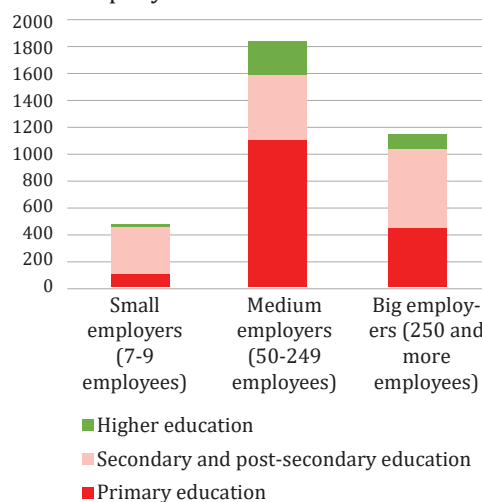
Demand

According to the regional labour demand survey in 2020, the total demand for the Pelagonija region is 3,491 jobs, which accounts for 48% of the unemployed labour force in the municipality of Resen.

Figure 4 provides an overview of the labour demand by education and company size. It is expected that one

half of the vacancies will be generated by medium to large employers, additional 33% by big companies and 13% by small employers. In terms of the demand by education, the demand for workers who completed primary (47%) and secondary education (40%) is predominant.

Figure 4: Labour demand by education and company size

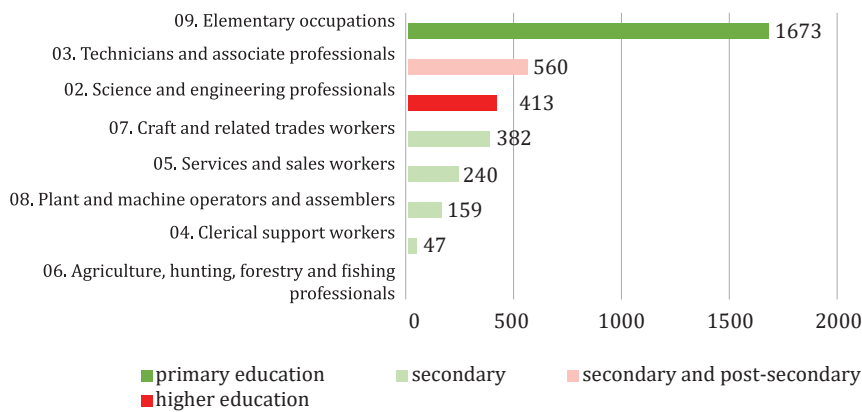


Source: Employment Service Agency of the Republic of North Macedonia

Cross-referencing the demand by education and occupation (NCO-ISCO 08) (Figure 5) shows that the entire demand for workers who completed primary education concerns the group of elementary occupations (predominantly for elementary workers, tobacco preparers and labourers in loading, unloading and transport of cargo). The demand for workers with secondary education is more heterogeneous in terms of

occupations. In absolute figures, the demand for occupations with secondary vocational school is greater than the one for those with general secondary education. 16% of the total demand for workers and 40% of the demand for workers with secondary and post-secondary education are for technicians and related occupations, with nearly 90% concerning technicians-operators. It is followed by occupations of craft and related trade workers, including: sewers, shopkeepers, heavy truck and lorry drivers, waiters, locksmiths, stock clerks, welders, cooks, and similar occupations. Next on the list of workers with secondary education are services and sales workers and plant and machine operators and assemblers. All workers with higher education in demand on the market are in the occupation of professionals and science professionals. One third of them are systems administrators and 17% are programmers.

Figure 5: Labour demand by occupation and education for the Pelagonija region

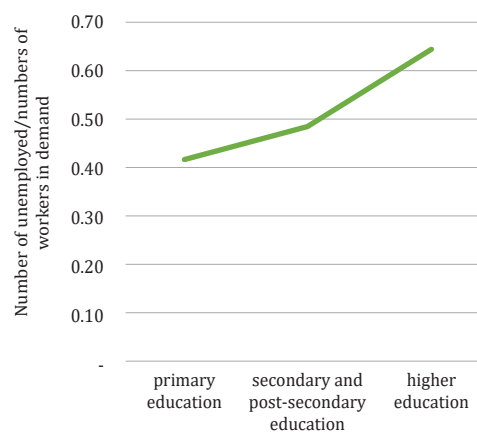


Source: ESARNM, regional labour market skills needs survey in RNM in 2020⁴

Labour market gap by education and occupation

The labour market gap in the municipality of Resen is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation. Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results indicate that the municipality of Resen can cover for 48% of the total labour demand in the Pelagonija region. As opposed to other municipality where there are usually more unemployed persons for each newly created jobs, the situation in the municipality of Resen is reverse and the supply is less than the demand. To a certain extent this is owing to the fact that the municipality's share in the total population of the region is relatively small, i.e., it is only seven per cent. Thus, for every worker with primary education required by the companies in the Pelagonija region, there are 0.42 unemployed persons in the municipality of Resen, with similar ratio for secondary and post-secondary education (0.49), while for higher education the ratio is higher at 0.64.

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply. Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Resen. The gap may be analyzed according to the educational attainment within an occupation (horizontally) and vertically, for different occupations. The gap where the supply is greater than the demand is marked in red (dark red - severe gap, light red - moderate gap). Light yellow indicates that the matching of the supply and

demand is nearly complete and there is no gap. The green shading marks a deficiency gap, where the demand for jobs is greater than the supply (dark green - severe gap, light green - moderate gap).

The results show that for higher level skills there is a gap for nine out of ten occupations. For six occupations the gap is positive, while for two occupations with higher education the gap is severe (teaching professionals; and legal, social and cultural professionals). There is also a surplus gap for three occupations with secondary education (science and engineering associate professionals; health associate professionals; and business and administration associate professionals), but the magnitude of the gap declines or it transforms into a deficiency gap with the transition to higher education. This indicates the presence of occupations with potential underqualification. There is a deficiency gap for the occupation of information and communications technology professionals and technicians.

There is a prevailing deficiency gap for nearly all occupations at medium skill level. A moderate surplus gap where the labour supply is greater than the demand is found only in three occupations with primary education: personal services workers; metal workers, machine assemblers and related occupations; and food preservers, wood, textile and leather workers and related occupations. However, it disappears and turns into a deficiency gap for persons who completed secondary education. This implies the existence of a potential underqualification and inadequate education. There is a deficiency gap for other occupations at medium skill level, and for five of them the gap is severe: accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks; sales workers; plant and machine operators; operators of motor vehicles, mobile plants and deck crew.

⁴ The survey has been conducted on a sample of 3,295 employers from the private sector with seven or more employees, stratified by region and by employer sectors. The sample includes all medium and large employers, while other employers have been selected randomly until the required sample size has been achieved.

There is a shortage of labour for occupations at low skill level. Except for persons with primary education and no occupation, there is a deficiency gap for the remaining four occupations, while for the occupations: refuse workers and other elementary workers; and labourers in mining, construction, manufacturing, and transport the deficiency gap is severe. On the other hand, there is a surplus of unemployed labour for persons without any occupation and the persons who have completed general secondary education. Therefore, the gap in low skill occupations could be reduced if the person without occupation are

upskilled to the level of elementary workers and are adequately matched to the demand for such occupation. It would be necessary to undertake upskilling and/or re-skilling measures for persons with general secondary education.

The overall conclusion is that the surplus gap (when the supply exceeds the demand) occurs for higher skill level occupations, in particular with social sciences and educational occupations. There is a predominant deficiency gap for occupations at medium and low skill levels, with a shortage of workers with secondary education for various occupations.

To an extent, this may be owing to the emigration trend in the country. Nevertheless, when compared to occupations at high skill levels, the educational gap is more present with occupations at medium and low skill levels. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling. Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important.

A World Bank study (2020) has identified that the training offered by the educational system does not match the companies' needs.

Table 1: Labour market gaps by occupation - educational profile

Skill level	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	21	Science and engineering professionals				
	22	Health Professionals				
	23	Teaching professionals				
	24	Business and administration professionals				
	25	Information and communications technology professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	35	Information and communications technicians				
	33	Business and administration associate professionals				
Medium skill level	42	Customer services clerks				
	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks				
	51	Personal services workers				
	52	Sales workers				
	54	Security guards				
	71	Building construction workers and related construction workers				
	72	Metal workers, machine assemblers and related occupations				
	74	Electrotechnology workers				
	75	Food preservers, wood, textile and leather workers and related occupations				
	81	Machine and plant operators				
Low skill level	91	Cleaners and helpers				
	92	Agricultural, forestry and fishery labourers				
	93	Labourers in mining, construction, manufacturing and transport				
	96	Refuse workers and other elementary workers				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

The same study has identified that the students lack adequate practical skills matching their diplomas⁵.

Educational profiling as a factor in bridging or broadening the gaps

There is one secondary school and one institution for validation of non-formal learning of adults.

In the forthcoming four years the secondary school is expected to produce 318 profiled professionals for the labour market. However, 82% of the profiles produced are will general secondary education, classified as persons without occupation, while the remaining 18% are with the occupation of science and engineering associate professionals (agronomy technician and phytomedicine technician/ agricultural-veterinary profile, and technician in farming production / agricultural-veterinary technician).

These results imply that the municipality of Resen has a moderately well-established educational infrastructure to produce profiled labour force. In order to identify to which extent are those profiles matching the demand on the labour marker, in Table 2 we are

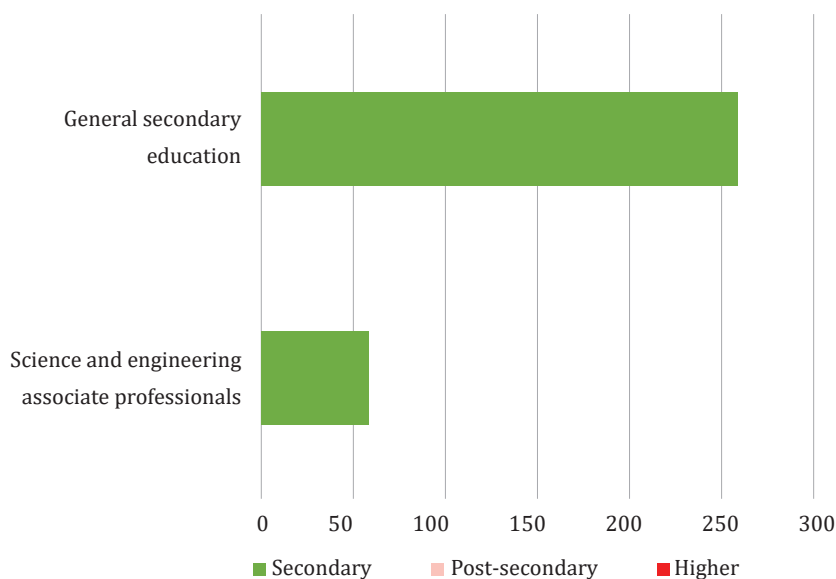
matching the identified gap with the expected profiles to be produced in the next two years.

The results show that the occupations and profiles supplied by educational institutions largely fail to bridge the existing gap in the labour market. Furthermore, the profiles produced only broaden the surplus gap. There is already a severe surplus gap caused by the production of profiles with general secondary education. On the other hand, for the occupation of science and engineering associate professionals, there is a surplus gap for persons with secondary education, and the gap disappears with the increase of the educational attainment. Therefore, the production of such profiles may not have a detrimental effect on the labour market if these persons countinue their education. In view of mitigating the deficiency gap, the municipal secondary school "Car Samuil" - Resen should consider the introduction of new profiles for deficient occupations: personal services workers; sales workers; food preservers, wood, textile and leather workers and related occupations; and plant and machine operators. Furthermore, the deficiency gap may be addressed by

re-skilling the persons who completed general secondary education, in cooperation with the upskilling and re-skilling centres in the adjacent municipalities.

In terms of profiles with general secondary education, the labour market opportunities would depend solely on whether these persons would upskill to deficient or surplus occupations, but in any case if they remain with only general secondary education, they would diminish their prospects. Finally, the upskilling and re-skilling centres in the neighbouring municipalities in the Pelagonija region could improve their roles and engage actively in the mitigation of the deficiency gap for elementary workers with primary education by upskilling and re-skilling unemployed persons who have no occupation.

Figure 7: Supply of profiled labour force by educational institutions in the next four years



Source: Educational institutions within the territory of the municipality of Resen, data collected by the Municipality of Resen and the Ministry of Education and Science of the Republic of North Macedonia

⁵World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#).

Table 2: Matching the gap with the supply of profiles from the educational institutions in the next four years

			Labour market gap				Profiles profuced by educational institutions
Skill level	Code	Occupation/Educational profile	Primary	Secondary	Post-secondary	Higher	Secondary
High skill level	21	Science and engineering professionals					
	22	Health Professionals					
	23	Teaching professionals					
	24	Business and administration professionals					
	25	Information and communications technology professionals					
	26	Legal, social and cultural professionals					
	31	Science and engineering associate professionals - agronomy technician and phytomedicine technician/ agricultural-veterinary profile - technician in farming production / agricultural-veterinary technician					59
	32	Health associate professionals					
	35	Information and communications technicians					
	33	Business and administration associate professionals					
Medium skill level	42	Customer services clerks					
	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks					
	51	Personal services workers					
	52	Sales workers					
	54	Security guards					
	71	Building construction workers and related construction workers					
	72	Metal workers, machine assemblers and related occupations					
	74	Electrotechnology workers					
	75	Food preservers, wood, textile and leather workers and related occupations					
	81	Machine and plant operators					
	83	Drivers of motor vehicles, mobile plant operators and deck crew					
Low skill level	91	Cleaners and helpers					
	92	Agricultural, forestry and fishery labourers					
	93	Labourers in mining, construction, manufacturing and transport					
	96	Refuse workers and other elementary workers					
		No occupation					
		General secondary education					259

Source: Employment Service Agency of the Republic of North Macedonia, Ministry of Education and Science of the Republic of North Macedonia, data delivered by the Municipality of Resen and the Ministry of Education and Science of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

CONCLUSIONS AND RECOMMENDATIONS

The diagnostic analysis of the labour market in the municipality of Resen has shown that the greatest education-to-occupation gap is the one for the persons with primary education. For every worker with secondary education required in the Pelagonija region, there are 0.5 unemployed persons in the municipality of Resen, for those with primary education the ratio is 3.8, while for those with higher education the ratio is 4.5. To a certain extent this is owing to the fact that the municipality's share in the total population of the region is relatively small, i.e., it is only seven per cent. There is a predominant deficiency gap in the municipality of Resen, which implies a shortage of qualified labour force that is particularly prominent for medium and low skill occupations.

For persons with high level skills, there is a surplus gap with the supply drastically exceeding the demand for the occupations of legal, social, and cultural professionals; and teaching professionals. The educational institutions in the municipality of Resen have a moderate potential to address the gap with deficient occupations. Furthermore, they should be careful with any further production of profiles that broaden the surplus gap. Greater efforts should be made to overcome the problem with the shortage of labour force, and this problem may be potentially mitigated by re-skilling the unemployed persons with general secondary education, upskilling the unemployed persons without any qualifications and by activating the passive job seekers.

RECOMMENDATIONS

Recommendations to overcome the problem with the shortage of qualified labour for the Employment Centre and ESARNM

To design **upskilling and re-skilling training** within the active labour market measures for the unemployed active job seekers in the municipality of Resen, in particular:

- Skilling of persons with primary education and no occupation into elementary workers. The upskilling and re-skilling centres from the neighbouring municipalities in the Pelagonija region, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- Production of profiles by the upskilling and re-skilling centres in the Pelagonija region for the most demanded occupations: sales workers, locksmiths, tobacco preparers, labourers in loading, unloading and transport of cargo, manufacturing line labourers)
- Upskilling/re-skilling of persons who completed general secondary education in some of the deficient occupations (for instance, sewers, sales workers, heavy truck and lorry drivers, waiters, locksmiths, etc.)

To design a process for **certification of informally acquired skills**, in cooperation with ESARNM and the upskilling and re-skilling centres in the region.

To increase the labour supply by activation of the passive job seekers at working age. The Employment Centre should carry out a campaign for activation of passive job seekers and identification of the reasons for their passivity. To enhance the mechanisms preventing the manipulations of the system and consistent application of the law on suspension of minimum guaranteed assistance in case of refusal of offered work.

For the educational institutions and the Ministry of Education and Science

- To bridge the gap in deficient occupations short-term through:
 - o The municipal secondary school "Car Samuil" - Resen should consider the introduction of new profiles for deficient occupations: food preservers, wood, textile and leather workers and related occupations
 - o The upskilling and re-skilling centres in the Pelagonija region, in cooperation with ESARNM and the Employment Centre, should be stimulated to intensify their work.
 - o Secondary vocational schools should improve their cooperation with the private sector. The cooperation could be promoted through:
 - Regular internship for students of secondary vocational schools in relevant companies
 - Pilot-projects for deficient occupations
- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:
 - o The programmes and profiles of the educational institutions should be designed in line with the occupations in demand on the labour market in the municipality of Resen
 - o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)
 - o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

For the business sector

- To intensify the cooperation with the secondary vocational school “Car Samuil”
- When recruiting elementary workers, to make persons without occupation eligible to apply to the vacancy ads
- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies
- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications
- To provide incentives and working conditions for parents by organizing transport to the remote and rural areas, flexible working arrangements and remote work

For the Municipality of Resen, regional chambers, secondary schools

- To raise the awareness of young people about which educational profiles are in demand, and which are redundant, so as to help them make an informed decision when they are selecting their educational pathways
- To intensify the investments in kindergartens and homes for the elderly, thus enabling the activation of the passive unemployed on the labour market who are not active because they are providing care for the children and the elderly

For the State Statistical Office

- To collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)



Labour market diagnostics in the municipality of Sveti Nikole

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the education and skills mismatch on the labour market in the municipality of Sveti Nikole, such as:

- Skilling the unemployed with no occupation into elementary occupations (skill level 1) (in cooperation with ESARNM)
- Activation of passive job seekers of working age through a campaign for activation of passive job seekers
- Production of profiles by the upskilling and re-skilling centres in the Vardar region for the most demanded occupations: sewers, salespersons, locksmiths, welders
- Strengthening the cooperation between the secondary vocational school “Kocho Racin” and the relevant companies in the municipality
- Redesigning the curricula/profiles and skills conferred by the qualifications obtained, in line with the occupations in demand on the labour market in the municipality of Sveti Nikole and the skills required (for instance, skills relating to STEM sciences, analytical skills, critical thinking, etc.)
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Sveti Nikole is facing a shortage of qualified labour force and a deficiency gap for medium and low skill occupations. For each required worker with primary education in the Vardar region, there are 0.38 unemployed persons in the municipality of Sveti Nikole. To a certain extent this is owing to the fact that the municipality's share in the total population of the region is relatively small, i.e., it is only 12%. There is a predominant deficiency gap in the municipality of Sveti Nikole, which implies a shortage of qualified labour force that is particularly prominent for medium and low skill occupations. For persons with high level skills, there is a surplus gap with the supply drastically exceeding the demand for the occupation of legal, social, and cultural professionals: The educational institutions in the municipality of Sveti Nikole have a moderate potential to address the gap with deficient occupations. Furthermore, they should be careful with any further production of profiles that broaden the surplus gap. Greater efforts need to be taken to overcome the problem with the shortage of labour.

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Sveti Nikole and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Sveti Nikole is the fourth biggest municipality in the Vardar region, with population of 17,853¹, thus accounting for 12% of the total population in the Vardar region. Currently, the labour market in the Vardar region is favourable; it is ranked third² in terms of the unemployment, employment and activity rates as compared to the other seven regions.

In 2019, the unemployment rate of the population aged 15 and above was 10.8% (12% for women and 9.9% for men), the employment rate was 55.2%, while the activity rate was 61.8%. Nevertheless, such favourable trend does not reflect on the average gross salary, which is moderate at MKD 31,078. This places the Vardar region on the fourth place (in the middle) of the rankings by the average salary (Regions in the Republic of North Macedonia, SSO, 2020). The region is characterized by favourable climate, in particular for winegrowing, hence the region is recognized by the concentration of wine cellars. There are also significant deposits of ferronickel in the region, which is excavated and processed.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²After the Southeast region (6.3%) and the Eastern region (7.8%)

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Sveti Nikole
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Sveti Nikole; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Sveti Nikole.

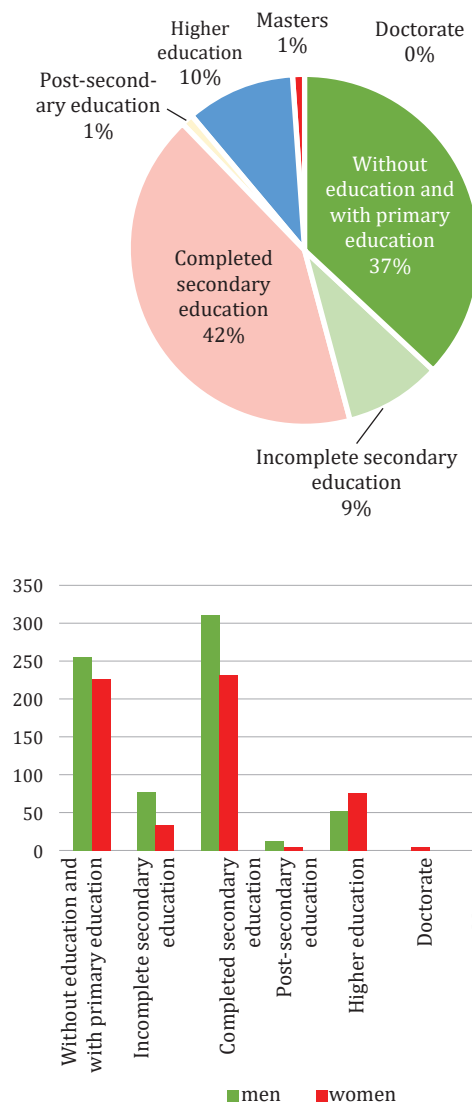
One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level. The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Out of the total registered unemployed who were active job seekers in the municipality of Sveti Nikole in 2020, 44% were women and 55% were men. In terms of education, persons with primary or no education (37%) and those with completed secondary education (42%) are almost equally represented. Persons who have completed higher education have a share of 12% (Figure 1).

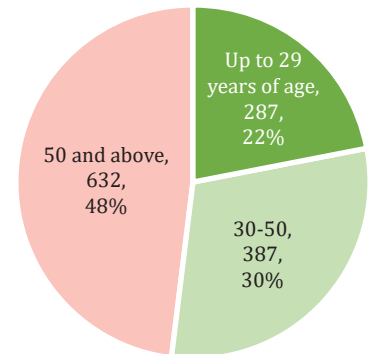
Figure 1: Unemployed persons in the municipality of Sveti Nikole, by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed persons are aged 50 and more (48%). They are followed by unemployed persons aged 30 to 50 (30%), while young people up to 29 years of age have the smallest share (22%) (Figure 2).

Figure 2: Structure of unemployed by age

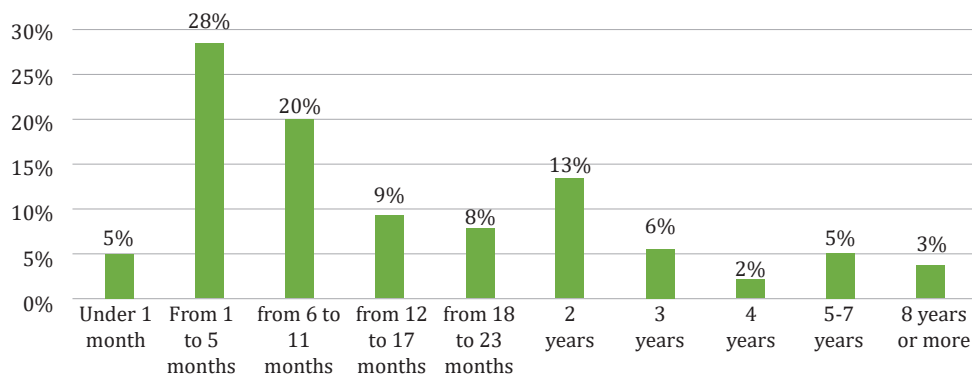


Source: Employment Service Agency of the Republic of North Macedonia

53% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. Although such structure may appear encouraging, 29% of the unemployed are waiting for employment for more than two years, which indicates a possibility of structural unemployment.

In addition to the unemployed active job seekers, the persons registered as passive job seekers also have a significant share in the unemployed in the municipality of Sveti Nikole.

Figure 3: Unemployed in the municipality of Sveti Nikole, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

According to the Employment Service Agency, this category includes 1,052 persons, which represents a share of 80% in the total number of active job seekers. One half (51%) have completed secondary education, 41% are with primary education (32%) or incomplete secondary education (9%). Furthermore, only seven per cent of this group have completed higher education. The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

Demand

According to the regional labour demand survey in 2020, the total demand for the Vardar region is 3,447 jobs, which is 160% more than the unemployed labour force in the municipality of Sveti Nikole. This points out to a shortage of workers, but, it may also be a result of the relatively small share of the municipality in the overall region.

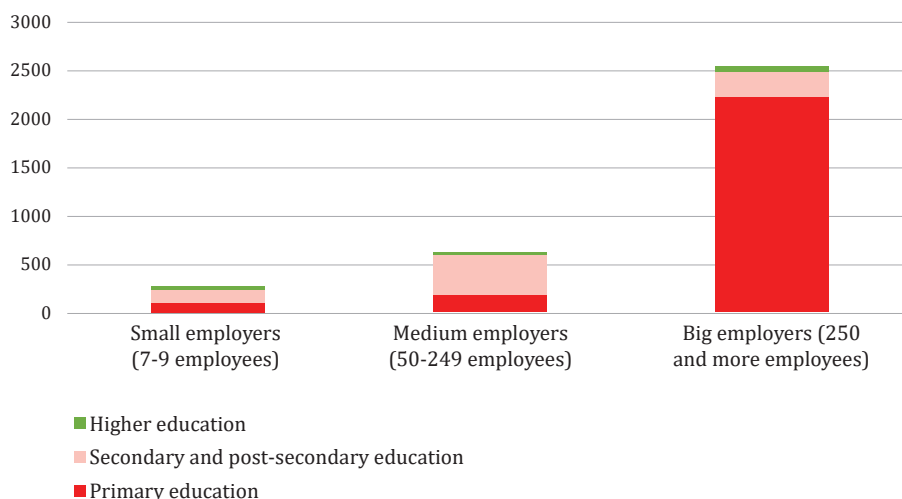
Figure 4 provides an overview of the labour demand by education and company size. It is expected that 74% of the vacancies will be generated by big employers, additional 18% by medium companies and only eight per cent by small employers. This may explain the structure of employers in the Vardar region, where the big companies are the biggest employers, and in terms of location the region is

also attractive for foreign investors. In terms of the demand by education, the demand for workers who completed primary (73%) and secondary education (24%) is predominant.

Cross-referencing the demand by education and occupation (NCO-ISCO 08) (Figure 5) shows that the entire demand for workers who completed primary education concerns the group of elementary occupations (predominantly for elementary workers, elementary workers not elsewhere classified; crop farm labourers; manufacturing line labourers).

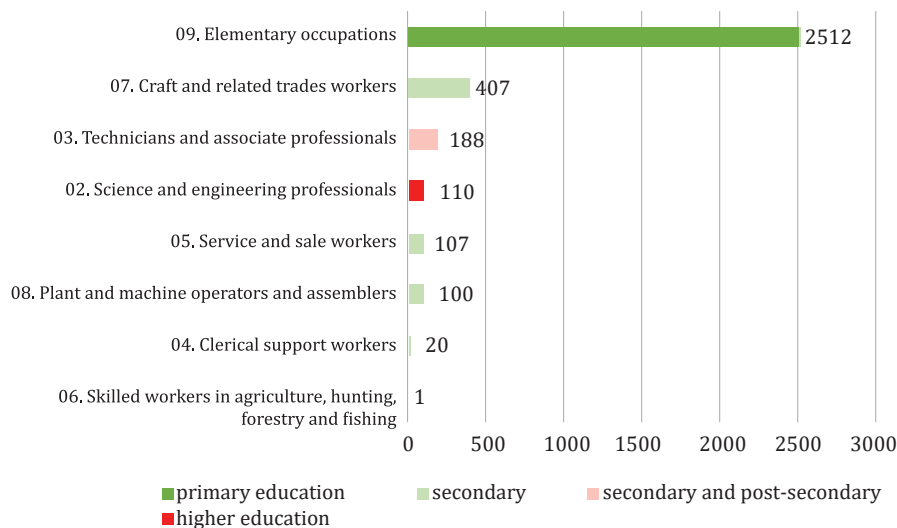
The demand for workers with secondary education is more heterogeneous in terms of occupations. 11 per cent of the total demand for workers and 64% of the demand for workers with secondary education is for craft and related trades workers, including: sewers, locksmiths, welders, other craft and related trades workers, building repairs electricians, butchers, motor vehicle mechanics, etc. They are followed by the occupations of services workers, including: waiters, salespersons, cooks and related occupations. All workers with higher education in demand on the market are in the occupation of professionals and science professionals. Of those, 20% related to mechanical engineers and 18% to industrial production engineers.

Figure 4: Labour demand by education and company size



Source: Employment Service Agency of the Republic of North Macedonia

Figure 5: Labour demand by occupation and education for the Vardar region

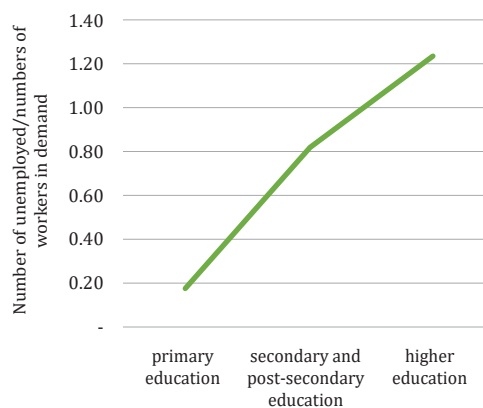


Source: ESARNM, regional labour market skills needs survey in RNM in 2020³

Labour market gap by education and occupation

The labour market gap in the municipality of Sveti Nikole is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation. Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results indicate that the municipality of Sveti Nikole can cover for 38% of the total labour demand in the Vardar region. As opposed to other municipalities where there are usually more unemployed persons for each newly created job, the situation in the municipality of Sveti Nikole is reverse and the supply is less than the demand. To a certain extent this is owing to the fact that the municipality's share in the total population of the region is relatively small, i.e., it is only seven 12%. For every worker with primary education required in the Vardar region, there are 0.2 unemployed persons in the municipality of Sveti Nikole, for those with secondary and post-secondary education the ratio is 0.83, while for those with higher education the ratio is 1.3.

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply.

Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Sveti Nikole. The gap may be analyzed according to the educational attainment within an occupation (horizontally) and vertically, for different occupations. The gap where the supply is greater than the demand is marked in red (dark red - severe gap, light red - moderate gap). Light yellow indicates

that the matching of the supply and demand is nearly complete and there is no gap. The green shading marks a deficiency gap, where the demand for jobs is greater than the supply (dark green - severe gap, light green - moderate gap).

The results show that for higher level skills there is a gap for five out of nine occupations. For four of the occupations the gap is positive, and there is a deficiency gap only for one occupation. For the higher education occupations there is a potential higher overqualification for the occupation of legal, social and cultural professionals, and there is great supply and lack of demand for teaching professionals. For the occupations at high skill level and secondary education the positive gap is owing to the lower demand. For three occupations, science and engineering associate professionals; health associate professionals; and business and administration associate professionals, the severe positive gap disappears and transforms into a deficiency gap with the transition from secondary to post-secondary education. This indicates potential underqualification.

For medium skill level occupations, there is a severe surplus gap, where the labour supply is significantly greater than the demand only for one of 11 occupations: market-oriented skilled agricultural workers. It is probably owing to the fact that this is a relatively new occupation and the market is yet to generate adequate demand. In view of the fact that the agricultural sector in the municipality of Sveti Nikole is highly developed, this gap is of temporary nature. For seven occupations with secondary education there is a severe deficiency gap, in particular for: services workers; building construction workers and related construction workers; machine and plant operators; and operators of motor vehicle and mobile plants. This indicates a shortage of labour for these occupations. On the other hand, for food preservers, wood, textile and leather workers and related

³ The survey has been conducted on a sample of 3,295 employers from the private sector with seven or more employees, stratified by region and by employer sectors. The sample includes all medium and large employers, while other employers have been selected randomly until the required sample size has been achieved.

occupations and precision mechanics, handicraft workers and printers, the positive gap disappears with the increase of the educational attainment from primary to secondary education. This implies underqualification and a need to upskill persons with primary education.

In occupations at low skill level there is a severe deficiency gap for all occupations with primary education, mostly elementary workers and helpers in different activities, as well as severe surplus of labour for persons without occupation and persons with general secondary

education. Therefore, the gap in low skill occupations could be reduced if the person without occupation are upskilled to the level of elementary workers and are adequately matched to the demand for such occupation.

It would be necessary to undertake upskilling and/or re-skilling measures for persons with general secondary education.

The overall conclusion is that the labour market in the municipality of Sveti Nikole is facing a shortage of labour, mostly for occupations at medium level skills, shortage of elementary workers, and

underqualification of persons with primary education and without occupation. To an extent, this may be owing to the emigration trend in the country.

There are surplus gaps (where the supply is greater than the demand) for high skill occupations such as the social and teaching occupations, which is a result of the overall educational strategy at national level in the previous decade. Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important. A World Bank study (2020) has identified

Table 1: Labour market gaps by occupation - educational profile

Skill level	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	21	Science and engineering professionals				
	22	Health Professionals				
	23	Teaching professionals				
	24	Business and administration professionals				
	25	Information and communications technology professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	33	Business and administration associate professionals				
Medium skill level	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks				
	51	Personal services workers				
	52	Sales workers				
	54	Security guards				
	61	Market-oriented skilled agricultural workers				
	71	Building construction workers and related construction workers				
	72	Metal workers, machine assemblers and related occupations				
	73	Precision mechanics, handicraft workers and printers				
	74	Electrotechnology workers				
	75	Food preservers, wood, textile and leather workers and related occupations				
	83	Drivers of motor vehicles, mobile plant operators and deck crew				
Low skill level	92	Agricultural, forestry and fishery labourers				
	93	Labourers in mining, construction, manufacturing and transport				
	96	Refuse workers and other elementary workers				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

that the training offered by the educational system does not match the companies' needs. The same study has identified that the students lack adequate practical skills matching their diplomas⁴.

Educational profiling as a factor in bridging or broadening the gaps

There are one secondary school and one higher education institution in Sveti Nikole.

In the forthcoming two years these institutions are expected to produce 686 profiled professionals for the labour market. 75% of the total supply of educational profiles fall within three occupations: legal and social professionals; health associate professionals; and persons with completed general secondary education, classified as persons without occupation.

These results imply that the municipality of Sveti Nikole has a moderately well-established educational infrastructure to produce profiled labour force. In order to identify to which extent are those profiles matching the demand on the labour marker, in Table 2 we are matching the identified gap with the

expected profiles to be produced in the next two years.

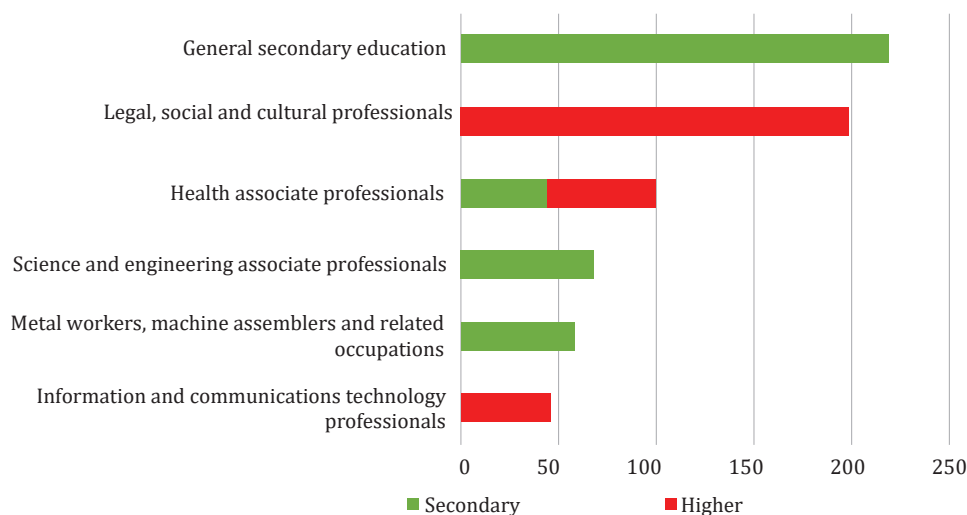
The results show that the occupations and profiles supplied by educational institutions largely fail to bridge the existing gap in the labour market. Furthermore, some of the profiles produced only broaden the surplus gap. Thus, the profiles with high level skills produced by the International Slavic University "Gavrilo Romanovich Derzhavin" – Sveti Nikole, are in occupations already severely in surplus. For occupations at medium skill level and with secondary education, the profiles produced are more adequate. The produced profiles: motor vehicle technicians and motor vehicle mechatronics technicians match fully the labour market demand and will contribute to the mitigation of the deficiency gap. On the other hand, the agriculture and veterinary profiles produced may aggravate further the surplus gap considering the already significant supply of such occupations among the unemployed.

For the purpose of mitigating the deficiency gap, the secondary school "Kocho Racin" – Sveti Nikole should consider introducing new profiles

in the deficient occupation: food preservers, wood, textile and leather workers and related occupations, in cooperation with the Joint Stock Company for Manufacture of Garments "Moda" from Sveti Nikole, which is already engaged in validation of adult learning in the occupation of light garments sewer. For other deficient occupations the gap may be addressed by re-skilling the persons who completed general secondary education, in cooperation with the upskilling and re-skilling centres in the adjacent municipalities.

In terms of profiles with general secondary education, the labour market opportunities would depend solely on whether these persons would upskill to deficient or surplus occupations, but in any case if they remain with only general secondary education, they would diminish their prospects. Finally, the upskilling and re-skilling centres in the neighbouring municipalities in the Vardar region could improve their roles and engage actively in the mitigation of the deficiency gap for elementary workers with primary education by upskilling and re-skilling unemployed persons who have no occupation.

Figure 7: Supply of profiled labour force by educational institutions in the next four years



Source: Educational institutions within the territory of the municipality of Sveti Nikole, data collected by the Municipality of Sveti Nikole and the Ministry of Education and Science of the Republic of North Macedonia

⁴World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#).

Table 2: Matching the gap with the supply of profiles from the educational institutions in the next two years

			Labour market gap				Profiles profuced by educational institutions	
Skill level	Code	Occupation/Educational profile	Primary	Secondary	Post-secondary	Higher	Secondary	Higher
High skill level	21	Science and engineering professionals						
	22	Health Professionals						
	23	Teaching professionals						
	24	Business and administration professionals						
	25	Information and communications technology professionals						45
	26	Legal, social and cultural professionals						199
	31	Science and engineering associate professionals					67	
	32	- Veterinary technicians and assistants - Occupational safety and health engineers						
	33	Business and administration associate professionals - Police inspectors and detectives					43	56
	35	Information and communications technology technicians - motor vehicles mechanics, mechatronic technicians						
Medium skill level	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks						
	51	Personal services workers						
	52	Sales workers						
	54	Security guards						
	61	Market-oriented skilled agricultural workers						
	71	Building construction workers and related construction workers						
	72	Metal workers, machine assemblers and related occupations - motor vehicles mechanics, mechatronic technicians				57		
	73	Precision mechanics, handicraft workers and printers						
	74	Electrotechnology workers						
	75	Food preservers, wood, textile and leather workers and related occupations						
Low skill level	83	Drivers of motor vehicles, mobile plant operators and deck crew						
	92	Agricultural, forestry and fishery labourers						
	93	Labourers in mining, construction, manufacturing and transport						
	96	Refuse workers and other elementary workers						
		No occupation						
		General secondary education				219		

Source: Employment Service Agency of the Republic of North Macedonia, Ministry of Education and Science of the Republic of North Macedonia, data delivered by the Municipality of Sveti Nikole and the Ministry of Education and Science of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

CONCLUSIONS AND RECOMMENDATIONS

The diagnostic analysis of the labour market in the municipality of Sveti Nikole has shown that the greatest education-to-occupation gap is the one for the persons with primary education. For every worker with primary education required in the Vardar region, there are 0.2 unemployed persons in the municipality of Sveti Nikole, for those with secondary and post-secondary education the ratio is 0.83, while for those with higher education the ratio is 1.3. To a certain extent this is owing to the fact that the municipality's share in the total population of the region is relatively small, i.e., it is only 12%. There is a predominant deficiency gap in the municipality of Sveti Nikole, which implies a shortage of qualified labour force that is particularly prominent for medium and low skill occupations.

For persons with high level skills, there is a surplus gap with the supply drastically exceeding the demand for the occupation of legal, social, and cultural professionals: The educational institutions in the municipality of Sveti Nikole have a moderate potential to address the gap with deficient occupations. Furthermore, they should be careful with any further production of profiles that broaden the surplus gap. Greater efforts should be made to overcome the problem with the shortage of labour force, and this problem may be potentially mitigated by re-skilling the unemployed persons with general secondary education, upskilling the unemployed persons without any qualifications and by activating the passive job seekers.

RECOMMENDATIONS

Recommendations to overcome the problem with the shortage of qualified labour for the Employment Centre and ESARNM

To **design upskilling and re-skilling training** within the active labour market measures for the unemployed active job seekers in the municipality of Sveti Nikole, in particular:

- Skilling of persons with primary education and no occupation into elementary workers. The upskilling and re-skilling centres from the neighbouring municipalities in the Vardar region, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- Production of profiles by the upskilling and re-skilling centres in the Vardar region for the most demanded occupations: salespersons, locksmiths, welders
- Upskilling/re-skilling of persons who completed general secondary education in some of the deficient occupations with secondary education (for instance, operators of motor vehicles, mobile plants and deck crew; customer services clerks, personal services workers, security guards, etc.)

To **design a process for certification of informally acquired skills**, in cooperation with ESARNM and the upskilling and re-skilling centres in the region.

To increase the labour supply by activation of the passive job seekers at working age. The Employment Centre should carry out a campaign for activation of passive job seekers and identification of the reasons for their passivity. To enhance the mechanisms preventing the manipulations of the system and consistent application of the law on suspension of minimum guaranteed assistance in case of refusal of offered work.

For the educational institutions and the Ministry of Education and Science

• To bridge the gap in deficient occupations short-term through:

o Educational institutions which have established programmes in the deficient occupations should increase the attractiveness by means of scholarships and campaigns, and increase the enrollment quotas so as to produce more graduates For instance, the deficiency gap for metal workers, machine assemblers and related occupations may be mitigated with the profiles produced by the secondary school "Kocho Racin" - Sveti Nikole. Furthermore, the introduction of new profiles should be considered in the deficient occupation: food preservers, wood, textile and leather workers and related occupations, in cooperation with the Joint Stock Company for Manufacture of Garments "Moda" from Sveti Nikole, which is already engaged in validation of adult learning in the occupation of light garments sewer.

o The upskilling and re-skilling centres in the Vardar region, in cooperation with ESARNM and the Employment Centre, should be stimulated to intensify their work.

o Secondary vocational schools should improve their cooperation with the private sector. The cooperation could be promoted through:

- Regular internship for students of secondary vocational schools in relevant companies

- Pilot-projects for deficient occupations

- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:

- o The programmes and profiles of the educational institutions should be designed in line with the occupations in demand on the labour market in the municipality of Sveti Nikole

- o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)

- o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

For the municipality of Sveti Nikole, regional chambers, secondary schools

- To raise the awareness of young people about which educational profiles are in demand, and which are redundant, so as to help them make an informed decision when they are selecting their educational pathways

- To intensify the investments in kindergartens and homes for the elderly, thus enabling the activation of the passive unemployed on the labour market who are not active because they are providing care for the children and the elderly

For the State Statistical Office

- To collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)

For the business sector

- To intensify the cooperation with the secondary vocational school “Kocho Racin”

- When recruiting elementary workers, to make persons without occupation eligible to apply to the vacancy ads

- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies

- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications

- To provide incentives and working conditions for parents by organizing transport to the remote and rural areas, flexible working arrangements and remote work

Labour market diagnostics in the municipality of Struga

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the education and skills mismatch on the labour market in the municipality of Struga, such as:

- Skilling the unemployed with no occupation into elementary occupations (skill level 1) (in cooperation with ESARNM)
- Improving the municipality's capacity to attract foreign investors in the Technological Industrial Development Zone (TIDZ)
- Strengthening the cooperation between the secondary vocational school "Niko Nestor" and the business sector, in particular with foreign investors in the municipality of Struga, including piloting dual education in two or three occupations (in line with the strategy of the Ministry of Education and Science)
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Struga is facing a lack of job opportunities, underqualification and shortage of medium skilled labour force. For each required worker with primary education in the Southwest region, there are 14 unemployed persons in the municipality of Struga. The supply exceeds the demand for the occupations at high skill levels: teaching professionals; and legal, social and cultural professionals. In all other occupations with surplus gaps, those gaps disappear or are transformed into deficiency gaps with the increase of the educational attainment. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling. The educational institutions in the municipality of Struga have a sound foundation to address the deficiency gap; they just have to further align to the requirements of the labour market and link with the business sector, in particular with foreign investors and big companies in the region.

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Struga and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Struga is one of the biggest municipalities in the Southwest region with a population of 65.485¹, thus accounting for 30% of the total population in the region. Currently, the labour market in the Southwest region is moderately unfavourable; it is ranked third² in terms of the unemployment rate and third-to-last³ in terms of the employment rate, and fourth in terms of the activity rate as compared to the other seven regions.

In 2019, the unemployment rate of the population aged 15 and above was 24.4% (26.4% for women and 23.1% for men), the employment rate was 43.1%, while the activity rate was 57%. The moderately unfavourable trend is also reflected in the average gross salary: MKD 33,099, (Regions in the Republic of North Macedonia, SSO, 2020). Nevertheless, the region is favourably positioned, has a great and underutilized hydro potential, as well as development tourism in the Lake Ohrid area. Furthermore, the region is attractive to foreign investments and several big companies are located in the immediate vicinity of Struga, thus contributing significantly to the employment in the region, in general, and in the municipality of Struga, in particular.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²After the Northeast region (33%) and the Polog region (28.5%)

³After the Southeast region (63.3%)

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Struga
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Struga; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Struga.

One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level.

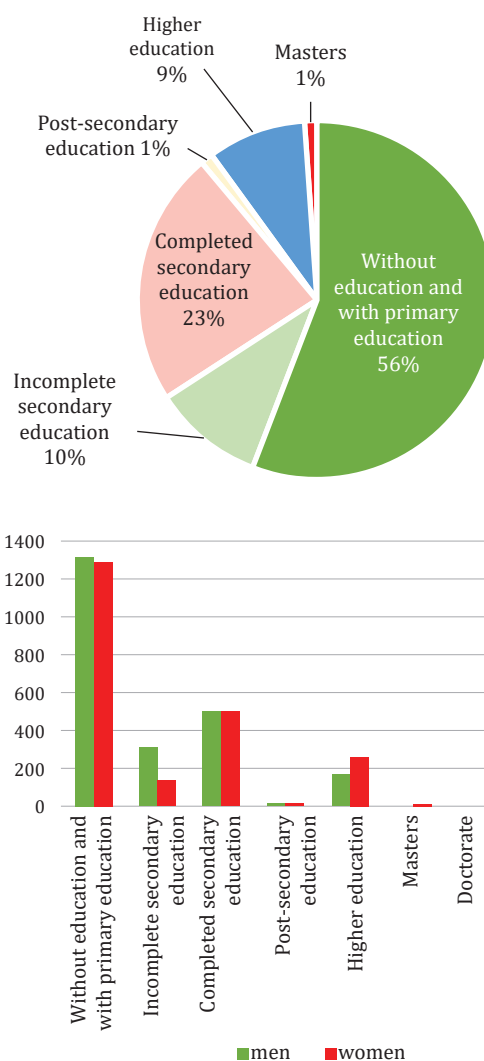
The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Women and men have equal shares in the the total registered unemployed who were active job seekers in the municipality of Struga in 2020. In terms of education, persons with lower educational attainment are predominant. More than one half (60%) of the unemployed were persons with primary or no education (56%) and incomplete secondary education (Figure 1).

Figure 1: Unemployed persons in the municipality of Struga, by educational attainment

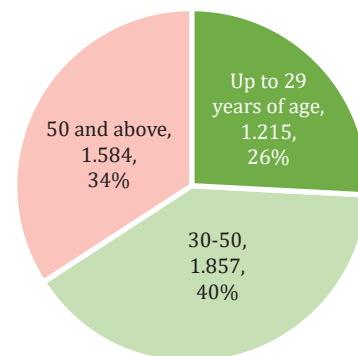


Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed are aged 30-50 (40%), followed by the unemployed aged 50 or more (34%) (Figure 2). The relatively low share of young people in the total structure (26%) is probably owing to the late

activation on the labour market due to education, as well as to the proportionally lower share of young people in the population.

Figure 2: Structure of unemployed by age



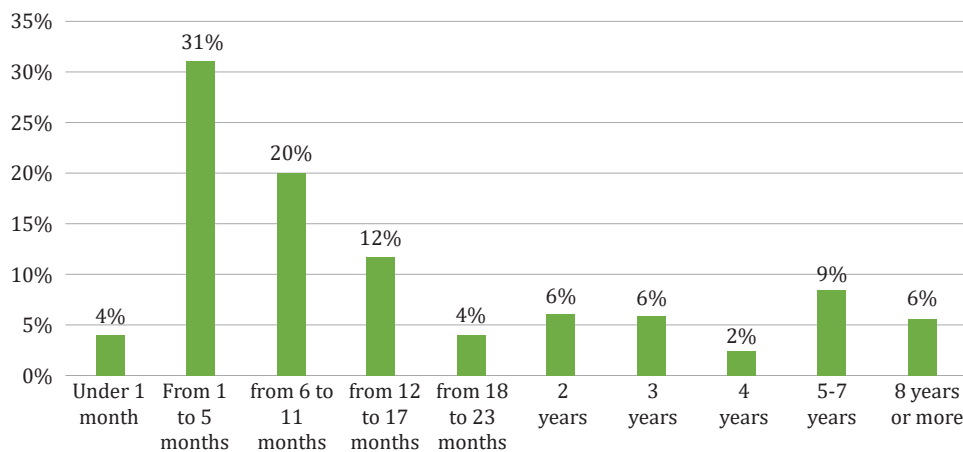
Source: Employment Service Agency of the Republic of North Macedonia

55% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. Although such structure may appear encouraging, one third of the unemployed are waiting for employment for more than two years, which indicates a possibility of structural unemployment.

In addition to the unemployed active job seekers, the persons registered as passive job seekers also have a significant share in the unemployed in the municipality of Struga.

According to the Employment Service Agency, this category includes 2,886 persons, which represents a share of 62% in the total number of active job seekers. 74% of the passive job seekers have completed primary education or no education, while additional eight per cent have incomplete secondary education.

Figure 3: Unemployed in the municipality of Struga, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

This indicates that these persons are mostly with low educational attainment. Only three per cent of this group have completed higher education. The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

Demand

According to the regional labour demand survey in 2020, the total demand for the Southwest region is 1,448 jobs, which accounts for 32% of the unemployed labour force in the municipality of Struga.

Figure 4 provides an overview of the labour demand by education and company size. It is expected that nearly one half (46%) of the vacancies will be generated by medium to large employers, additional 31% by big companies and 23% by small employers.

In terms of the demand by education, the demand for workers who completed secondary education (83%) is predominant, while the demand for primary education (12%) and higher education (4%) is relatively low.

Cross-referencing the demand by education and occupation (NCO-ISCO 08) (Figure 5) shows that the entire demand for workers who completed primary education concerns the group of elementary occupations (predominantly for elementary workers). The demand for workers with secondary education is more heterogeneous in terms of occupations. 36% of the total demand for workers and 78% of the demand for workers with secondary education are for services and sales workers (waiters, salespersons, telephone salespersons, cooks, bartenders, etc.). The next demanded workers with secondary education are plant and machine operators and assemblers. They are followed by

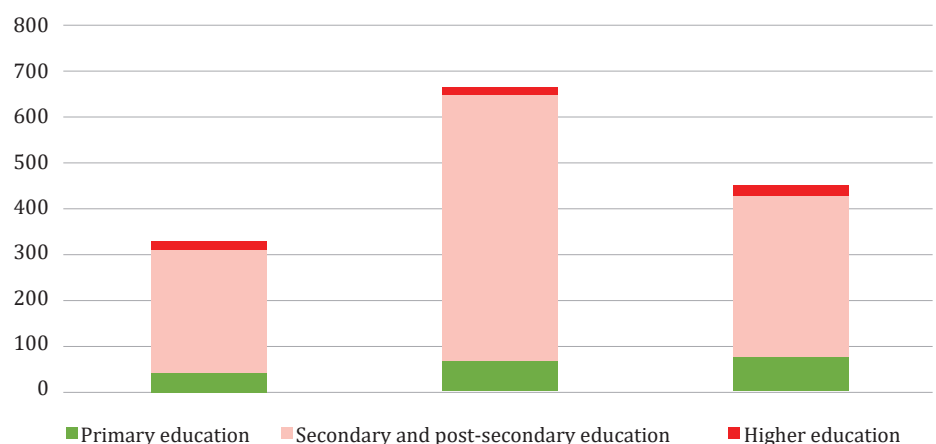
occupations of craft and related trade workers, including: sewers, bakers, occupational hygienists, construction workers, reinforcement iron workers, electrical fitters, etc.

All demanded workers with higher education are in the occupation of technicians and related occupations and are in more heterogeneous occupations, including: mechanical engineers, accountants, engineering technologists, programmers, electrical design engineers, electrical maintenance engineers, etc.

Labour market gap by education and occupation

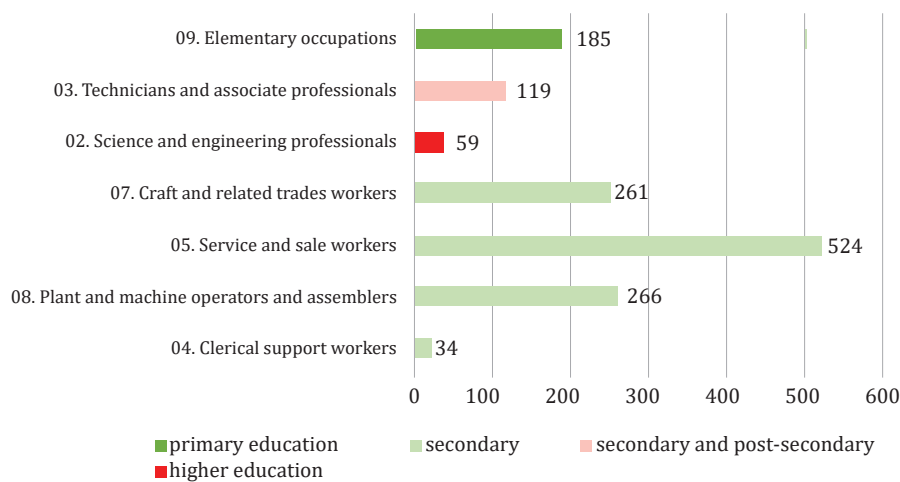
The labour market gap in the municipality of Struga is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation. Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results have indicated that the gap is the greatest for primary education. For every worker with primary education required by the companies in the Southwest region, there are 14 unemployed persons in the municipality of Struga, while for secondary and post-secondary education this ratio is 1.3, and for higher education it is 8.3.

Figure 4: Labour demand by education and company size



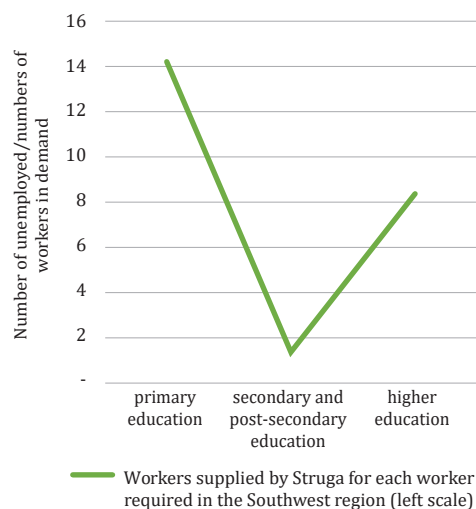
Source: Employment Service Agency of the Republic of North Macedonia

Figure 5: Labour demand by occupation and education for the Southwest region



Source: ESARNM, regional labour market skills needs survey in RNM in 2020⁴

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply.

Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Struga. The gap may be analyzed according to the educational attainment within an occupation (horizontally) and vertically, for different occupations. The gap where the supply is greater than the demand is marked in red (dark red - severe gap, light red - moderate gap). Light yellow indicates that the matching of the supply and demand is nearly complete and there is no gap. The green shading marks a deficiency gap, where the demand for jobs is greater than the supply (dark green - severe gap, light green - moderate gap).

The results show that for higher level skills there is a gap for five out of eleven occupations. For two occupations the gap is positive and severe, notwithstanding the educational attainment (teaching professionals; and legal, social and cultural professionals). This implies that for those occupations the supply is greater than the demand.

There is a severe surplus gap for three occupations: science and engineering associate professionals; health associate professionals; and business and administration associate professionals with secondary education, but the magnitude of the gap declines or it transforms into a deficiency gap with the transition to higher education. This indicates the presence of occupations with potential underqualification. There is a moderate deficiency gap for one occupation, health professionals.

For occupations at medium skill level there is a potential underqualification and a prevailing deficiency gap for persons who completed secondary education. There is a deficiency gap for ten out of fourteen occupations with secondary education. For four of those occupations the gap is severe (personal services workers; sales workers; food preservers, wood, textile and leather workers and related occupations; and plant and machine operators). This indicates a shortage of workers with secondary education in medium skill occupations.

Within these occupations there is a shortage of workers for: operators of automated and semi-automated sewing machines, sewers, waiters, salespersons, telephone salespersons, cooks, bartenders. There is a moderate deficiency gap for the following occupations: customer services clerks; accounting and bookkeeping clerks, statistical, finance and insurance clerks, material recording and transport clerks; personal care workers and related occupations; security guards; building construction workers and related construction workers; and drivers of motor vehicles, mobile plant operators and deck crew. There is a surplus gap for persons with primary education. However, with almost all occupations facing a surplus gap, its magnitude decreases or it transforms into a deficiency gap with the increase in educational attainment.

⁴ The survey has been conducted on a sample of 3,295 employers from the private sector with seven or more employees, stratified by region and by employer sectors. The sample includes all medium and large employers, while other employers have been selected randomly until the required sample size has been achieved.

This indicates that the persons with primary education require upskilling. In occupations at low skill level there is a deficit of elementary workers, refuse collectors and related occupations; food preparation assistants; and cleaners and helpers. On the other hand, there is a surplus of unemployed labour for persons without any occupation and the persons who have completed general secondary education.

Therefore, the gap in low skill occupations could be reduced if the persons without occupation are upskilled to the level of elementary workers and are adequately matched to the demand for such occupation. It would be necessary to undertake upskilling and/or re-skilling measures for persons with general secondary education.

The overall conclusion is that the municipality of Struga has a lack

of job creation, underqualification and shortage of workers in different occupations at medium skill level and with secondary education. Surplus gap (when the supply exceeds the demand) occurs for higher skill level occupations, in particular with social sciences and educational occupations. On the other hand, for occupations at low skill level there is a deficiency gap for elementary workers, together with a severe surplus gap for persons without occupation.

Table 1: Labour market gaps by occupation - educational profile

Skill level	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	21	Science and engineering professionals				
	22	Health Professionals				
	23	Teaching professionals				
	24	Business and administration professionals				
	25	Information and communications technology professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	35	Information and communications technicians				
	33	Business and administration associate professionals				
Medium skill level	41	General office clerks and secretaries				
	42	Customer services clerks				
	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks				
	51	Personal services workers				
	52	Sales workers				
	53	Personal care workers and related occupations				
	54	Security guards				
	71	Building construction workers and related construction workers				
	72	Metal workers, machine assemblers and related occupations				
	73	Precision mechanics, handicraft workers and printers				
	74	Electrotechnology workers				
	75	Food preservers, wood, textile and leather workers and related occupations				
	81	Machine and plant operators				
	83	Drivers of motor vehicles, mobile plant operators and deck crew				
Low skill level	91	Cleaners and helpers				
	92	Agricultural, forestry and fishery labourers				
	93	Labourers in mining, construction, manufacturing and transport				
	96	Refuse workers and other elementary workers				
	94	Food preparation assistants				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

Nevertheless, when compared to occupations at higher skill levels, the educational gap is more present with occupations at medium and low skill levels. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling. Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important. A World Bank study (2020) has identified that the training offered by the educational system does not match the companies' needs. The same study has identified that the students lack adequate practical skills matching their diplomas⁵.

Educational profiling as a factor in bridging or broadening the gaps

There are two secondary schools and two institutions validating adult learning. In the forthcoming two years these institutions are expected to produce 1,016 profiled professionals for the labour market. One third of the total supply of educational profiles are persons with general secondary education classified as persons without occupation. 38 per cent are various profiles in the occupation of science and engineering associate professionals (civil engineering

technicians, construction technicians, surveying technicians, electrical engineering technicians, textile and leather industry technicians, etc.). They are followed by occupations of accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks; and health technicians and assistants.

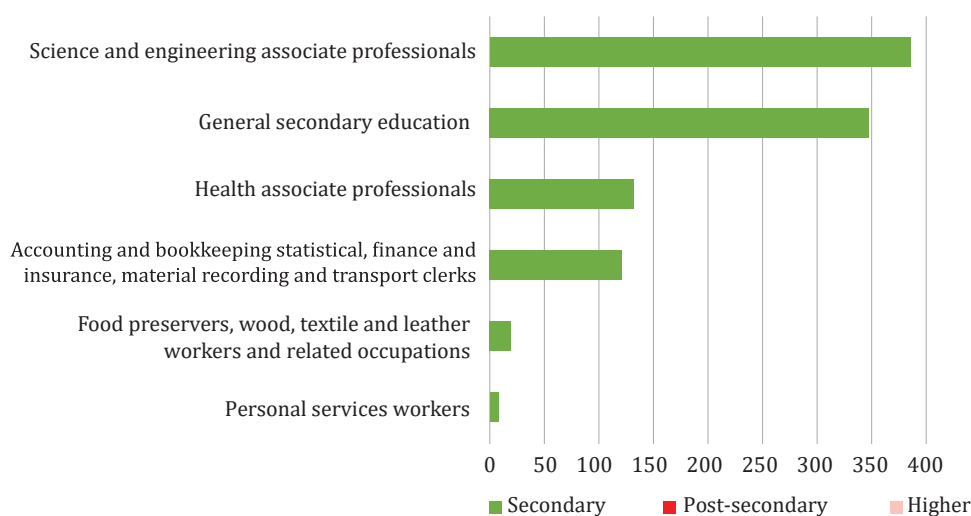
These results imply that the municipality of Struga has established an educational infrastructure to produce profiled labour force. In order to identify to which extent are those profiles matching the demand on the labour market, in Table 2 we are matching the identified gap with the expected profiles to be produced in the next two years.

The results indicate that the moderate gap would be bridged with the current setup of the educational infrastructure. Three of the six occupations produced by the educational institutions in the municipality of Struga are occupations with a deficiency gap, and thus they would contribute to reducing such gap. For two of the occupations (science and engineering associate professionals; and health technicians and assistants) there is a severe surplus gap for persons with secondary education.

However, for the produced profiles – technicians this gap disappears with the increase of the educational attainment, while for health technicians and assistants there is also a higher mobility. Therefore, overproduction of the profiles for both occupations should not necessarily present a serious threat. Nevertheless, concrete steps should be taken to match adequately the produced profiles with the companies in the region and direct them appropriately to upskilling. The issue of the deficit of labour force in occupations for medium skill level and secondary education remains unaddressed. This leaves room for considering whether to introduce new educational profiles that are severely deficient on the labour market. In terms of profiles with general secondary education, the labour market opportunities would depend solely on whether these persons would upskill to deficient or surplus occupations, but in any case if they remain with only general secondary education, they would diminish their prospects.

Finally, the municipality should consider establishing an upskilling and re-skilling centre, which should then be stimulated to develop programmes that would help produce profiles in the deficient occupations, in particular those at low skill level.

Figure 7: Supply of profiled labour force by educational institutions in the next two years⁶



Source: Educational institutions within the territory of the municipality of Struga, data collected by the municipality of Struga

⁵World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#).

⁶The data on dispersed studies on the territory of the municipality of Struga have not been delivered by the higher education institutions

Table 2: Matching the gap with the supply of profiles from the educational institutions in the next two years

			Labour market gap				Profiles profuced by educational institutions
Skill level	Code	Occupation/Educational profile	Primary	Secondary	Post-secondary	Higher	Secondary
High skill level	21	Science and engineering professionals					
	22	Health Professionals					
	23	Teaching professionals					
	24	Business and administration professionals					
	25	Information and communications technology professionals					
	26	Legal, social and cultural professionals					
	31	Science and engineering associate professionals					386
	32	Health associate professionals					133
	35	Information and communications technicians					
	33	Business and administration associate professionals					
Medium skill level	41	General office clerks and secretaries					
	42	Customer services clerks					
	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks					122
	51	Personal services workers					8
	52	Sales workers					
	54	Security guards					
	71	Building construction workers and related construction workers					
	72	Metal workers, machine assemblers and related occupations					
Low skill level	73	Precision mechanics, handicraft workers and printers					
	74	Electrotechnology workers					
	75	Food preservers, wood, textile and leather workers and related occupations					19
	81	Machine and plant operators					
	83	Drivers of motor vehicles, mobile plant operators and deck crew					
	91	Cleaners and helpers					
	92	Agricultural, forestry and fishery labourers					
	93	Labourers in mining, construction, manufacturing and transport					
	96	Refuse workers and other elementary workers					
	94	Food preparation assistants					
		No occupation					
		General secondary education					348

Source: Employment Service Agency of the Republic of North Macedonia; municipality of Struga, newly produced trained workers, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

CONCLUSIONS AND RECOMMENDATIONS

The diagnostic analysis of the labour market in the municipality of Struga has shown that the greatest education-to-occupation gap is the one for the persons with primary education. For every worker with primary education required by the companies in the Southwest region, there are 14 unemployed persons in the municipality of Struga, while for secondary and post-secondary education this ratio is more balanced at 1.3, while for higher education it is 8.3. This indicates that the problem with the lack of job creation is alarming. For the persons with high level skills, there is a severe surplus gap for the following occupations: teaching professionals; and legal, social and cultural professionals. There is also a severe surplus gap for persons without occupation who completed only general secondary education.

In all other occupations with surplus gaps, those gaps disappear or are transformed into deficiency gaps with the increase of the educational attainment. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling. The municipality of Struga has a shortage of workers in different occupations at medium skill level and with secondary education. The educational institutions in the municipality of Struga have a sound foundation to address the deficiency gap; they just have to further align to the requirements of the labour market and link with the business sector, in particular with foreign investors and big companies in the region.

RECOMMENDATIONS

Recommendations to overcome the problem with the shortage of qualified labour for the Employment Centre and ESARNM

To design active labour market measures for the unemployed active job seekers in the municipality of Struga, in particular:

Training and upskilling

- Skilling of persons with primary education and no occupation into elementary workers. The upskilling and re-skilling centres, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- Upskilling/re-skilling of persons who completed general secondary education in some of the deficient occupations (for instance, operators of automated and semi-automated sewing machines, sewers, waiters, salespersons, telephone salespersons)
- Upskilling of persons with primary education in the following occupations: Food preservers, wood, textile and leather workers and related occupations; and machine and plant operators

Active labour market measures

- Active measures that stimulate formalization of informal work
- Community work with different skill requirements for the persons classified in occupations/ education profiles with significant surplus gap:
 - o Work with low skill requirement for persons without occupation (cleaning the community, refuse collection, collection of bulk waste for recycling, etc.)
 - o Work with high skill requirements for persons with high level skills in surplus occupations (learning support for students belonging to the vulnerable groups, support to schools and kindergartens, etc.)

For educational institutions and the Ministry of Education and Science

- To bridge the gap in deficient occupations short-term through:
 - o Educational institutions which have established programmes in the deficient occupations should increase the attractiveness and enrollment quotas so as to produce more graduates
- For instance, the deficiency gap for personal services workers and food preservers, wood, textile and leather workers and related occupations (waiters, cooks, bakers) could be mitigated by the production of graduates of the already existing profiles at the secondary school "Niko Nestor" through upskilling to secondary education the unemployed persons in those occupations who have completed only primary education
- o To consider establishing an upskilling and re-skilling centre, which, in cooperation with ESARNM, would carry out the upskilling of persons in deficient occupations
- o The secondary vocational school "Niko Nestor" should enhance its cooperation with the private sector, in particular the big companies and foreign investors located in the municipality of Struga, the technological industrial development zone in Struga and Kosel, Ohrid (e.g., "ODV Electric", "Kostal", "LTH Castings" etc.). The cooperation could be promoted through:
 - Regular internship for students of the secondary vocational school "Niko Nestor" in relevant companies
 - Pilot programmes for deficient occupations (e.g., food preservers, wood, textile and leather workers and related occupations; and machine and plant operators) in cooperation with foreign investors

- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:

- o The programmes and profiles of the educational institutions should be designed in line with the occupations in demand on the labour market in the municipality of Struga

- o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)

- o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

For the business sector

- Improving the municipality's capacity to attract foreign investors in the Technological Industrial Development Zone (TIDZ)
- To intensify the cooperation with the secondary vocational schools and take active participation in the potential establishment of dual education or pilot-occupations
- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies
- When recruiting elementary workers, to make persons without occupation eligible to apply to the vacancy ads
- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications

For the municipality of Struga

- To reduce the registration requirements and to simplify the administrative procedure for business legalization
- To raise the awareness of young people about which educational profiles are in demand, and which are redundant, so as to help them make an informed decision when they are selecting their educational pathways
- To decrease the parafiscal taxes for the business sector

For the State Statistical Office

- To collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)

Labour market diagnostics in the municipality of Strumica

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the education and skills mismatch on the labour market in the municipality of Strumica, such as:

- Skilling the unemployed with no occupation into elementary occupations (skill level 1) (in cooperation with ESARNM)
- Activation of passive job seekers of working age through a campaign for activation of passive job seekers, identification of the reasons for the passivity and strengthening the mechanisms preventing manipulations with the system
- Intensifying the cooperation between secondary vocational schools and the business sector
- Redesigning the curricula/profiles and skills conferred by the qualifications obtained, in line with the occupations in demand on the labour market in the municipality of Strumica and the skills required (for instance, skills relating to STEM sciences, analytical skills, critical thinking, etc.)
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Strumica is facing underqualification, shortage of qualified labour force and a deficiency gap for medium and low skill occupations. For each required worker with primary education in the Southeast region, there are seven unemployed persons in the municipality of Strumica. However, this gap disappears for persons with secondary education. This implies the existence of potential underqualification. For persons with high level skills, there is a surplus gap with the supply drastically exceeding the demand for the occupation of legal, social, and cultural professionals: The educational institutions in the municipality of Strumica have the potential to partially address the gap with deficient occupations. Greater efforts need to be taken to overcome the problem with the shortage of labour, which is a pressing issue (in particular for occupations at low and medium skill levels).

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Strumica and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Strumica is the biggest municipality in the Southeast region with population of 56,961¹, thus accounting for 32% of the total population in the Southeast region. Currently, the labour market in the Southeast region is favourable; the region has the lowest

unemployment rate, and the highest employment and activity rates as compared to the other seven regions. In 2019, the unemployment rate of the population aged 15 and above was 6.3% (5.1% for women and 7.9% for men), the employment rate was 63.3%, while the activity rate was 67.6%. Nevertheless, such favourable trend does not reflect on the average gross salary, which is moderate at MKD 30,029. This places the Southeast region in the second-to-last in the rankings by the average salary² (Regions in the Republic of North Macedonia, SSO, 2020). The region is characterized by favourable climate and pedological conditions for the development of agriculture, and, most likely, the dominance of this sector affects the level of the average salary.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²After the Northeast region with MKD 29,131

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Strumica
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Strumica; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Strumica.

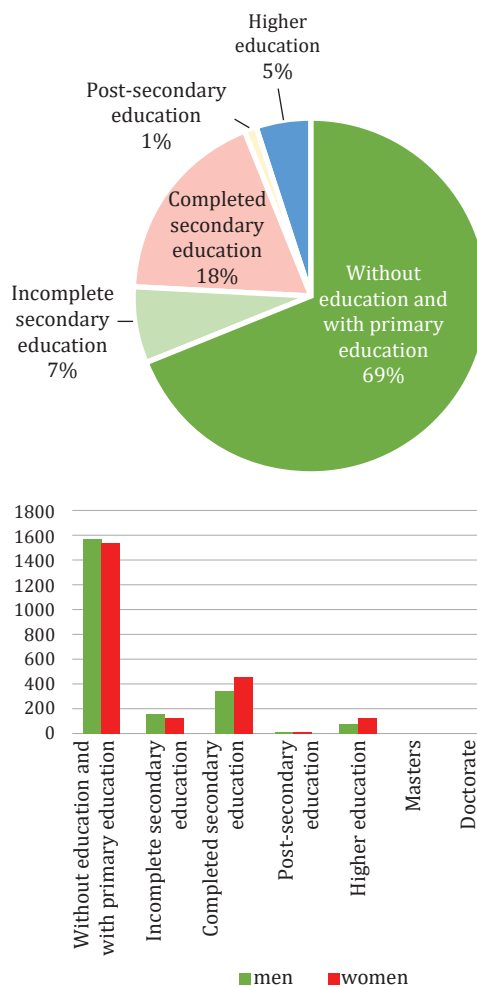
One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level. The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Out of the total registered unemployed who were active job seekers in the municipality of Strumica in 2020, 51% were women and 49 were men. In terms of education, persons with lower educational attainment are predominant. Three quarters (76%) of the unemployed were persons with primary or no education (69%) and incomplete secondary education (seven per cent) (Figure 1).

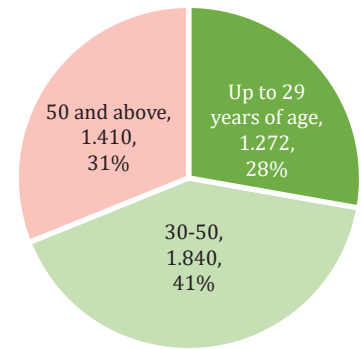
Figure 1: Unemployed persons in the municipality of Strumica, by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed persons are aged 30 to 50 (41%). The figures for the registered unemployed among persons aged 50 and more and young people up to 29 years of age are lower and similar (Figure 2).

Figure 2: Structure of unemployed by age



Source: Employment Service Agency of the Republic of North Macedonia

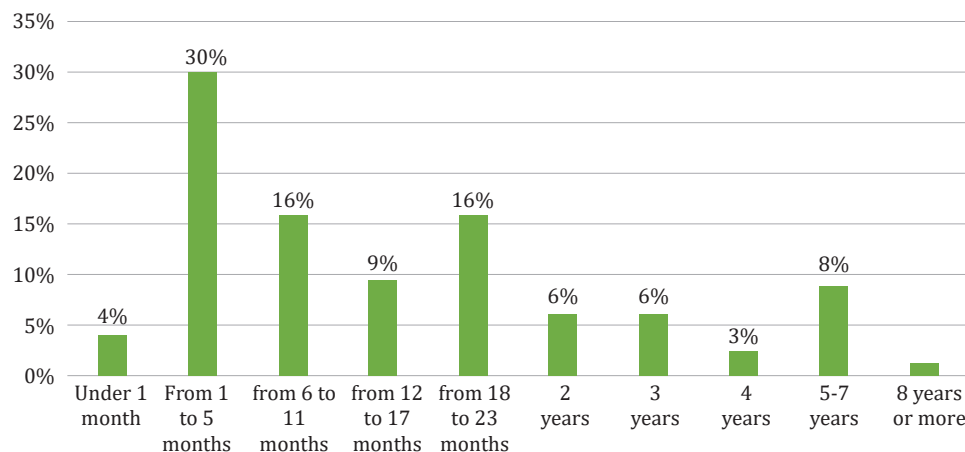
50% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. Although such structure may appear encouraging, 25% of the unemployed are waiting for employment for more than two years, which indicates a possibility of structural unemployment.

In addition to the unemployed active job seekers, the persons registered as passive job seekers also have a significant share in the unemployed in the municipality of Strumica.

According to the Employment Service Agency, this category includes 3,334 persons, which represents a share of 74% in the total number of active job seekers. Two thirds of them are with primary or no education (55%) and incomplete secondary education (13%). This indicates that these persons are mostly with low educational attainment. Furthermore, only seven per cent of this group have completed higher education.

The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help

Figure 3: Unemployed in the municipality of Strumica, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

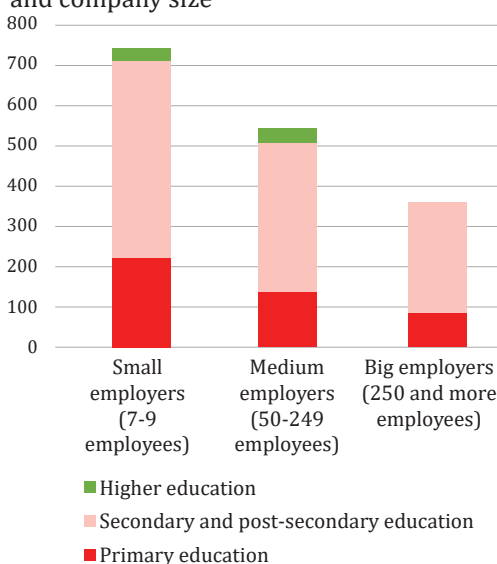
them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

Demand

According to the regional labour demand survey in 2020, the total demand for the Southeast region is 1,640 jobs, which accounts for 36% of the unemployed labour force in the municipality of Strumica.

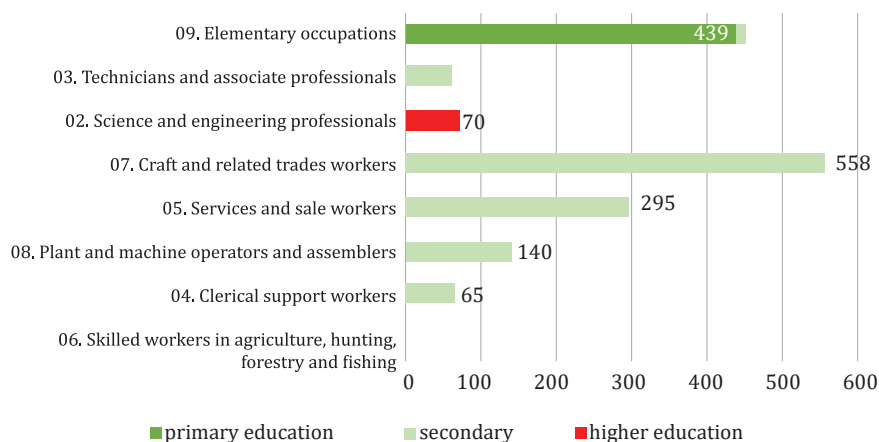
Figure 4 provides an overview of the labour demand by education and company size. It is expected that nearly one half of the vacancies will be generated by small employers, additional 33% by medium companies, and 22% by big employers. This may also explain the structure of employers in the municipality of Strumica, which is dominated by small employers. In terms of the demand by education, the demand for workers who completed secondary (69%) and primary education (27%) is predominant.

Figure 4: Labour demand by education and company size



Source: Employment Service Agency of the Republic of North Macedonia

Figure 5: Labour demand by occupation and education for the Southeast region



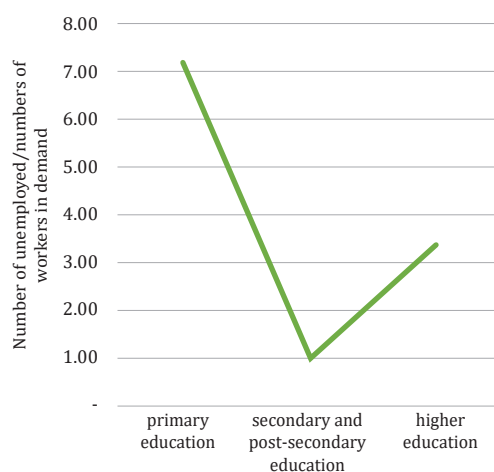
Source: ESARNM, regional labour market skills needs survey in RNM in 2020 ³

³ The survey has been conducted on a sample of 3,295 employers from the private sector with seven or more employees, stratified by region and by employer sectors. The sample includes all medium and large employers, while other employers have been selected randomly until the required sample size has been achieved.

Labour market gap by education and occupation

The labour market gap in the municipality of Strumica is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation. Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results have indicated that the gap is the greatest for primary education. For every worker with primary education required by the companies in the Southeast region, there are seven unemployed persons in the municipality of Strumica, while for secondary and post-secondary there is full matching and the ratio is 1, while for higher education it is 3.3.

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply.

Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Strumica. The gap may be analyzed according to the educational attainment within an occupation (horizontally) and

vertically, for different occupations. The gap where the supply is greater than the demand is marked in red (dark red - severe gap, light red - moderate gap). Light yellow indicates that the matching of the supply and demand is nearly complete and there is no gap. The green shading marks a deficiency gap, where the demand for jobs is greater than the supply (dark green - severe gap, light green - moderate gap).

The results show that for higher level skills there is a gap for five out of eleven occupations. For four of the occupations the gap is positive, and there is a deficiency gap only for one occupation. For the higher education occupations there is a potential higher overqualification for the occupation of legal, social and cultural professionals, and there is great supply and no demand for teaching professionals. For the occupations at high skill level and secondary education the positive gap is owing to the lower demand. There is a moderate deficiency gap for information and communications technology professionals and technicians. On the other hand, there is a positive gap for business and administration professionals.

For medium skill level occupations, there is a severe surplus gap, where the labour supply is significantly greater than the demand only for one of 16 occupations (electrotechnology workers), and a moderate gap for the occupation of market-oriented skilled agricultural workers. In the latter case this is probably owing to the fact that this is a relatively new occupation and the market is yet to generate adequate demand. In view of the fact that the agricultural sector in the municipality of Strumica is highly developed, this gap is of temporary nature. For seven occupations with secondary education there is a severe deficiency gap, in particular for: services workers; building construction workers and related construction workers; machine and plant operators; and operators of motor vehicle and mobile plants. This indicates a shortage of labour for

these occupations. On the other hand, for food preservers, wood, textile and leather workers and related occupations and precision mechanics, handicraft workers and printers, the positive gap disappears with the increase of the educational attainment from primary to secondary education. This implies underqualification and a need to upskill persons with primary education.

In occupations at low skill level there is a severe deficiency gap for all occupations with primary education, mostly elementary workers and helpers in different activities, as well as severe surplus of labour for persons without occupation and persons with general secondary education. Therefore, the gap in low skill occupations could be reduced if the person without occupation are upskilled to the level of elementary workers and are adequately matched to the demand for such occupation. It would be necessary to undertake upskilling and/or re-skilling measures for persons with general secondary education.

The overall conclusion is that the labour market in the municipality of Strumica is facing a shortage of labour, mostly for occupations at medium level skills, shortage of elementary workers, and underqualification of persons with primary education and without occupation. To an extent, this may be owing to the emigration trend in the country. There are surplus gaps (where the supply is greater than the demand) for high skill occupations such as the social and teaching occupations, which is a result of the overall educational strategy at national level in the previous decade. Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important. A World Bank study (2020) has identified that the training offered by the educational system does not match the companies' needs. The same study has identified that the students lack adequate practical skills matching their diplomas⁴.

⁴World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#).

Table 1: Labour market gaps by occupation - educational profile

Skill level	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	21	Science and engineering professionals				
	22	Health professionals				
	23	Teaching professionals				
	24	Business and administration professionals				
	25	Information and communications technology professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	34	Legal, social and cultural associate professionals				
	35	Information and communications technology technicians				
	33	Business and administration associate professionals				
Medium skill level	42	Customer services clerks				
	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks				
	44	Other office clerks				
	51	Personal services workers				
	52	Sales workers				
	54	Security guards				
	61	Market-oriented skilled agricultural workers				
	71	Building construction workers and related construction workers				
	72	Metal workers, machine assemblers and related occupations				
	73	Precision mechanics, handicraft workers and printers				
	74	Electrotechnology workers				
	75	Food preservers, wood, textile and leather workers and related occupations				
	81	Machine and plant operators				
	83	Drivers of motor vehicles, mobile plant operators and deck crew				
Low skill level	91	Cleaners and helpers				
	92	Agricultural, forestry and fishery labourers				
	93	Labourers in mining, construction, manufacturing and transport				
	94	Food preparation assistants				
	96	Refuse workers and other elementary workers				
	99	Construction machine operators				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

Educational profiling as a factor in bridging or broadening the gaps

There are three secondary schools, two faculties of the dispersed studies of higher education institutions and one upskilling and re-skilling centre. In the forthcoming two years these institutions are expected to produce 2,023 profiled professionals for the labour market. 80% of the total supply of educational profiles fall within five occupations: science and engineering associate professionals; health associate professionals; legal and social professionals; accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks; and persons with general secondary education, who are classified as persons without occupation.

These results imply that the municipality of Strumica has a relatively well-established educational infrastructure to produce profiled labour force. In order to identify to which extent are those profiles matching the demand on the labour

marker, in Table 2 we are matching the identified gap with the expected profiles to be produced in the next two years.

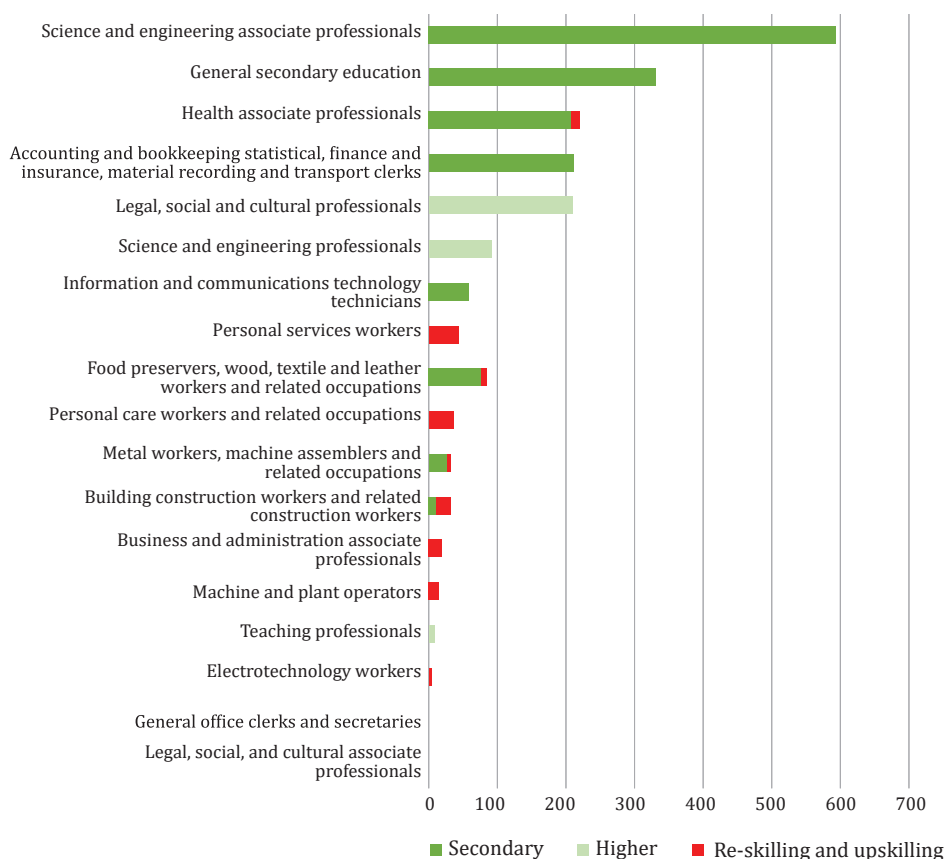
The results show that vocational schools and the upskilling centre could be key active factors in overcoming part of the deficiency gap in the municipality of Strumica. Thus, the deficiency gap for textile workers (tailors, sewers, and textile handicraft workers) may be mitigated with the profiles produced by the secondary school “Nikola Karev”, with upskilling to secondary education qualifications of the unemployed with this occupation who have completed primary education. The gap for the occupation of building construction workers and related construction workers may be mitigated by increasing the number of persons upskilled in this occupation by the Open Civil University “Joska Sveshtarot” from Strumica. Furthermore, the civil university is already producing profiles for the occupation of personal services

workers. It may continue working in this direction, by upskilling the most demanded profiles in this occupation: waiters, bartenders, cooks. Caution should be taken with the production of accountants, because this profile is in demand with higher education and belongs to the group of occupations with a surplus gap.

Some of the educational institutions in Strumica that produce high skill profiles, such as health associate professionals, generate a moderate surplus gap. However, taking into account that these occupations entail greater mobility on the labour market, and the likelihood that some of the persons who have completed secondary education would continue their education, this pressure does not amount to a threat. Nevertheless, any further production of the following education profiles: legal, social and cultural professionals; science and engineering associate professionals; and business and administration associate professionals would broaden the surplus gap and create further labour market disruptions.

In terms of profiles with general secondary education, the labour market opportunities would depend solely on whether these persons would upskill to deficient or surplus occupations, but in any case if they remain with only general secondary education, they would diminish their prospects. Finally, the upskilling and re-skilling centre could strengthen its role and engage actively in the mitigation of the deficiency gap for elementary workers with primary education by upskilling and re-skilling unemployed persons who have no occupation.

Figure 7: Supply of profiled labour force by educational institutions in the next two years



Source: Educational institutions within the territory of the municipality of Strumica, data collected by the municipality of Strumica

Table 2: Matching the gap with the supply of profiles from the educational institutions in the next two years

Skill level	Code	Occupation/Educational profile	Gaps				Supply from educational institutions		
			Primary	Secondary	Post-secondary	Higher	Secondary	Higher	upskilling and re-skilling
High skill level	21	Science and engineering professionals						94	
	22	Health Professionals							
	23	Teaching professionals						10	
	24	Business and administration professionals							
	25	Information and communications technology professionals							
	26	Legal, social and cultural professionals						211	
	31	Science and engineering associate professionals					595		
	32	Health associate professionals					210		12
	34	Legal, social and cultural associate professionals							
	35	Information and communications technology technicians					61		
	33	Business and administration associate professionals							22
Medium skill level	41	General office clerks and secretaries							1
	42	Customer services clerks							
	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks					214		
	44	Other office clerks							
	51	Personal services workers							46
	52	Sales workers							
	53	Personal care workers and related occupations							38
	54	Security guards							
	61	Market-oriented skilled agricultural workers							
	71	Building construction workers and related construction workers					13		21
	72	Metal workers, machine assemblers and related occupations					28		7
	73	Precision mechanics, handicraft workers and printers							
	74	Electrotechnology workers							6
	75	Food preservers, wood, textile and leather workers and related occupations					86		8
	81	Machine and plant operators							18
	83	Drivers of motor vehicles, mobile plant operators and deck crew							
Low skill level	91	Cleaners and helpers							
	92	Agricultural, forestry and fishery labourers							
	93	Labourers in mining, construction, manufacturing and transport							
	94	Food preparation assistants							
	96	Refuse workers and other elementary workers							
	99	Construction machine operators							
		No occupation							
		General secondary education					330		

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

CONCLUSIONS AND RECOMMENDATIONS

The diagnostic analysis of the labour market in the municipality of Strumica has shown that the greatest education-to-occupation gap is the one for the persons with primary education. For each required worker with primary education in the Southeast region, there are seven unemployed persons in the municipality of Strumica. However, this gap disappears for persons who completed secondary education, which implies the existence of potential underqualification. There is a predominant deficiency gap in the municipality of Strumica, which implies a shortage of qualified labour force that is particularly prominent for medium and low skill occupations.

For persons with high level skills, there is a surplus gap with the supply drastically exceeding the demand for the occupation of legal, social, and cultural professionals: The educational institutions in the municipality of Strumica have the potential to partially address the gap with deficient occupations. Greater efforts should be made to overcome the problem with the shortage of labour force, and this problem may be potentially mitigated by re-skilling the unemployed persons with general secondary education, upskilling the unemployed persons without any qualifications and by activating the passive job seekers.

RECOMMENDATIONS

Recommendations to overcome the problem with the shortage of qualified labour for the Employment Centre and ESARNM

To design active labour market measures for the unemployed active job seekers in the municipality of Strumica, in particular:

- Skilling of persons with primary education and no occupation into elementary workers. The Open Civil University “Joska Sveshtarot”, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- The gap for the occupation of building construction workers and related construction workers may be mitigated by increasing the number of persons upskilled in this occupation by the Open Civil University “Joska Sveshtarot” from Strumica.
- The Open Civil University should continue its activities for upskilling and re-skilling profiles for personal services workers in greatest demand: waiters, bartenders, cooks. Caution should be taken with the production of accountants, because this profile is in demand with higher education and belongs to the group of occupations with a surplus gap.
- Upskilling/re-skilling of persons who completed general secondary education in some of the deficient occupations with secondary education (for instance, customer services clerks, personal services workers, security guards, etc.)
- Activation of passive job seekers able to work. The Employment Centre should carry out a campaign for activation of passive job seekers and identification of the reasons for their passivity. To enhance the mechanisms preventing the manipulations of the system and

consistent application of the law on suspension of minimum guaranteed assistance in case of refusal of offered work.

For the educational institutions and the Ministry of Education and Science

- To bridge the gap in deficient occupations short-term through:
 - o Educational institutions which have established programmes in the deficient occupations should increase the attractiveness and enrollment quotas so as to produce more graduates. Thus, the deficiency gap for textile workers (tailors, sewers, and textile handicraft workers) may be mitigated with the profiles produced by the secondary school “Nikola Karev”, with upskilling to secondary education qualifications of the unemployed with this occupation who have completed primary education.
 - o The upskilling and re-skilling centres, in cooperation with ESARNM and the Employment Centre, should be stimulated to intensify their work
 - o Secondary vocational schools should improve their cooperation with the private sector. The cooperation could be promoted through:
 - Regular internship for students of secondary vocational schools in relevant companies
 - Pilot-projects for deficient occupations (e.g., personal services (hospitality))
- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:
 - o The programmes and profiles of the educational institutions should be designed in line with

the occupations in demand on the labour market in the municipality of Strumica

- o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)

- o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

For the business sector

- To intensify the cooperation with secondary vocational schools and the Open Civil University

- When recruiting elementary workers, to make persons without occupation eligible to apply to the vacancy ads

- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies

- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications

For the Municipality of Strumica, regional chambers, secondary schools

- To raise the awareness of young people about which educational profiles are in demand, and which are redundant, so as to help them make an informed decision when they are selecting their educational pathways

For the State Statistical Office

- To collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)



Labour market diagnostics in the municipality of Tetovo

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the shortage of jobs and the labour surplus gap in the municipality of Tetovo, such as:

- Improving the municipality's capacity to attract big business entities and create new jobs
- Active labour market measures for formalization of informal work
- Community work with different skill requirements for the persons classified in occupations/education profiles with significant surplus gap
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Tetovo has a significant shortage of newly created jobs and prominent surplus gaps in high skill occupations. For every worker required by the companies in the Polog region, there are 47 unemployed persons in the municipality of Tetovo. The gap is the greatest for primary education, where this ratio is 93, followed by higher education with a ratio of 72, while the gap is the narrowest for the secondary education with 26 unemployed persons for each job created. The municipality of Tetovo is facing a pressing shortage of newly created jobs.

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Tetovo and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Tetovo is the biggest municipality in the Polog region with population of 91,431¹, thus accounting for 28% of the total population in the Polog region. Currently, the labour market in the Polog region is unfavourable; it is ranked second² in terms of the unemployment rate and second-to-last³ in terms of

the employment and activity rates as compared to the other seven regions. In 2019, the unemployment rate of the population aged 15 and above was 28.5% (35.8% for women and 24.7% for men), the employment rate was 37.1%, while the activity rate was 51.9%. However, such unfavourable trend is not reflected in the average gross salary: with MKD 34,850 the Polog region is ranked fourth among the regions (Regions in the Republic of North Macedonia, SSO, 2020). The region is characteristic for the mountainous areas, favourable for the development of winter tourism and animal husbandry. The region also has a rich hydrographic network with a great hydropower potential, which has been used only partially.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²After the Southeast region (33%)

³After the Southeast region (37%)

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Tetovo
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Tetovo; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Tetovo.

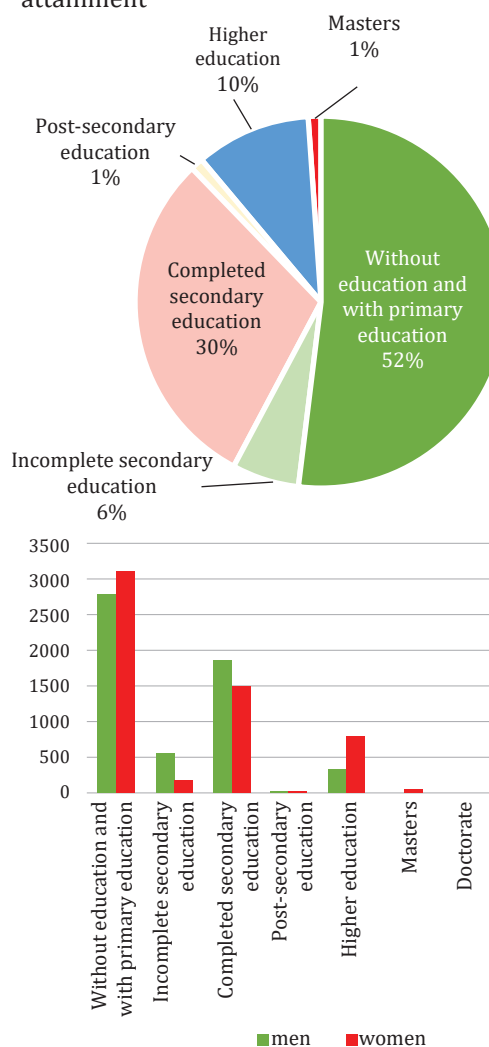
One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level. The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Out of the total registered unemployed who were active job seekers in the municipality of Tetovo in 2020, 50% were women and 50% were men. In terms of education, persons with lower educational attainment are predominant. More than one half (58%) of the unemployed were persons with primary or no education (52%) and incomplete secondary education (Figure 1).

Figure 1: Unemployed persons in the municipality of Tetovo, by educational attainment

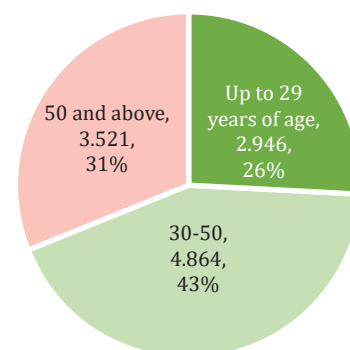


Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed are aged 30-50 (43%), followed by the unemployed aged 50 or more (31%) (Figure 2). The relatively low share of young people in the total structure (26%) is probably owing to the late

activation on the labour market due to education, as well as to the proportionally lower share of young people in the population.

Figure 2: Structure of unemployed by age

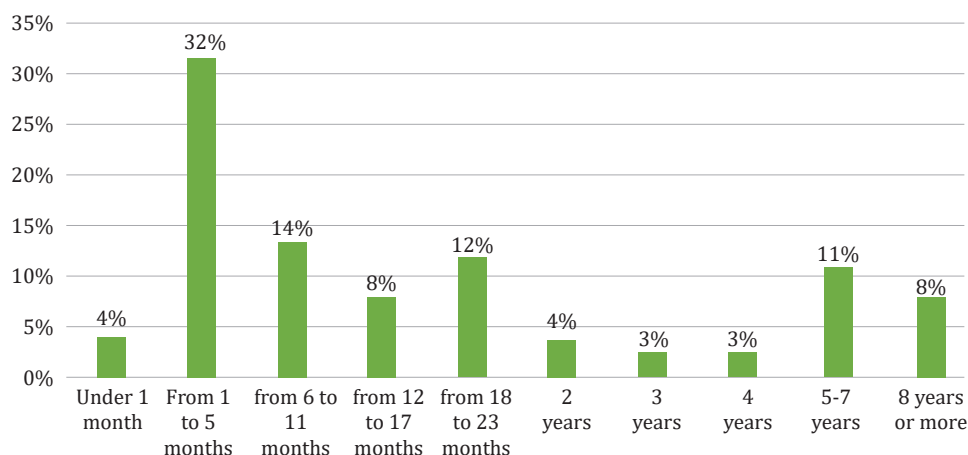


Source: Employment Service Agency of the Republic of North Macedonia

50% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. Although such structure may appear encouraging, one third of the unemployed are waiting for employment for more than two years, which indicates a possibility of structural unemployment.

In addition to the unemployed active job seekers, there are also persons registered as passive job seekers in the municipality of Tetovo. According to the Employment Service Agency, this category includes 2,203 persons, which represents a share of 20% in the total number of active job seekers. Compared to other municipalities, this rate is relatively low. Most likely it is a result of the high rate of social welfare recipients, who are obliged to be registered as active job seekers. The Polog region is ranked third by the rate of household members who are social welfare recipients and

Figure 3: Unemployed in the municipality of Tetovo, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

are above 18 years of age (15.7%) (Regions in the Republic of North Macedonia, SSO, 2020). The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

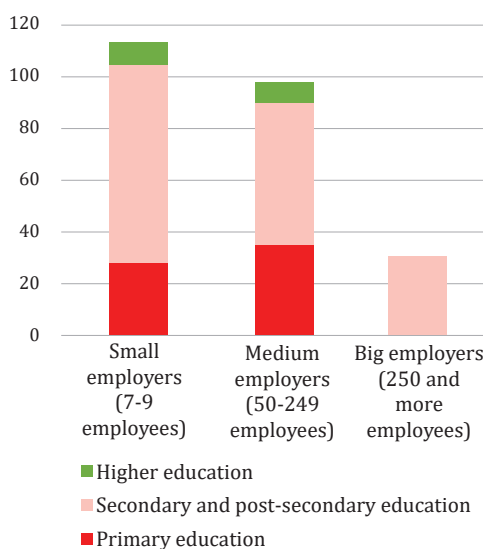
Demand

According to the regional labour demand survey in 2020, the total demand for the Polog region is 241 jobs, which accounts for two per cent of the unemployed labour force in the municipality of Tetovo. This rate is extremely low and it indicates an exceptionally unfavourable labour market situation in the municipality of Tetovo. The low rate is a result of the insufficient number of newly created jobs.

It may be a result of the low potential for job creation of the business entities; insufficient number of businesses, in particular big companies with more than 250 employees⁴, but also a potential greater presence of the informal economy.

Figure 4 provides an overview of the labour demand by education and company size. It is expected that nearly one half of the vacancies will be generated by small employers, additional 40% by medium to big employers and only 12% by big employers. In terms of the demand by education, the demand for workers who completed secondary (66%) and primary education (26%) is predominant.

Figure 4: Labour demand by education and company size



Source: Employment Service Agency of the Republic of North Macedonia

Cross-referencing the demand by education and occupation (NCO-ISCO 08) (Figure 5) shows that the entire demand for workers who completed primary education concerns the group of elementary occupations (predominantly for elementary workers; elementary workers in the manufacturing of bricks; hand packers; and manufacturing line labourers). 26 per cent of the total demand for workers and 100% of the demand for workers with primary education is for workers in elementary occupations. The demand for workers with secondary education is more heterogeneous in terms of occupations. The occupations of craft and related trades workers have a share of 20% in the total demand, and they include: sewers, carpenters, upholsterers, etc. Next on the list of workers with secondary education are services and sales workers; clerks; and plant and machine operators and assemblers. All workers with higher education in demand are professionals and science professions, and they have a share of only seven per cent in the total demand.

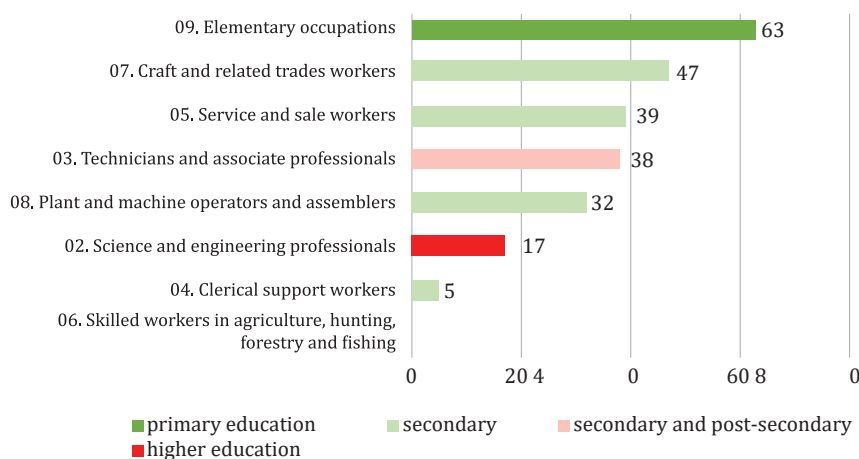
Labour market gap by education and occupation

The labour market gap in the municipality of Tetovo is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation. Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results have shown that overall the supply is greater than the demand concerning nearly all education levels.

For every worker required by the companies in the Polog region, there are 47 unemployed persons in the municipality of Tetovo. The gap is the greatest for primary education, where this ratio is 93, followed by higher education with a ratio of 72, while the gap is the narrowest for the secondary education with 26 unemployed persons for each job created.

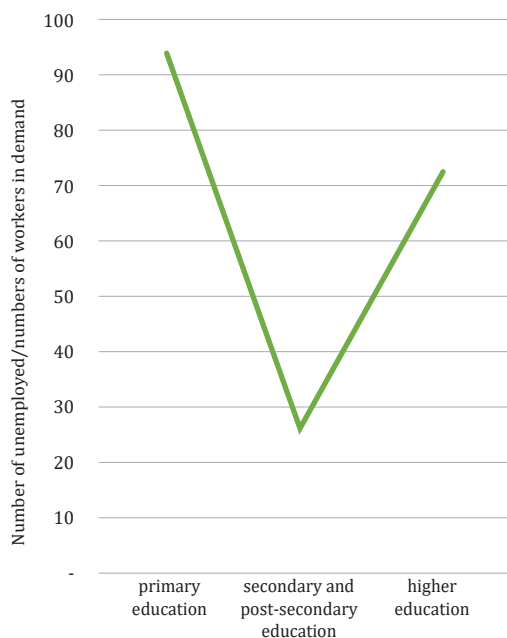
⁴ After the Northeast region, the Polog region is ranked second with the least number of big business entities, 8 in 2019

Figure 5: Labour demand by occupation and education for the Polog region



Source: ESARNM, regional labour market skills needs survey in RNM in 2020 ⁵

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply. The gap may be analyzed according to the educational attainment within an occupation (horizontally) and vertically, for

different occupations. However, under such circumstances of significant labour market disruption, with labour supply exceeding the demand by far in nearly all occupations, it is difficult to carry out a more in-depth analysis of the gaps by occupation and it takes a cautionary approach. Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Tetovo. Since overall the labour market supply is greater than the demand, the analysis identifies the severe gaps, marked in red. It also makes an approximation for the potential deficiency gap, where the labour demand is greater than the supply, marked in green.

The results show that for higher level skills there is a severe gap for six occupations. For three of the occupations with higher education there is a potential overqualification (teaching professionals; legal, social, and cultural professionals; and science and engineering professionals). There is a severe surplus gap also for the occupations of science and engineering associate professionals; health associate professionals; and business and administration associate

professionals with secondary education. For occupations at medium skill level, there is surplus gap for food preservers, wood, textile and leather workers and related occupations (severe surplus gap) and for operators of motor vehicles, mobile plants and deck crew (moderate deficiency gap). Nevertheless, the positive gap disappears with the increase of educational attainment from primary to secondary education. This indicates that the persons with primary education require upskilling.

Despite the fact that the municipality of Tetovo is characterized by a supply greater than the demand at each level of education and for nearly all occupations, in occupations at low skill level there is a deficit of labourers in mining, construction, manufacturing, and transport; and for elementary workers, refuse collectors and related occupations with primary education. On the other hand, there is a surplus of unemployed labour for persons without any occupation and the persons who have completed general secondary education.

The overall conclusion is that the surplus gap (when the supply exceeds the demand) is prevailing, in particular for high skill level occupations. There is a deficiency gap only for elementary workers with primary education and for two medium skill level occupations with secondary education. This indicates that the municipality of Tetovo is facing a significant lack of job creation.

Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important. A World Bank study (2020) has identified that the training offered by the educational system does not match the companies' needs. The same study has identified that the students lack adequate practical skills matching their diplomas ⁶.

⁵The survey has been conducted on a sample of 3,295 employers from the private sector with seven or more employees, stratified by region and by employer sectors. The sample includes all medium and large employers, while other employers have been selected randomly until the required sample size has been achieved.

⁶World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#).

Table 1: Labour market gaps by occupation - educational profile

Skill level	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	23	Teaching professionals				
	24	Business and administration professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	33	Business and administration associate professionals				
Medium skill level	75	Food preservers, wood, textile and leather workers and related occupations				
	83	Drivers of motor vehicles, mobile plant operators and deck crew				
Low skill level	93	Labourers in mining, construction, manufacturing and transport				
	96	Refuse workers and other elementary workers				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

Educational profiling as a factor in bridging or broadening the gaps

There are five secondary schools, two higher education institutions and one upskilling and re-skilling centre in the municipality of Tetovo⁷. In the forthcoming four years these institutions are expected to produce 14,565 profiled professionals for the labour market⁸. 71% of the total supply of educational profiles fall within five occupations: health professionals; legal, social and cultural professionals; science and engineering associate professionals; teaching professionals; and health associate professionals.

These results indicate that the municipality of Tetovo has established an educational infrastructure to produce profiled labour force, in particular higher education and vocational profiles in several areas. In order to identify to which extent are those profiles matching the demand on the labour marker, in Table 2 we are matching the identified gap with the expected profiles to be produced in the next four years.

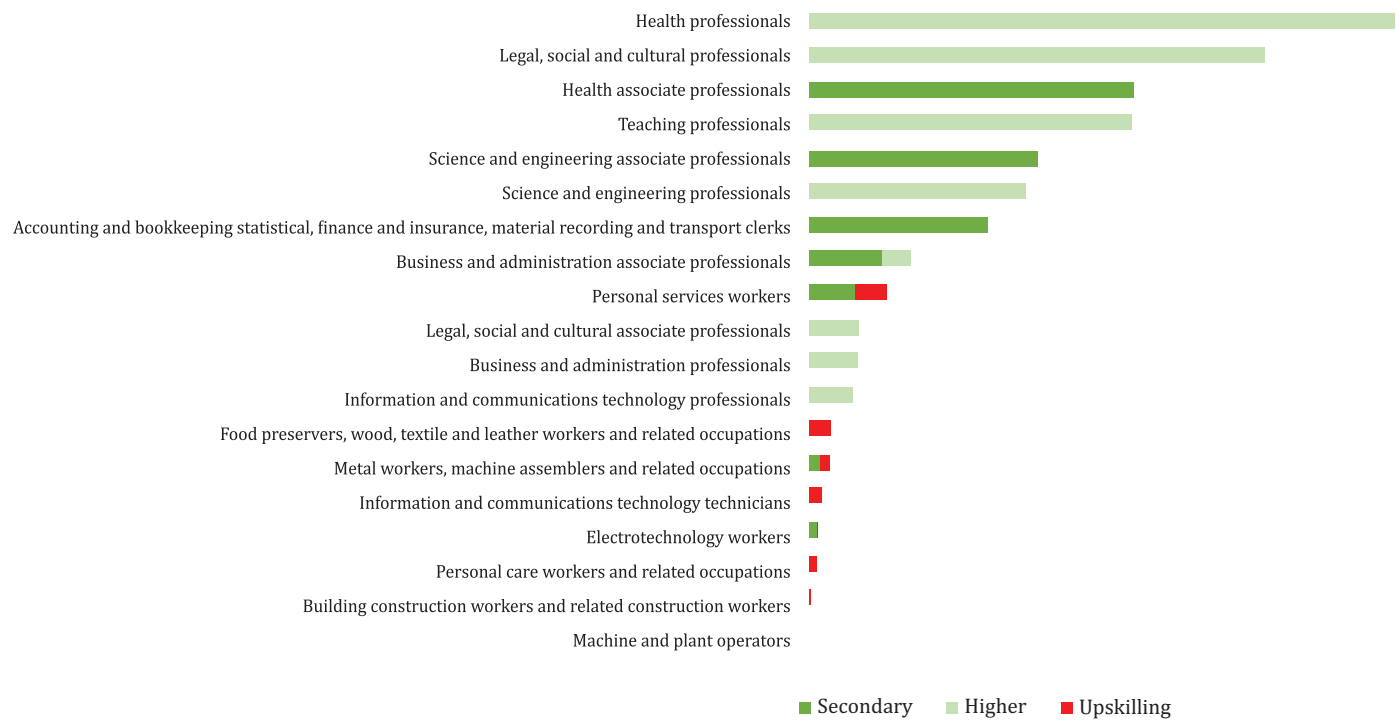
Due to the lack of job creation, it appears the most of the newly produced profiles would broaden the surplus gap. Such conclusion may be too strong, but still, caution should be taken with the further production of the following educational profiles: teaching professionals; legal, social, and cultural professionals; business and administration associate professionals; and accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks. Currently the surplus gap for those profiles in the municipality of Tetovo is severe. Furthermore, these are profiles that are classified in general as surplus profiles in other municipalities, too, which may indicate potential surplus profiles at national level. On the other hand, no new profiles are produced for the identified deficient occupations of operators of motor vehicles, mobile plants and deck crew; labourers in manufacturing and transport (elementary workers in the manufacturing of bricks; hand packers; and manufacturing line labourers) and refuse collectors and related occupations.

There is a potential to bridge the gap for the operators of motor vehicles with the profiles produced by the municipal secondary vocational school “Mosha Pijade”. The deficiency gap for the occupations at low skill level and requiring primary education could be bridged by upskilling through the Open Civil University for Lifelong Learning - Tetovo.

⁷ <http://komspi.mk/category/imateliinfo/obrazovniinstitucii/>

⁸ There is no available data as to how many would be produced in the next two years. Furthermore, this figure does not include the profiles produced by the University of Southeast Europe – Tetovo and the general secondary school “Kiril Pejčinovich” – Tetovo, which failed to deliver any data.

Figure 7: Supply of profiled labour force by educational institutions in the next four years



Source: Educational institutions within the territory of the municipality of Tetovo, data collected by the municipality of Tetovo



Table 2: Matching the gap with the supply of profiles from the educational institutions in the next two years

Code	Occupation/Educational profile	Primary	Secondary	Post-secondary	Higher	Secondary	Upskilling	Higher
21	Science and engineering professionals							1131
22	Health Professionals							3042
23	Teaching professionals							1683
24	Business and administration professionals							254
25	Information and communications technology professionals							233
26	Legal, social and cultural professionals							2376
31	Science and engineering associate professionals					1189		
32	Health associate professionals					1693		
34	Legal, social and cultural associate professionals							260
35	Information and communications technology technicians						70	
33	Business and administration associate professionals					377		159
41	General office clerks and secretaries							
42	Customer services clerks							
43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks					931		
44	Other office clerks							
51	Personal services workers					246	163	
52	Sales workers							
53	Personal care workers and related occupations						48	
54	Security guards							
61	Market-oriented skilled agricultural workers							
71	Building construction workers and related construction workers						16	
72	Metal workers, machine assemblers and related occupations					59	53	
73	Precision mechanics, handicraft workers and printers							
74	Electrotechnology workers					48	1	
75	Food preservers, wood, textile and leather workers and related occupations					406	118	
81	Machine and plant operators						9	
82	Machinery and equipment assemblers							
83	Drivers of motor vehicles, mobile plant operators and deck crew							
91	Cleaners and helpers							
92	Agricultural, forestry and fishery labourers							
93	Labourers in mining, construction, manufacturing and transport							
94	Food preparation assistants							
95	Street vendors and other service workers							
96	Refuse workers and other elementary workers							
	No occupation							
	General secondary education							

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

CONCLUSIONS AND RECOMMENDATIONS

The labour market diagnostics in the municipality of Tetovo has shown that there is a huge gap where the supply is greater than the demand concerning nearly all education levels. This indicates that the municipality of Tetovo is facing a significant lack of job creation. For every worker required by the companies in the Polog region, there are 47 unemployed persons in the municipality of Tetovo. This gap is the widest for persons with primary education. For the persons with high level skills, there is a severe surplus gap for the following occupations: teaching professionals; legal, social and cultural professionals; and science and engineering professionals. In occupations at low skill level there is a deficit of labourers in mining, construction, manufacturing, and transport; and for elementary workers, refuse collectors and related occupations with primary education.

RECOMMENDATIONS

Recommendations for the Employment Centres and ESARNM

To design active labour market measures for the unemployed active job seekers in the municipality of Tetovo, in particular:

- Skilling of persons with primary education and no occupation into elementary workers. The upskilling and re-skilling centres, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- Upskilling of persons with primary education in the occupations of food preservers, wood, textile and leather workers and related occupations; and drivers of motor vehicles, mobile plants and deck crew

- Active labour market measures for formalization of informal work
- Community work with different skill requirements for the persons classified in occupations/education profiles with significant surplus gap:
 - o Work with low skill requirement for persons without occupation (cleaning the community, refuse collection, collection of bulk waste for recycling, etc.)
 - o Work with high skill requirements for persons with high level skills in surplus occupations (learning support for students belonging to the vulnerable groups, support to schools and kindergartens, etc.)

For the educational institutions and the Ministry of Education and Science

- To bridge the gap in deficient occupations short-term through:
 - o Educational institutions which have established programmes in the deficient occupations should increase the attractiveness and enrollment quotas so as to produce more graduates
 - o The upskilling and re-skilling centres, in cooperation with ESARNM and the Employment Centre, should be stimulated to intensify their work
 - o Secondary vocational schools should improve their cooperation with the private sector. Such cooperation may be promoted through regular internship for students of secondary vocational schools in relevant companies

- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:

- o The programmes and profiles of the educational institutions should be designed in line with the occupations in demand on the labour market in the municipality of Tetovo
- o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)
- o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

For the municipality of Tetovo, regional chambers, and the business sector

- The municipality's capacity to attract big business entities and create new jobs should be increased through:
 - o Attracting foreign investors
 - o Creating preferential conditions, local tax incentives, construction land planning and similar benefits for new investments and job creation
- To intensify the cooperation with the secondary vocational schools and take active participation in the potential establishment of dual education or pilot-occupations
- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications

- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies

- To raise the awareness of the business sector and the unemployed persons about the benefits of formal employment

- To raise the awareness of young people about which educational profiles are in demand, and which are redundant, so as to help them make an informed decision when they are selecting their educational pathways

For the State Statistical Office (SSO), Public Revenue Office (PRO) and the Labour Inspectorate

- SSO should collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)

- The State Labour Inspectorate should conduct regular inspection supervisions on site

- It should also conduct off-site inspections by matching the administrative data (PRO) with the survey data (SSO)



Labour market diagnostics in the municipality of Kumanovo

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the shortage of jobs and the education and skills mismatch on the labour market in the municipality of Kumanovo, such as:

- Improving the municipality's capacity to attract big business entities and create new jobs
- Active labour market measures for formalization of informal work
- Community work with different skill requirements for the persons classified in occupations/ education profiles with significant surplus gap
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Kumanovo has a significant shortage of newly created jobs and prominent surplus gaps in high skill occupations. For every worker required by the companies in the Southeast region, there are 12 unemployed persons in the municipality of Kumanovo. The gap is the greatest for higher education, where this ratio is 36, followed by primary education with a ratio of 18, while the gap is the narrowest for the secondary education with eight unemployed persons for each job created. The municipality of Kumanovo is facing a pressing shortage of newly created jobs.

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Kumanovo and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Kumanovo is the biggest municipality in the Southeast region with population of 108.942¹, thus accounting for 62% of the total population in the Southeast region. Currently, the labour market in the Southeast region is unfavourable; the region has the highest unemployment rate, the lowest employment rate and it is ranked third-

to-last² in terms of the activity rate, as compared to the other seven regions. In 2019, the unemployment rate of the population aged 15 and above was 33% (32.2% for women and 33.5% for men), the employment rate was 37%, while the activity rate was 55.2%. Furthermore, such unfavourable trend is reflected in the average gross salary: at MKD 29,131 it is the lowest one when compared to the other seven regions (Regions in the Republic of North Macedonia, SSO, 2020). The region is characteristic for the mountainous areas, favourable for the development of animal husbandry and the dairy industry. Furthermore, there are several sites of lead and zinc ore deposits and exploitation plants in the region.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²After the Polog region (51.9%) and the Skopje region (53.5%)

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Kumanovo
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Kumanovo; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Kumanovo.

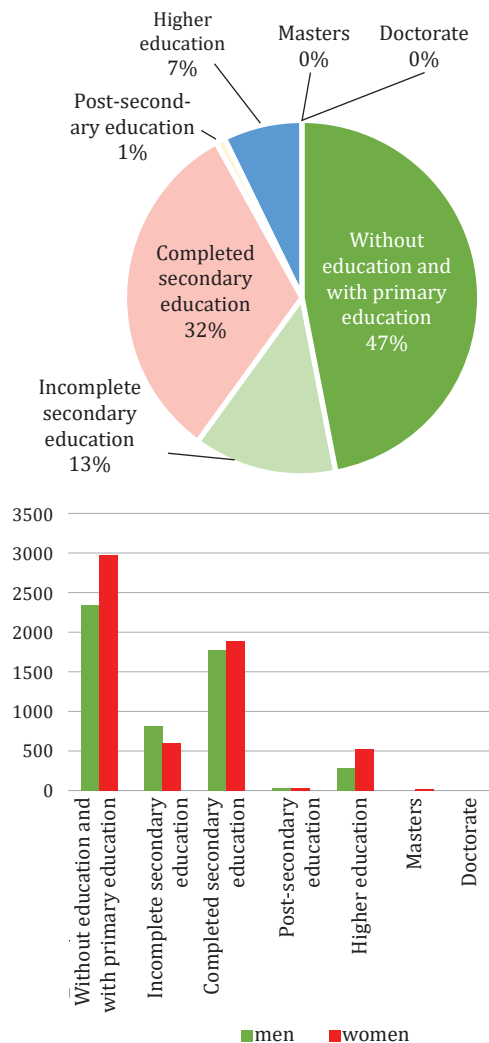
One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level. The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Out of the total registered unemployed who were active job seekers in the municipality of Kumanovo in 2020, 53% were women and 47% were men. In terms of education, persons with lower educational attainment are predominant. More than one half (60%) of the unemployed were persons with primary or no education (47%) and incomplete secondary education (13%) and incomplete secondary education (Figure 1).

Figure 1: Unemployed persons in the municipality of Kumanovo, by educational attainment

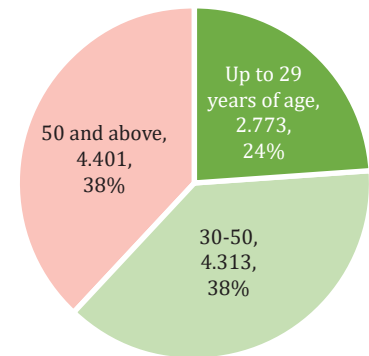


Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed are over 30 years of age, and these persons and the group aged 50 or more are equally represented (38%) (Figure 2). The relatively low share of young people in the total structure (24%) is probably

owing to the late activation on the labour market due to education, as well as to the proportionally lower share of young people in the population.

Figure 2: Structure of unemployed by age



Source: Employment Service Agency of the Republic of North Macedonia

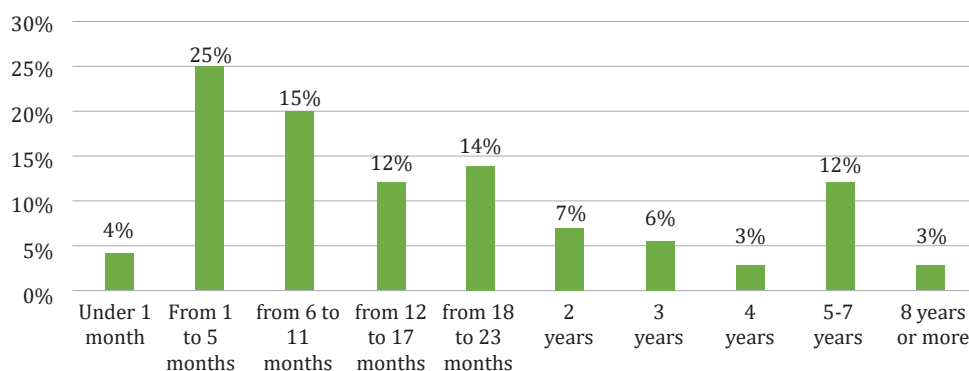
44% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. Although such structure may appear encouraging, one third of the unemployed are waiting for employment for more than two years, which indicates a possibility of structural unemployment.

In addition to the unemployed active job seekers, the persons registered as passive job seekers also have a significant share in the unemployed in the municipality of Kumanovo.

According to the Employment Service Agency, this category includes 6,187 persons, which represents a share of approximately one half of the total number of active job seekers.

The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help

Figure 3: Unemployed in the municipality of Kumanovo, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

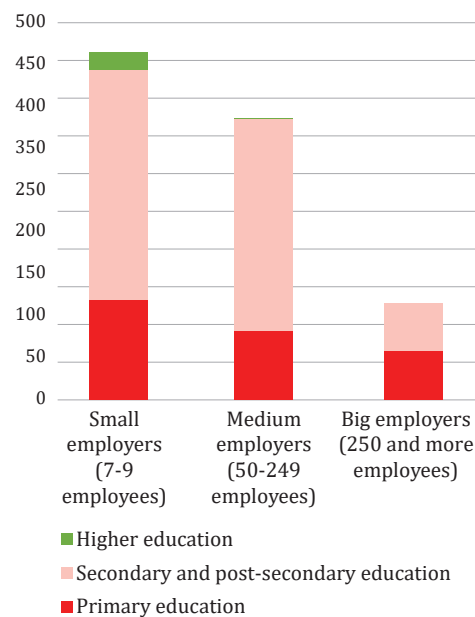
Demand

According to the regional labour demand survey in 2020, the total demand for the Southeast region is 972 jobs, which accounts for 8.5% of the unemployed labour force in the municipality of Kumanovo. This rate is very low and it indicates a significantly unfavourable labour market situation in the municipality of Kumanovo. The low rate is a result of the insufficient number of newly created jobs. It may be a result of the low potential for job creation of the business entities; insufficient number of businesses, in particular big companies with more than 250 employees (Regions in the Republic of North Macedonia, SSO, 2020)³; but also a potential greater presence of the informal economy.

Figure 4 provides an overview of the labour demand by education and company size. It is expected that nearly one half of the vacancies will be generated by small employers, additional 39% by medium to big

employers and only 13% by big employers. In terms of the demand by education, the demand for workers who completed secondary education (67%) and primary education (37%) is predominant.

Figure 4: Labour demand by education and company size



Source: Employment Service Agency of the Republic of North Macedonia

Cross-referencing the demand by education and occupation (NCO-ISCO 08) (Figure 5) shows that the entire demand for workers who completed primary education concerns the group of elementary occupations (predominantly for elementary workers, tobacco preparers and labourers in loading, unloading and transport of cargo). The demand for

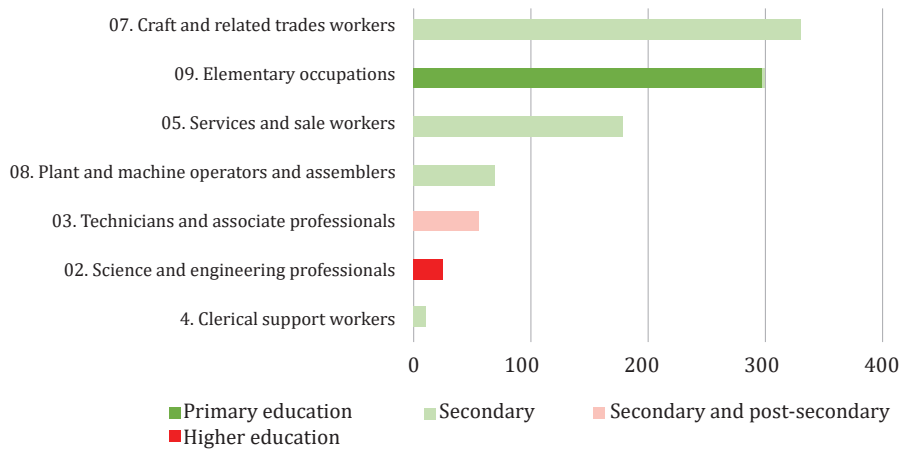
workers with secondary education is more heterogeneous in terms of occupations. In absolute figures, the demand for occupations with secondary vocational school is greater than the one for those with general secondary education. 16% of the total demand for workers and 40% of the demand for workers with secondary and post-secondary education are for technicians and related occupations, with nearly 90% concerning technicians-operators. It is followed by occupations of craft and related trade workers, including: sewers, shopkeepers, heavy truck and lorry drivers, waiters, locksmiths, stock clerks, welders, cooks, and similar occupations. Next on the list of workers with secondary education are services and sales workers and plant and machine operators and assemblers. All workers with higher education in demand on the market are in the occupation of professionals and science professionals. One third of them are systems administrators and 17% are programmers.

Labour market gap by education and occupation

The labour market gap in the municipality of Kumanovo is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation. Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results have shown that overall the supply is greater than the demand concerning nearly all education levels. For every worker required by the companies in the Northeast region, there are 12 unemployed persons in the municipality of Kumanovo. The gap is the greatest for higher education, where this ratio is 36, followed by primary education with a ratio of 18, while the gap is the narrowest for the secondary education with eight unemployed persons for each job created.

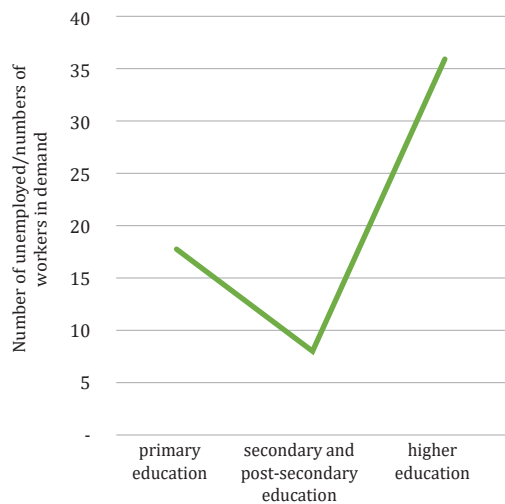
³ The Northeast region had the least number of big businesses, five, in 2019

Figure 5: Labour demand by occupation and education for the Northeast region



Source: ESARNM, regional labour market skills needs survey in RNM in 2020 ⁴

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply. The gap may be analyzed according to the educational attainment within an occupation (horizontally) and vertically, for different occupations. However, under such circumstances of significant labour market disruption, with labour supply exceeding the demand by far in nearly all occupations, it is difficult to carry out a more in-depth analysis of the gaps by occupation and it takes a cautionary approach. Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Kumanovo. Since overall the supply is greater than the demand, the analysis will focus on the severe gaps where the supply is drastically greater than the demand, marked in red, and severe deficiency gaps, where the labour demand is greater than the supply, marked in green.

The results show that for high level skills there is a gap for five occupations. For two higher education occupations (teaching professionals; and legal, social and cultural professionals) the gaps a broadened with the increase of the educational attainment and there is a

potentially higher overqualification. There is a severe surplus gap also for the occupations of science and engineering associate professionals; health associate professionals; and business and administration associate professionals with secondary education. It is specific that the positive gap for these occupations disappears as the educational attainment progresses from secondary to post-secondary education. This indicates that the persons with secondary education require upskilling.

For the medium skill level occupations, severe gaps have been identified for five out of seventeen occupations. There is a severe surplus gap for the occupations of general office clerks and secretaries; and other office clerks. On the other hand, for the occupation metal workers, machine assemblers and related occupations, the severe surplus gap disappears with the increase of the educational attainment from primary to secondary education. This indicates potential underqualification. There is a severe deficiency gap for the occupations of building construction workers and related construction workers; operators of motor vehicles, mobile plants and deck crew, for persons who completed secondary education. Moderate surplus or deficiency gaps have been identified for six occupations. For two occupations – personal services workers; and food preservers, wood, textile and leather workers and related occupations, the positive gap disappears with the increase of the educational attainment from primary to secondary education. In occupations at low skill level there is a deficit of labourers in mining, construction, manufacturing, and transport; and for elementary workers, refuse collectors and related occupations with primary education. On the other hand, there is a surplus of unemployed labour for persons without any occupation and the persons who have completed general secondary education.

⁴ The survey has been conducted on a sample of 3,295 employers from the private sector with seven or more employees, stratified by region and by employer sectors. The sample includes all medium and large employers, while other employers have been selected randomly until the required sample size has been achieved

The overall conclusion is the the municipality of Kumanovo has a significant job creation deficit. Surplus gaps (where the supply is greater than the demant) are predominant, in particular for high skill level occupations. There are

severe deficiency gaps for elementary workers with primary education and, for two medium skill level occupations with secondary education. Nevertheless, for occupations at medium skill, educational gaps are more dominant. This points out to

the conclusion that the occupations are adequate, but there is a need for upskilling. Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important. A World Bank study (2020) has identified that the training

Table 1: Labour market gaps by occupation - educational profile

skill level	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	21	Science and engineering professionals				
	22	Health Professionals				
	23	Teaching professionals				
	24	Business and administration professionals				
	25	Information and communications technology professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	34	Legal, social and cultural associate professionals				
	35	Information and communications technicians				
	33	Business and administration associate professionals				
Medium skill level	41	General office clerks and secretaries				
	42	Customer services clerks				
	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks				
	44	Other office clerks				
	51	Personal services workers				
	52	Sales workers				
	53	Personal care workers and related occupations				
	54	Security guards				
	61	Market-oriented skilled agricultural workers				
	71	Building construction workers and related construction workers				
	72	Metal workers, machine assemblers and related occupations				
	73	Precision mechanics, handicraft workers and printers				
	74	Electrotechnology workers				
	75	Food preservers, wood, textile and leather workers and related occupations				
	81	Machine and plant operators				
	82	Machinery and equipment assemblers				
	83	Drivers of motor vehicles, mobile plant operators and deck crew				
	91	Cleaners and helpers				
	92	Agricultural, forestry and fishery labourers				
Low skill level	93	Labourers in mining, construction, manufacturing and transport				
	94	Food preparation assistants				
	96	Refuse workers and other elementary workers				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

Significant surplus Surplus Adequately matched Deficit Significant deficit

offered by the educational system does not match the companies' needs. The same study has identified that the students lack adequate practical skills matching their diplomas⁵.

Educational profiling as a factor in bridging or broadening the gaps

There are four secondary schools, one higher education institution, and one Adult Education Centre in the municipality of Kumanovo⁶. In the forthcoming two years these institutions are expected to produce 1,496 profiled professionals for the labour market⁷. 75% of the total supply of educational profiles fall within three occupations: accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks; health technicians and assistants; and science and engineering associate professionals. These results imply that the municipality of Kumanovo has a relatively well-established educational infrastructure to produce profiled labour force. In order to identify to which extent are those profiles matching the demand on the labour market, in Table 2 we are matching the identified gap with the expected profiles to be produced in the next two years.

Due to the lack of job creation, it appears the most of the newly produced profiles would broaden the surplus gaps. Such conclusion may be too strong, but still, caution should be taken with the further production of the following educational profiles: legal, social, and cultural professionals; business and administration associate professionals; and accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks. The surplus gap for those profiles in the municipality of Kumanovo is currently severe. Furthermore, these are profiles that are classified in general as surplus profiles in other municipalities, too, which may indicate potential surplus profiles at national level. For two occupations, science and engineering associate professionals and health associate professionals, despite the surplus gap for the persons with secondary education, it is estimated that the gap arises from the educational attainment, and there is a greater mobility of these workers. Therefore, producing new profiles in these occupations, in spite of the surplus gap, is not a point of concern. On the other hand, no new profiles are produced for the identified deficient

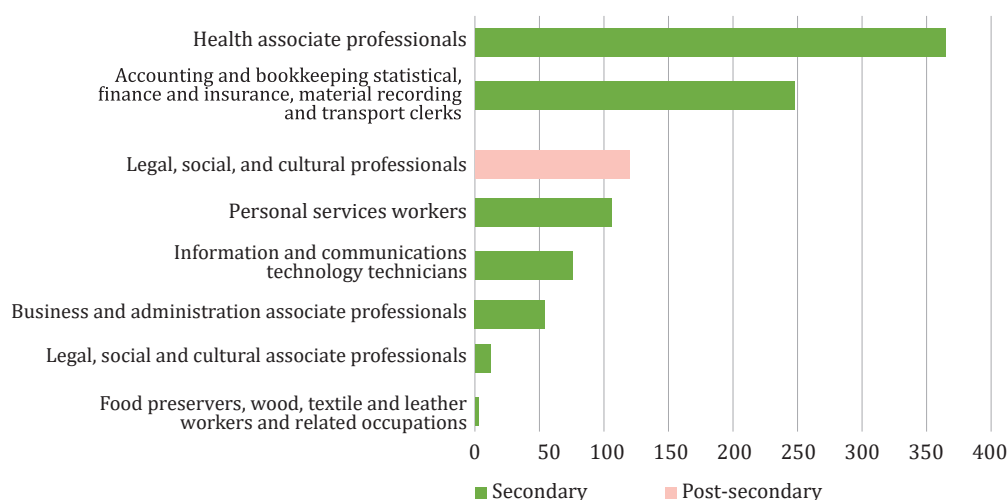
occupations of operators of motor vehicles, mobile plants and deck crew; building construction workers and related construction workers; labourers in manufacturing and transport; and refuse collectors and related occupations.

There is a potential to bridge the gap for the operators of motor vehicles with the profiles produced by the municipal technical secondary school "Nace Bugjoni" - Kumanovo. The deficiency gap for the occupations at low skill level and requiring primary education could be bridge by upskilling through the Adult Education Centre.

CONCLUSIONS AND RECOMMENDATIONS

The diagnostic analysis of the labour market in the municipality of Kumanovo has shown a significant deficit in job creation. For every worker required by the companies in the Northeast region, there are 12 unemployed persons in the municipality of Kumanovo. This gap is the widest for persons with higher education. Surplus gaps are predominant, in particular for high skill occupations. There are severe deficiency gaps for elementary workers with primary education and, for two medium skill level occupations with secondary education. Nevertheless, for occupations at medium skill, educational gaps are more dominant. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling.

Figure 7: Supply of profiled labour force by educational institutions in the next two years



Source: Educational institutions within the territory of the municipality of Kumanovo, data collected by the municipality of Kumanovo

⁵World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#)

⁶<http://komspi.mk/category/imateliinfo/obrazovniinstitucii/>

⁷This figure does not include the profiles produced by the general secondary school "Goce Delchev" - Kumanovo and by the Adult Education Centre, for which no data have been available.

Policy brief

Table 2: Matching the gap with the supply of profiles from the educational institutions in the next two years

		Gaps				Supply from educational institutions		
Code	Occupation/Educational profile	Primary	Secondary	Post-secondary	Higher	Secondary	Post-secondary	Higher
21	Science and engineering professionals							
22	Health Professionals							
23	Teaching professionals							
24	Business and administration professionals							
25	Information and communications technology professionals							
26	Legal, social and cultural professionals							120
31	Science and engineering associate professionals					514		
32	Health associate professionals					365		
34	Legal, social and cultural associate professionals					11		
35	Information and communications technicians					106		
33	Business and administration associate professionals					54		
41	General office clerks and secretaries							
42	Customer services clerks							
43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks					247		
44	Other office clerks							
51	Personal services workers					76		
52	Sales workers							
53	Personal care workers and related occupations							
54	Security guards							
61	Market-oriented skilled agricultural workers							
71	Building construction workers and related construction workers							
72	Metal workers, machine assemblers and related occupations							
73	Precision mechanics, handicraft workers and printers							
74	Electrotechnology workers							
75	Food preservers, wood, textile and leather workers and related occupations					3		
81	Machine and plant operators							
82	Machinery and equipment assemblers							
83	Drivers of motor vehicles, mobile plant operators and deck crew							
91	Cleaners and helpers							
92	Agricultural, forestry and fishery labourers							
93	Labourers in mining, construction, manufacturing and transport							
94	Food preparation assistants							
96	Refuse workers and other elementary workers							
	No occupation							
	General secondary education							

Source: Employment Service Agency of the Republic of North Macedonia, Municipality of Kumanovo (for new profiles by educational institutions), calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

RECOMMENDATIONS

Recommendations for the Employment Centres and ESARNM

To design active labour market measures for the unemployed active job seekers in the municipality of Kumanovo, in particular:

- Skilling of persons with primary education and no occupation into elementary workers. The Adult Education Centre, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- Persons with primary education in the occupations of building construction workers and related construction workers; and operators of motor vehicles, mobile plants and deck crew should be upskilled.
- Active labour market measures for formalization of informal work
- Community work with different skill requirements for the persons classified in occupations/education profiles with significant surplus gap:

o Work with low skill requirement for persons without occupation (cleaning the community, refuse collection, collection of bulk waste for recycling, etc.)

o Work with high skill requirements for persons with high level skills in surplus occupations (learning support for students belonging to the vulnerable groups, support to schools and kindergartens, etc.)

For the educational institutions and the Ministry of Education and Science

- To bridge the gap in deficient occupations short-term through:

o Educational institutions which have established programmes in the deficient occupations should increase the attractiveness and enrollment quotas so as to produce more graduates

o Secondary vocational schools should improve their cooperation with the private sector. Such cooperation may be promoted through regular internship for students of secondary vocational schools in relevant companies

- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:

o The programmes and profiles of the educational institutions should be designed in line with the occupations in demand on the labour market in the municipality of Kumanovo

o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)

o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

For the municipality of Kumanovo, regional chambers and the business sector

- The municipality's capacity to attract big business entities and create new jobs should be increased through:

o Attracting foreign investors

o Creating preferential conditions, local tax incentives, construction land planning and similar benefits for new investments and job creation

- To intensify the cooperation with the secondary vocational schools and take active participation in the potential establishment of dual education or pilot-occupations

- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies

- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications

- To raise the awareness of the business sector and the unemployed persons about the benefits of formal employment

- To raise the awareness of young people about which educational profiles are in demand, and which are redundant, so as to help them make an informed decision when they are selecting their educational pathways

For the State Statistical Office (SSO), Public Revenue Office (PRO) and the Labour Inspectorate

- SSO should collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)

- The State Labour Inspectorate should conduct regular inspection supervisions on-site

- It should also conduct off-site inspections by matching the administrative data (PRO) with the survey data (SSO)

Labour market diagnostics in the municipality of Kichevo

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the education and skills mismatch on the labour market in the municipality of Kichevo, such as:

- Skilling the unemployed with no occupation into elementary occupations (in cooperation with ESARNM)
- Improving the municipality's capacity to attract foreign investors in the Technological Industrial Development Zone (TIDZ)
- Strengthening the cooperation between the secondary vocational schools and the business sector, in particular with foreign investors in the municipality of Kichevo, including piloting dual education in two or three occupations (in line with the strategy of the Ministry of Education and Science)
- Redesigning the curricula/profiles and skills conferred by the qualifications obtained, in line with the occupations in demand on the labour market in the municipality of Kichevo and the skills required (for instance, skills relating to STEM sciences, analytical skills, critical thinking, etc.)
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Kichevo is facing a lack of job opportunities, underqualification and shortage of medium skilled labour force. For each required worker with primary education in the Southwest region, there are 11 unemployed persons in the municipality of Kichevo. The supply exceeds the demand for the occupations at higher skill levels: teaching professionals; legal, social and cultural professionals. In all other occupations with surplus gaps, those gaps disappear or are transformed into deficiency gaps with the increase of the educational attainment. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling. The educational institutions in the municipality of Kichevo need significant restructuring so as to be able to address the gap in deficient occupations, and some of them are only broadening the gap for the surplus occupations by intensive and mass production of surplus educational profiles.

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Kichevo and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Kichevo is one of the bigger municipalities in the Southwest region with a population of 57.107¹, thus accounting for 26% of the total population in the region. Currently, the labour market in the Southwest region is moderately unfavourable; it is ranked third² in terms of the unemployment rate and third³ from the back in terms of the employment rate, and fourth in terms of the activity rate as

compared to the other seven regions. In 2019, the unemployment rate of the population aged 15 and above was 24.4% (26.4% for women and 23.1% for men), the employment rate was 43.1%, while the activity rate was 57%. The moderately unfavourable trend is also reflected in the average gross salary in the amount of MKD 33,099 (Regions in the Republic of North Macedonia, SSO, 2020). Nevertheless, the region is favourably positioned, has a great and underutilized hydro potential, as well as development tourism in the Lake Ohrid area. Furthermore, the region is attractive to foreign investments and several big companies are located in the immediate vicinity of Kichevo, thus contributing significantly to the employment in the region, in general, and in the municipality of Kichevo, in particular.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²After the Northeast region (33%) and the Polog region (28.5%)

³After the Southeast region (63.3%)

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Kichevo
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Kichevo; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Kichevo.

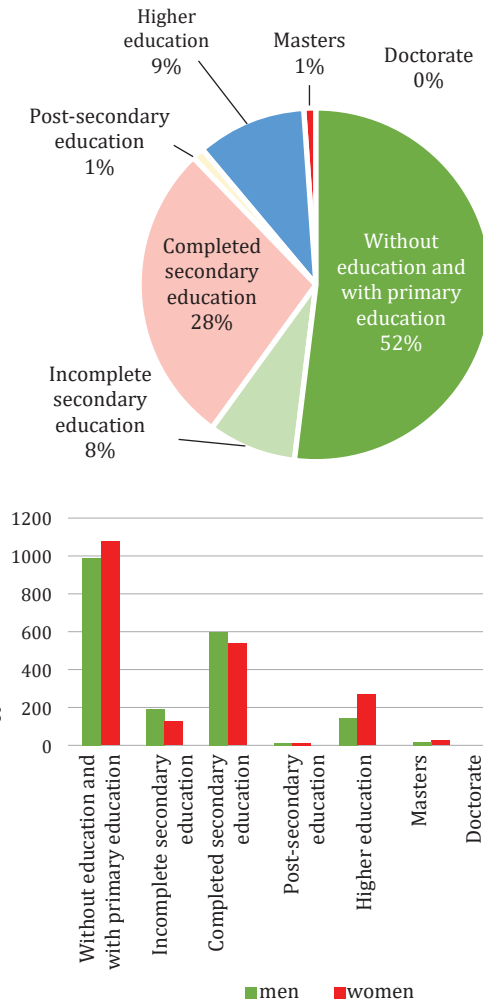
One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level. The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Women and men have equal shares in the the total registered unemployed who were active job seekers in the municipality of Kichevo in 2020. In terms of education, persons with lower educational attainment are predominant. More than one half (60%) of the unemployed were persons with primary or no education (52%) and incomplete secondary education (Figure 1).

Figure 1: Unemployed persons in the municipality of Kichevo, by educational attainment

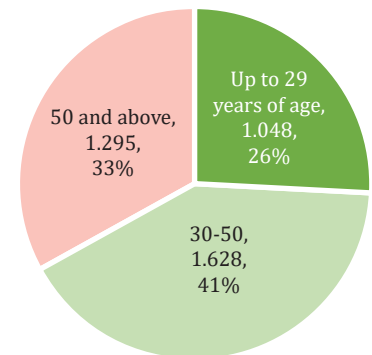


Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed are aged 30-50 (41%), followed by the unemployed aged 50 or more (33%) (Figure 2). The relatively low share of young people in the total structure (26%) is probably owing to the late activation on the labour market

due to education, as well as to the proportionally lower share of young people in the population.

Figure 2: Structure of unemployed by age

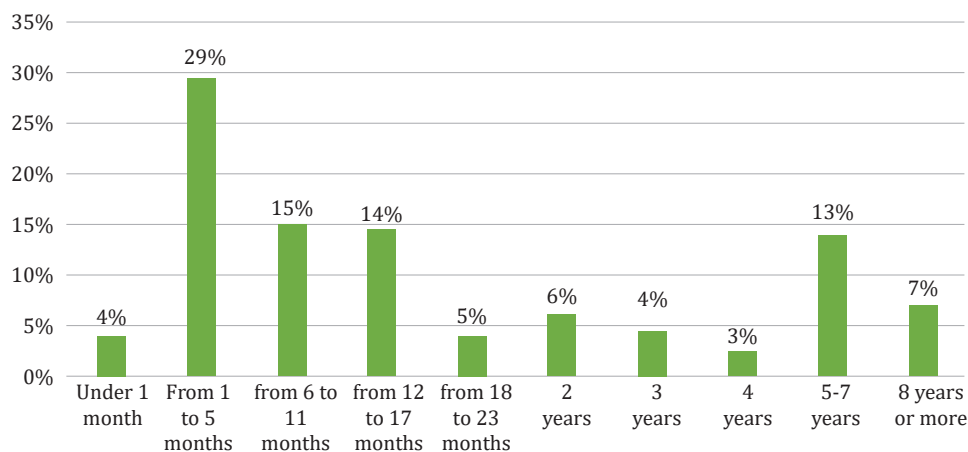


Source: Employment Service Agency of the Republic of North Macedonia

48% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. Although such structure may appear encouraging, one third of the unemployed are waiting for employment for more than two years, which indicates a possibility of structural unemployment.

In addition to the unemployed active job seekers, the persons registered as passive job seekers also have a significant share in the unemployed in the municipality of Kichevo. According to the Employment Service Agency, this category includes 2,817 persons, which represents a share of 70% in the total number of active job seekers. 57% of the passive job seekers have completed primary education, while additional 9% of them have incomplete secondary education. This indicates that these persons are mostly with low educational

Figure 3: Unemployed in the municipality of Kichevo, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

attainment. Only 5% of this group have completed higher education. The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

Demand

According to the regional labour demand survey in 2020, the total demand for the Southwest region is 1,448 jobs, which accounts for 36.4% of the unemployed labour force in the municipality of Kichevo.

Figure 4 provides an overview of the labour demand by education and company size. It is expected that nearly one half (46%) of the vacancies will be generated by medium to large employers, additional 31% by big companies and 23% by small employers.

In terms of the demand by education, the demand for workers who completed secondary education (83%) is predominant, while the demand for primary education (12%) and higher education (4%) is relatively low.

Figure 4: Labour demand by education and company size



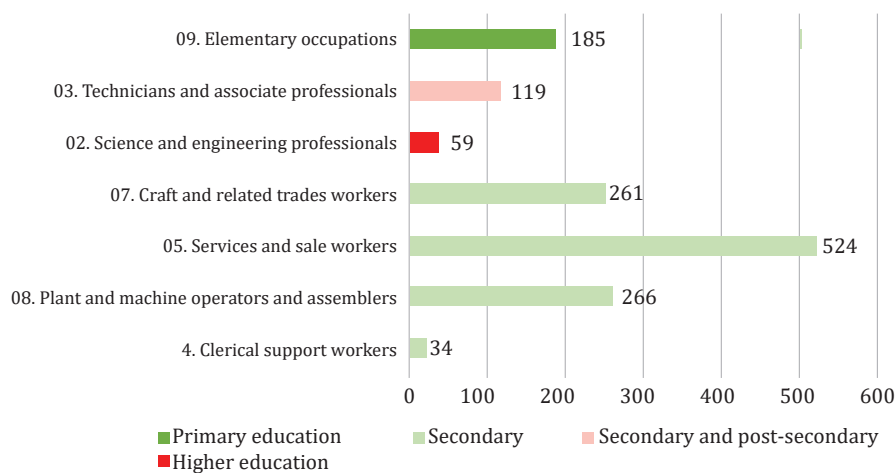
Source: Employment Service Agency of the Republic of North Macedonia

Cross-referencing the demand by education and occupation (NCO-ISCO 08) (Figure 5) shows that the entire demand for workers who completed primary education concerns the group of elementary occupations (predominantly for elementary workers). The demand for workers with secondary education is more heterogeneous in terms of occupations. 36% of the total demand for workers and 78% of the demand for workers with secondary education are for services and sales workers (waiters, salespersons,

telephone salespersons, cooks, bartenders, etc.). The next demanded workers with secondary education are plant and machine operators and assemblers. They are followed by occupations of craft and related trade workers, including: sewers, bakers, occupational hygienists, construction workers, reinforcement iron workers, electrical fitters, etc.

All demanded workers with higher education are in the occupation of technicians and related occupations and are in more heterogeneous occupations, including: mechanical engineers, accountants, engineering technologists, programmers, electrical design engineers, electrical maintenance engineers, etc.

Figure 5: Labour demand by occupation and education for the Southwest region

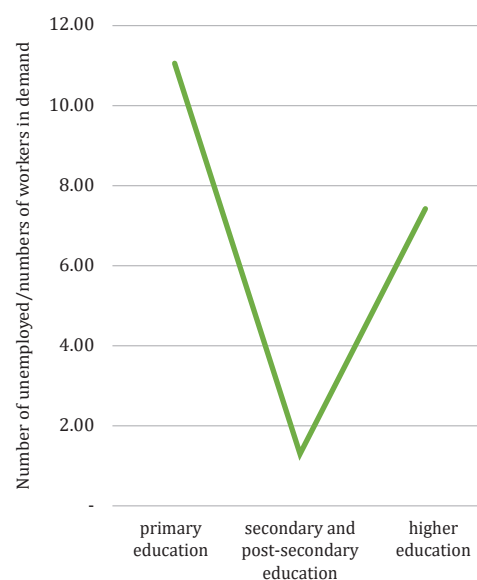


Source: ESARNM, regional labour market skills needs survey in RNM in 2020 ⁴

Labour market gap by education and occupation

The labour market gap in the municipality of Kichevo is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation. Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results have indicated that the gap is the greatest for primary education. For every worker with primary education required by the companies in the Southwest region, there are 11 unemployed persons in the municipality of Kichevo, while for secondary and post-secondary education this ratio is 1.2, and for higher education it is 7.5.

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply.

Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Kichevo. The gap may be analyzed according to the educational attainment within an occupation (horizontally) and

vertically, for different occupations. The gap where the supply is greater than the demand is marked in red (dark red - severe gap, light red - moderate gap). Light yellow indicates that the matching of the supply and demand is nearly complete and there is no gap. The green shading marks a deficiency gap, where the demand for jobs is greater than the supply (dark green - severe gap, light green - moderate gap).

The results show that for higher level skills there is a gap for five out of eleven occupations.

For two occupations the gaps are positive and severe, notwithstanding the educational attainment (teaching professionals, legal, social and cultural professionals). This implies that for those occupations the supply is greater than the demand.

There is a severe surplus gap for occupations of science and engineering associate professionals; health associate professionals; business and administration associate professionals with secondary education, but the magnitude of the gap declines or it transforms into a deficiency gap with the transition to higher education. This indicates the presence of occupations with potential underqualification. There is a moderate deficiency gap for one occupation, information and communications technology professionals and technicians.

There is a deficiency gap for most of the medium skill occupations (seven out of thirteen), which is particularly prominent for persons who have completed secondary education.

This indicates a shortage of workers with secondary education in medium skill occupations. There are severe gaps for secondary education occupations for: personal services workers; sales workers; security guards; and plant and machine operators. There is a moderate deficiency gap with the following occupations: clerks in

⁴ The survey has been conducted on a sample of 3,295 employers from the private sector with seven or more employees, stratified by region and by employer sectors. The sample includes all medium and large employers, while other employers have been selected randomly until the required sample size has been achieved.

service activities; accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks; building construction workers and related construction workers; precision mechanics, handicraft workers and printers. There is a severe surplus gap for three out of 13 occupations (metal workers, machine assemblers and related occupations; food preservers, wood, textile and leather workers and related occupations; drivers of motor vehicles, mobile plants and deck crew)

for persons with primary education. Nevertheless, the gap transforms into a deficiency gap for these occupations with the increase of the educational attainment. This indicates that the persons with primary education require upskilling.

In occupations at low skill level there is a deficit of elementary workers, refuse collectors and related occupations with primary education. On the other hand, there is a surplus of unemployed labour for persons

without any occupation and the persons who have completed general secondary education. Therefore, the gap in low skill occupations could be reduced if the person without occupation are upskilled to the level of elementary workers and are adequately matched to the demand for such occupation. It would be necessary to undertake upskilling and/or re-skilling measures for persons with general secondary education.

Table 1: Labour market gaps by occupation - educational profile

Skill level	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	21	Science and engineering professionals				
	22	Health Professionals				
	23	Teaching professionals				
	24	Business and administration professionals				
	25	Information and communications technology professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	34	Legal, social and cultural associate professionals				
	35	Information and communications technicians				
	33	Business and administration associate professionals				
Medium skill level	41	General office clerks and secretaries				
	42	Customer services clerks				
	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks				
	51	Personal services workers				
	52	Sales workers				
	54	Security guards				
	71	Building construction workers and related construction workers				
	72	Metal workers, machine assemblers and related occupations				
	73	Precision mechanics, handicraft workers and printers				
	74	Electrotechnology workers				
	75	Food preservers, wood, textile and leather workers and related occupations				
	81	Machine and plant operators				
	83	Drivers of motor vehicles, mobile plant operators and deck crew				
Low skill level	91	Cleaners and helpers				
	92	Agricultural, forestry and fishery labourers				
	93	Labourers in mining, construction, manufacturing and transport				
	96	Refuse workers and other elementary workers				
	94	Food preparation assistants				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

The overall conclusion is that the municipality of Kichevo has a shortage of workers in different occupations at medium skill level and with secondary education. The surplus gap (when the supply exceeds the demand) occurs for higher skill level occupations, in particular with social sciences and educational occupations. On the other hand, for low skill level occupations there is a deficiency gap for elementary workers, paired with severe surplus gap for persons without any occupation. Nevertheless, when compared to occupations at higher skill levels, the educational gap is more present with occupations at medium and low skill levels. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling. Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important. A World Bank study (2020) has identified that the training offered by the educational system does not match the companies' needs. The same study has identified that the students lack adequate practical skills matching their diplomas⁵.

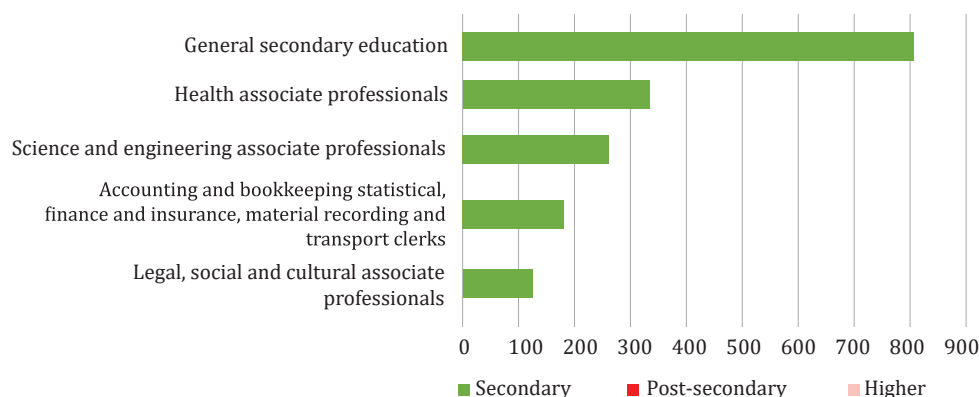
Educational profiling as a factor in bridging or broadening the gaps

There are two secondary schools and one centre for upskilling and re-skilling in the municipality of Kichevo. In the forthcoming two years these institutions are expected to produce 1,704 profiled professionals for the labour market. One half of the total supply of educational profiles are persons with general secondary education classified as persons without occupation.

These results imply that the municipality of Kichevo has established a modest educational infrastructure to produce profiled labour force. In order to identify to which extent are those profiles matching the demand on the labour marker, in Table 2 we are matching the identified gap with the expected profiles to be produced in the next two years. The results show that the existing gaps could not be overcome by the current setup of the educational infrastructure. Four of the five occupations produced by the educational institutions in the municipality of Kichevo are surplus occupations. Only the graduates with the educational profile of accounting and bookkeeping, statistical, finance and insurance, material recording and transport clerks would contribute to bridging the moderate deficiency gap.

However, at the same time the overproduction of profiles could transform it into a moderate surplus gap if the new job creation in this occupation is slower than the production of new trained workers. The issue of the deficit of labour force in occupations for medium skill level and secondary education remains unaddressed. It creates an opportunity to consider the creation of educational profiles for which there is a severe deficit on the labour market. In terms of profiles with general secondary education, the labour market opportunities would depend solely on whether these persons would upskill to deficient or surplus occupations, but in any case if they remain with only general secondary education, they would diminish their prospects. Finally, the upskilling and re-skilling centres are relatively under-represented and these institutions should received incentives to develop programmes that would help produce profiles in the deficient occupations, in particular those at low skill level.

Figure 7: Supply of profiled labour force by educational institutions in the next two years⁶



Source: Educational institutions within the territory of the municipality of Kichevo, data collected by the municipality of Kichevo

⁵World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#).

⁶The data on dispersed studies on the territory of the municipality of Kichevo have not been delivered by the higher education institutions

Table 2: Matching the gap with the supply of profiles from the educational institutions in the next two years

Code	Occupation/Educational profile	Gaps				Supply from educational institutions		
		Primary	Secondary	Post-secondary	Higher	Secondary	Post-secondary	Higher
21	Science and engineering professionals							
22	Health Professionals							
23	Teaching professionals							
24	Business and administration professionals							
25	Information and communications technology professionals							
26	Legal, social and cultural professionals					124		
31	Science and engineering associate professionals					260		
32	Health associate professionals					335		
34	Legal, social and cultural associate professionals							
35	Information and communications technicians							
33	Business and administration associate professionals							
41	General office clerks and secretaries							
42	Customer services clerks							
43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks					181		
44	Other office clerks							
51	Personal services workers							
52	Sales workers							
54	Security guards							
71	Building construction workers and related construction workers							
72	Metal workers, machine assemblers and related occupations							
73	Precision mechanics, handicraft workers and printers							
74	Electrotechnology workers							
75	Food preservers, wood, textile and leather workers and related occupations							
81	Machine and plant operators							
83	Drivers of motor vehicles, mobile plant operators and deck crew							
91	Cleaners and helpers							
92	Agricultural, forestry and fishery labourers							
93	Labourers in mining, construction, manufacturing and transport							
96	Refuse workers and other elementary workers							
94	Food preparation assistants							
	No occupation							
	General secondary education					804		

Source: Employment Service Agency of the Republic of North Macedonia; municipality of Kichevo, newly produced trained workers, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

CONCLUSIONS AND RECOMMENDATIONS

The diagnostic analysis of the labour market in the municipality of Kichevo has shown that the greatest education-to-occupation gap is the one for the persons with primary education. For each required worker with primary education in the Southwest region, there are 11 unemployed persons in the municipality of Kichevo. For the persons with high level skills, there is a severe surplus gap for the following occupations: teaching professionals; and legal, social and cultural professionals. There is also a severe surplus gap for persons without occupation and those who completed only general secondary education. In all other occupations with surplus gaps, those gaps disappear or are transformed into deficiency gaps with the increase of the educational attainment. This points out to the conclusion that the occupations are adequate, but there is a need for upskilling. The municipality of Kichevo has a shortage of workers in different occupations at medium skill level and with secondary education. The educational institutions in the municipality of Kichevo need significant restructuring so as to be able to address the gap in deficient occupations, and some of them are only broadening the gap for the surplus occupations by intensive and mass production of surplus educational profiles.

RECOMMENDATIONS

Recommendations for the Employment Centres and ESARNM

To design active labour market measures for the unemployed active job seekers in the municipality of Kichevo, in particular:

- Skilling of persons with primary education and no occupation into elementary workers. The upskilling and re-skilling centres, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- Upskilling/re-skilling of persons who completed general secondary education in some of the deficient occupations (for instance, operators of automated and semi-automated sewing machines, sewers, waiters, salespersons)
- Upskilling of persons with primary education in the following occupations: food preservers, wood, textile and leather workers and related occupations; drivers of motor vehicles, mobile plants and deck crew
- Community work with different skill requirements for the persons classified in occupations/education profiles with significant surplus gap:
 - o Work with low skill requirement for persons without occupation (cleaning the community, refuse collection, collection of bulk waste for recycling, etc.)
 - o Work with high skill requirements for persons with high level skills in surplus occupations (learning support for students belonging to the vulnerable groups, support to schools and kindergartens, etc.)

For the educational institutions and the Ministry of Education and Science

- To bridge the gap in deficient occupations short-term through:
 - o The upskilling and re-skilling centres, in cooperation with ESARNM and the Employment Centre, should be stimulated to intensify their work
 - o Secondary vocational schools should improve their cooperation with the private sector, in particular with big companies and foreign investors located in the municipality of Kichevo, and the technological and industrial development zone in Kichevo (for instance, “Key Safety Systems”, etc.). The cooperation could be promoted through:
 - Regular internship for students of secondary vocational schools in relevant companies
 - Pilot programmes for deficient occupations (e.g., food preservers, wood, textile and leather workers and related occupations; machine and plant operators)
- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:
 - o The programmes and profiles of the educational institutions should be designed in line with the occupations in demand on the labour market in the municipality of Kichevo
 - o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)
 - o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

For the business sector

- Improving the municipality's capacity to attract foreign investors in the Technological Industrial Development Zone (TIDZ)
- To intensify the cooperation with the secondary vocational schools and take active participation in the potential establishment of dual education or pilot-occupations
- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies

- When recruiting elementary workers, to make persons without occupation eligible to apply to the vacancy ads

- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications

For the Municipality of Kichevo, regional chambers, secondary schools

- To raise the awareness of young people about which educational profiles are in demand, and which

are redundant, so as to help them make an informed decision when they are selecting their educational pathways

For the State Statistical Office

- To collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)



Labour market diagnostics in the municipality of Shtip

Policy brief

The present policy brief recommends undertaking concrete actions to reduce the education and skills mismatch on the labour market in the municipality of Shtip, such as:

- o Educational institutions which have established programmes in the deficient occupations should increase the attractiveness and enrollment quotas so as to produce more graduates
- Stimulating and intensifying the validation of adult education programmes in cooperation with ESARNM and the Employment Centre
- Intensifying the cooperation between secondary vocational schools and the business sector
- Redesigning the curricula/profiles and skills conferred by the qualifications obtained, in line with the occupations in demand on the labour market in the municipality of Shtip and the skills required (for instance, skills relating to STEM sciences, analytical skills, critical thinking, etc.)
- Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

The municipality of Shtip is facing underqualification, a shortage of qualified labour force and a deficiency gap for medium and low skill occupations, as well as severe surplus gaps for specific occupations with higher education. For each required worker with primary education in the Eastern region, there are six unemployed persons in the municipality of Shtip. However, this gap disappears for persons with secondary education. This implies the existence of potential underqualification. The educational institutions in the municipality of Shtip have potential to partially address the gap with deficient occupations. Greater efforts need to be taken to overcome the problem with the shortage of labour, which is a pressing issue (in particular for occupations at low and medium skill levels).

OBJECTIVE

The objective of the present policy brief is to provide a diagnostic analysis of the labour market in the municipality of Shtip and to offer specific recommendations on how to improve the labour market outcomes of the local population and reduce the horizontal and vertical skills mismatches.

INTRODUCTION

The municipality of Shtip is the biggest municipality in the Eastern region with population of 48,657¹, thus accounting for 28% of the total population in the Eastern region. Currently, the labour market in the Eastern region is favourable; it is ranked second in terms of the unemployment rate² and third in terms of the employment³ and activity rates as compared to the other seven regions.

In 2019, the unemployment rate of the population aged 15 and above was 7.8% (7.9% for women and 7.8% for men), the employment rate was 54.3%, while the activity rate was 58.9%. Nevertheless, such favourable trend does not reflect on the average gross salary, which is moderate at MKD 30,407. This places the Eastern region in the middle of the rankings by the average salary (Regions in the Republic of North Macedonia, SSO, 2020). The region is characterized by favourable climate and hydrological predispositions, and, most likely, the dominance of this sector affects the level of the average salary. Furthermore, the municipality of Shtip is centrally located, which makes it attractive for foreign investors.

¹Population estimates on 31.12.2015, (NTEC 3-2007), Skopje

²After the Southeast region (6.3%)

³After the Southeast region (63.3%) and the Vardar region (55.2%)

METHODOLOGY AND DATA

The methodology consists of a descriptive analysis of the following:

- The labour market supply, through analysis of unemployed active job seekers in the municipality of Shtip
- The labour market demand, through analysis of the expected employment per occupation and level of education
- The potential to produce profiles, through analysis of the educational institutions in the municipality, and
- The gap between supply and demand, by occupation and by educational attainment

We have used administrative data on: unemployed persons, categorized by various characteristics, from the Employment Centre of the municipality of Shtip; Survey on the anticipated demand from the Employment Service Agency; data on educational profiles and number of pupils/students per years from the educational institutions in the municipality of Shtip.

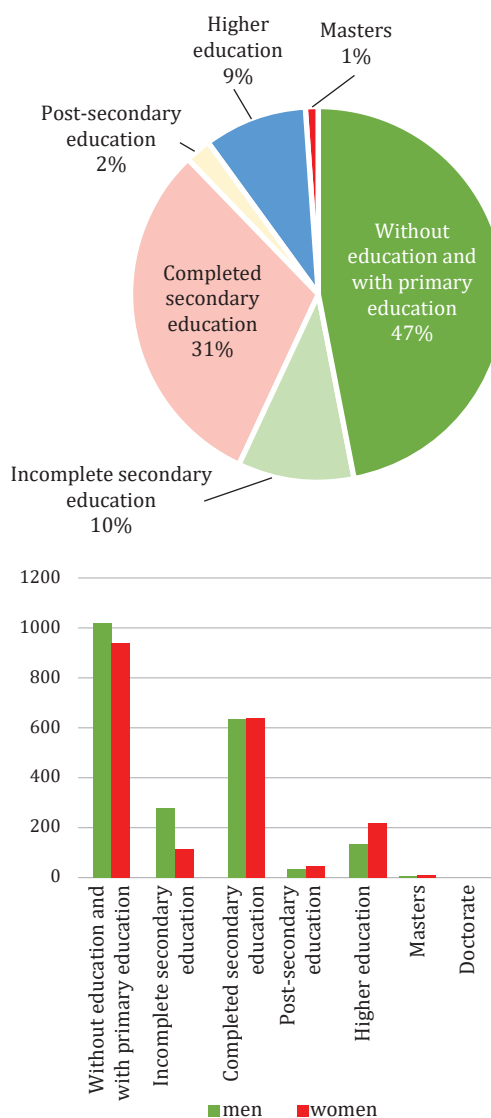
One of the shortcomings of the present analysis is the unavailability of data on employed and working age population at municipal level; hence, the analysis has been carried out using absolute figures instead of rates, to the extent possible. The Employment Service Agency of the Republic of North Macedonia registers the employed by employment contract, which may not reflect most accurately the current standing due to the potential double registration. An accurate figure on the number of employed can be obtained from the Health Insurance Fund, but the disaggregated data are maintained at the level of regional units (a total of 30) and are not corresponding to those at municipal level. The State Statistical Office does not produce any data on the employment, unemployment and activity rates at municipal level.

STRUCTURE OF THE LABOUR MARKET

Supply

Out of the total registered unemployed who were active job seekers in the municipality of Shtip in 2020, 52% were women and 48% were men. In terms of education, persons with lower educational attainment are predominant. More than one half (57%) of the unemployed were persons with primary or no education (47%) and incomplete secondary education (10%) (Figure 1).

Figure 1: Unemployed persons in the municipality of Shtip, by educational attainment

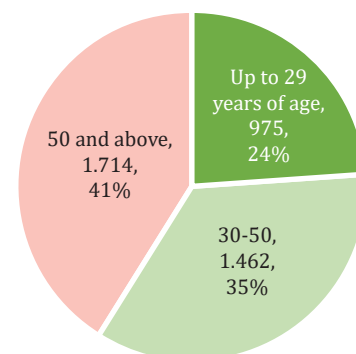


Source: Employment Service Agency of the Republic of North Macedonia

Most of the unemployed persons are aged 50 and more (41%). They are followed by persons aged 30-50.

Young people up to 29 years of age have the least share (Figure 2).

Figure 2: Structure of unemployed by age

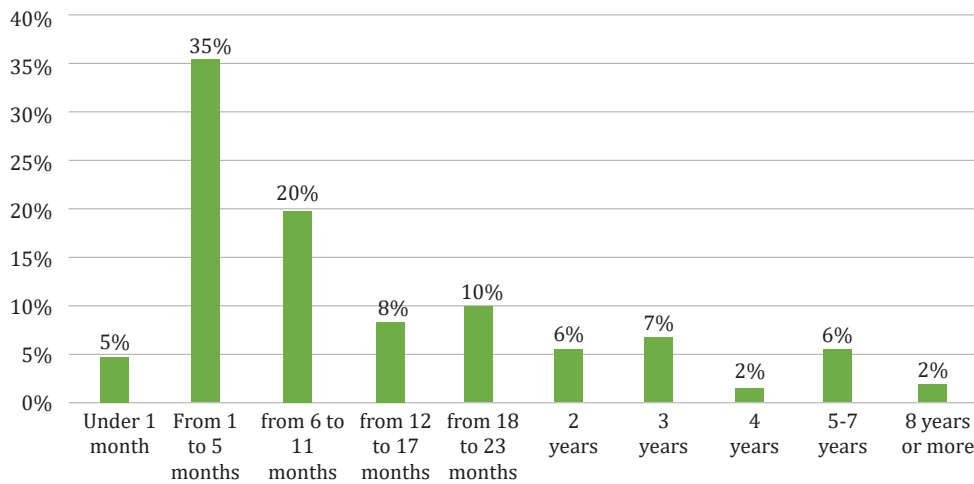


Source: Employment Service Agency of the Republic of North Macedonia

60% of the unemployed have been waiting for employment for a period up to one year, most of whom for a period of one to five months (Figure 3). The individual characteristics (educational attainment, educational profile, age) of the latter group of unemployed are probably better suited to the labour market demand when compared with those with unemployment spells exceeding one year. This group is likely a subject of frictional unemployment, which may be explained by the required school-to-work transition period, adjustment of the reservation wage, the time required to apply for a job and the process of recruitment to employment, etc. The share of the unemployed persons decreases with the increase of the length of the unemployment spell, which is a positive development. However, 21% of the unemployed persons are waiting for employment for more than two years, which indicates a possibility of structural unemployment for this group.

In addition to the unemployed active job seekers, the persons registered as passive job seekers also have a moderate share in the unemployed in the municipality of Shtip. According to the Employment Service Agency, this category includes 1,076 persons, which represents a share of 25% in the total number of active job seekers. One half of them are with primary or no education (35%) and incomplete secondary education (14%). This indicates that these persons are mostly with low educational attainment.

Figure 3: Unemployed in the municipality of Shtip, by length of unemployment spell



Source: Employment Service Agency of the Republic of North Macedonia

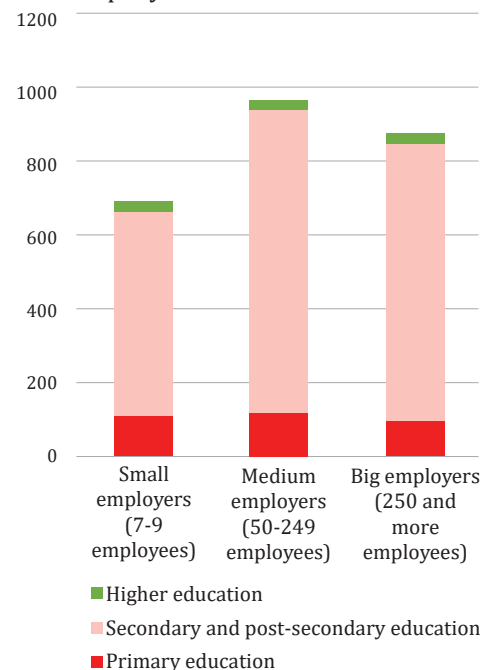
Furthermore, 14% of this group have completed higher education. The reasons for the passive job seeking vary: the persons lost hope that ESARNM would be able to help them find a job, but remained willing to accept a job out of the state's job placement system; they had been engaging in occasional, temporary or freelance work and informal work; as well as persons who were out of the country; for these reasons such subgroups were neither found in registered employment, nor in the active job seekers records of the ESARNM.

Demand

According to the regional labour demand survey in 2020, the total demand for the Pelagonija region is 2,546 jobs, which accounts for 61% of the unemployed labour force in the municipality of Shtip.

Figure 4 provides an overview of the labour demand by education and company size. There is a significant balance in the job creation in the municipality of Shtip, depending on the size of the company. It is expected that 38% of the vacancies will be generated by medium companies, additional 35% by big companies and 27% by small employers. This may also explain the structure of employers in the municipality of Shtip, where the companies are well diversified by size. In terms of the demand by education, the demand for workers who completed secondary (84%) and primary education (13%) is predominant.

Figure 4: Labour demand by education and company size



Source: Employment Service Agency of the Republic of North Macedonia

Cross-referencing the demand by education and occupation (NCO-ISCO 08) (Figure 5) shows that the entire demand for workers who completed primary education concerns the group of elementary occupations (predominantly for elementary workers; manufacturing line labourer; labourers in mining; garment ironers, etc.). The demand for workers with secondary education is more heterogeneous in terms of occupations. 49% of the total demand for workers and 70% of the demand for workers with secondary education is for craft and related

trades workers, including: sewers, welders, textile handicraft workers, carpenters, shoemakers, upholsterers, weavers, etc. They are followed by the occupations of services workers, including: salespersons, cashiers, waiters, cooks, and related occupations.

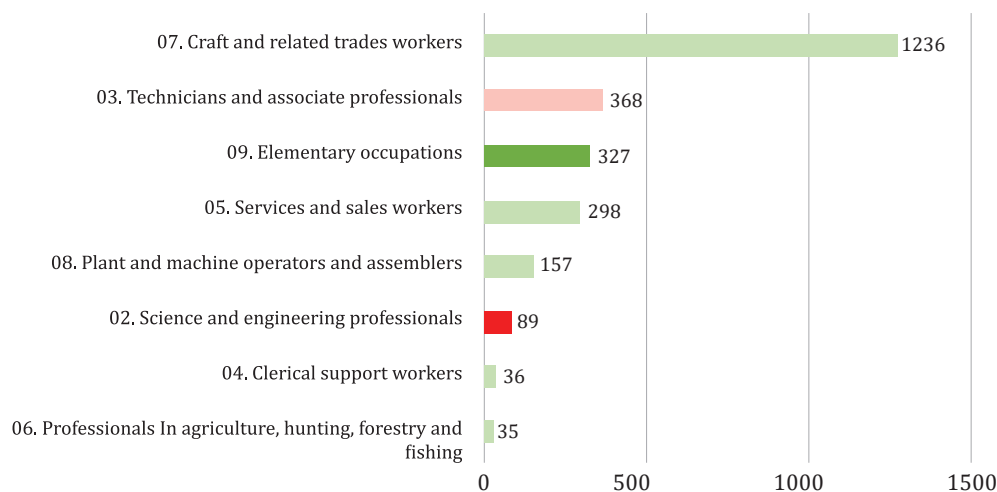
For persons with completed secondary and post-secondary education, the entire demand is for technicians and related occupations, including: machine maintenance operator, technician- operator, mechanical engineering technician.

All workers with higher education in demand on the market are in the occupation of professionals and science professionals. One half of them are mechanical engineers and wood processing engineers.

Labour market gap by education and occupation

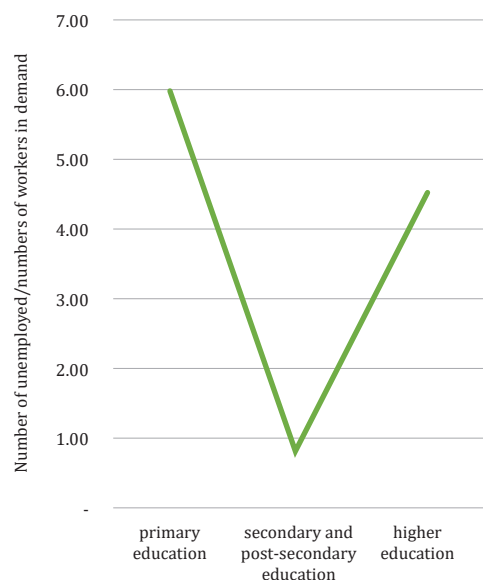
The labour market gap in the municipality of Shtip is identified by cross-referencing the labour supply and demand, taking into account the educational attainment and occupation. Figure 6 shows the number of workers on supply (willing to work) at each job in demand, according to the educational attainment. The results have indicated that the gap is the greatest for primary education. For every worker with primary education required by the companies in the Eastern region, there are six unemployed persons in the municipality of Shtip, while for secondary and post-secondary education this ratio is 0.84, and for higher education it is 4.5.

Figure 5: Demand by occupation



Source: ESARNM, regional labour market skills needs survey in RNM in 2020 ⁴

Figure 6: Supply and demand gap by educational attainment



Source: Employment Service Agency of the Republic of North Macedonia, 2020

A clearer picture of the labour market gap is obtained by cross-referencing the occupations in demand on the labour market with the profiles of unemployed active job seekers on supply.

Table 1 provides a diagnostic analysis of the labour market gap by the occupations in demand the profiles of the unemployed active job seekers in the municipality of Shtip. The gap may be analyzed according to the educational attainment within an occupation (horizontally) and vertically, for different occupations. The gap where the supply is greater than the demand is marked in red (dark red - severe gap, light red - moderate gap). Light yellow indicates that the matching of the supply and demand is nearly complete and there is no gap. The green shading marks a deficiency gap, where the demand for jobs is greater than the supply (dark green - severe gap, light green - moderate gap).

The results show that for higher level skills there is a mostly positive gap for eight out of ten occupations. For five of the occupations the gap is severe.

For two of the occupations with higher education there is a severe surplus gap: legal, social and cultural professionals; and teaching professionals. Furthermore, severe gaps for these occupations occur at any level of education, which indicates

that there is insufficient demand for these occupations on the labour market in Shtip.

For the occupations at high skill level and secondary education the positive gap is owing to the lower demand. There is a severe gap for the occupation of health associate professionals. However, the mobility of these profiles is higher, and the demand for this occupation at national level should also be taken into account. Thus, this gap should not be seen as a concerning one. There is a surplus gap, where the labour supply is greater than the demand, for persons with secondary education with the following occupations: business and administration associate professionals; and science and engineering associate professionals. Nevertheless, for both occupations the gap transforms into a deficiency gap with the increase of the educational attainment, which indicates a potential underqualification.

Deficiency gaps are prevailing for occupations at medium skill level. A moderate surplus gap where the labour supply is greater than the demand is found only in one out of 14 occupations (electrotechnology workers). There is also a moderate surplus gap for the following occupations: food preservers, wood, textile and leather workers and related occupations; and machine and plant operators) for persons with primary education. However, this gap disappears and transforms into severe deficiency gap for persons who completed secondary education, which implies that these are occupations with underqualification and that persons with primary education need upskilling. Besides these occupations, for the persons with completed secondary education there are severe deficiency gaps for additional four occupations, in particular: sales workers; building construction workers and related construction workers; operators of motor vehicles, mobile plants and deck crew; and machine and equipment assemblers.

⁴World Bank (2020), [Finding Solutions to Youth Unemployment in North Macedonia](#).

In occupations at low skill level there is a severe deficiency gap for labourers in mining, construction, manufacturing, and transport; and for elementary workers, refuse collectors and related occupations; as well as severe surplus of labour for persons without occupation and persons with general secondary education. Therefore, the gap in low skill occupations could be reduced if the person without occupation are upskilled to the level of elementary workers and are adequately matched to the demand for such occupation.

It would be necessary to undertake upskilling and/or re-skilling measures for persons with general secondary education.

The overall conclusion is that the labour market in the municipality of Shtip is facing a shortage of labour, mostly for occupations at medium level skills, shortage of elementary workers, and underqualification of persons with primary education and without occupation. To an extent, this may be owing to the emigration trend in the country. There are surplus gaps (where the supply is greater than the

demand) for high skill occupations such as the social and teaching occupations, which is a result of the overall educational strategy at national level in the previous decade. Besides the gap in terms of formal education, the quality of the education and the skills acquired are also important. A World Bank study (2020) has identified that the training offered by the educational system does not match the companies' needs. The same study has identified that the students lack adequate practical skills matching their diplomas⁵.

Table 1: Labour market gaps by occupation - educational profile

Skill level	Code	Occupation/Profile	Primary	Secondary	Post-secondary	Higher
High skill level	21	Science and engineering professionals				
	22	Health Professionals				
	23	Teaching professionals				
	24	Business and administration professionals				
	25	Information and communications technology professionals				
	26	Legal, social and cultural professionals				
	31	Science and engineering associate professionals				
	32	Health associate professionals				
	35	Information and communications technicians				
	33	Business and administration associate professionals				
Medium skill level	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks				
	51	Personal services workers				
	52	Sales workers				
	54	Security guards				
	61	Market-oriented skilled agricultural workers				
	62	Fishery and hunting workers				
	71	Building construction workers and related construction workers				
	72	Metal workers, machine assemblers and related occupations				
	73	Precision mechanics, handicraft workers and printers				
	74	Electrotechnology workers				
	75	Food preservers, wood, textile and leather workers and related occupations				
	81	Machine and plant operators				
	82	Machinery and equipment assemblers				
	83	Drivers of motor vehicles, mobile plant operators and deck crew				
Low skill level	92	Agricultural, forestry and fishery labourers				
	93	Labourers in mining, construction, manufacturing and transport				
	96	Refuse workers and other elementary workers				
		No occupation				
		General secondary education				

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

Significant surplus Surplus Adequately matched Deficit Significant deficit

Educational profiling as a factor in bridging or broadening the gaps

There are six secondary schools, one university with 16 faculties, and institution for validation of adult learning with upskilling and re-skilling in the municipality of Shtip. In the forthcoming two years these institutions are expected to produce 4,881 profiled professionals for the labour market. 80% of the total supply of educational profiles fall within five occupations, predominantly with higher education: legal, social and cultural professionals; health professionals; science and engineering professionals; business and administration professionals; and health associate professionals.

These results imply that the municipality of Shtip has a well-established educational infrastructure to produce profiled labour force. In order to identify to which extent are those profiles matching the demand on the labour marker, in Table 2 we are matching the identified gap with the expected profiles to be produced in the next two years.

The results show that vocational schools and adult education centres could be active factors in bridging some of the deficiency gaps in the municipality of Shtip. Thus, the deficiency gap for textile workers (sewers and textile handicraft

workers) may be mitigated with the profiles produced by the secondary school “Dimitar Miraschiev”, with upskilling to secondary education qualifications of the unemployed with this occupation who have completed primary education. The gap for the occupations: sales workers; and building construction workers and related construction workers may be mitigated by increasing the number of persons upskilled in this occupation by the Open Civil University “Joska Sveshtarot” from Strumica with its programme for validation of adult learning.

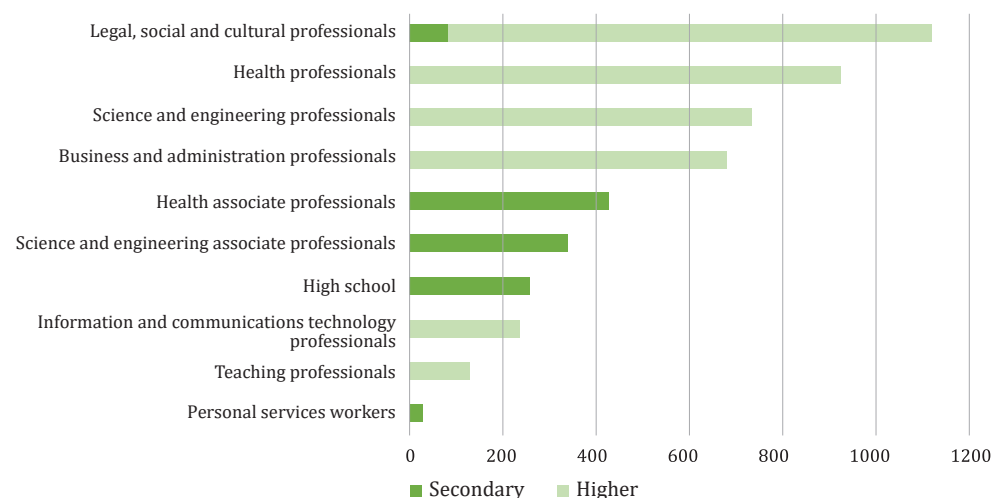
Some of the educational institutions in Shtip that produce high skill profiles, such as health professionals and associate professionals, generate a moderate surplus gap. However, taking into account that these occupations entail greater mobility on the labour market, and the likelihood that some of the persons who have completed secondary education would continue their education, this pressure does not amount to a threat. Nevertheless, any further production of the following education profiles: legal, social and cultural professionals; science and engineering associate professionals; and business and administration associate professionals would broaden the surplus gap and create further labour market disruptions.

In terms of profiles with general secondary education, the labour market opportunities would depend solely on whether these persons would upskill to deficient or surplus occupations, but in any case if they remain with only general secondary education, they would diminish their prospects. Finally, the programme for validation of non-formal learning of adults could strengthen its role and engage actively in the mitigation of the deficiency gap for elementary workers with primary education by upskilling and re-skilling unemployed persons who have no occupation.

CONCLUSIONS AND RECOMMENDATIONS

The diagnostic analysis of the labour market in the municipality of Shtip has shown that the greatest education-to-occupation gap is the one for the persons with primary education. For each required worker with primary education in the Eastern region, there are six unemployed persons in the municipality of Shtip. However, this gap disappears for persons with secondary education. This implies the existence of potential underqualification. There is a predominant deficiency gap in the municipality of Shtip, which implies a shortage of qualified labour force that is particularly prominent for medium and low skill occupations. However, at the same time, surplus gaps have been identified for persons with high skills with supply drastically exceeding the demand for occupations that are challenging also at national level. The educational institutions in the municipality of Shtip have the potential to address the gap with deficient occupations. Greater efforts should be made to overcome the problem with the shortage of labour force, and this problem may be potentially mitigated by re-skilling the unemployed persons with general secondary education, upskilling the unemployed persons without any qualifications and by activating the passive job seekers.

Figure 7: Supply of profiled labour force by educational institutions in the next two years



Source: Ministry of Education and Science of the Republic of North Macedonia

⁵World Bank (2020), Finding Solutions to Youth Unemployment in North Macedonia.

Table 2: Matching the gap with the supply of profiles from the educational institutions in the next two years

			Gaps				Supply from educational institutions	
skill level	Code	Occupation/Educational profile	Primary	Secondary	Post-secondary	Higher	Secondary	Higher
High skill level	21	Science and engineering professionals						735
	22	Health Professionals						926
	23	Teaching professionals						131
	24	Business and administration professionals						680
	25	Information and communications technology professionals						237
	26	Legal, social and cultural professionals					84	1034
	31	Science and engineering associate professionals					338	
	32	Health associate professionals					426	
	35	Information and communications technicians						
	33	Business and administration associate professionals						
Medium skill level	43	Accounting and bookkeeping statistical, finance and insurance, material recording and transport clerks						
	51	Personal services workers					30	
	52	Sales workers						
	54	Security guards						
	61	Market-oriented skilled forestry						
	62	Fishery and hunting workers						
	71	Building construction workers and related construction workers						
	72	Metal workers, machine assemblers and related occupations						
	73	Precision mechanics, handicraft workers and printers						
	74	Electrotechnology workers						
	75	Food preservers, wood, textile and leather workers and related occupations						
	81	Machine and plant operators						
	82	Machinery and equipment assemblers						
	83	Drivers of motor vehicles, mobile plant operators and deck crew						
Low skill level	92	Agricultural, forestry and fishery labourers						
	93	Labourers in mining, construction, manufacturing and transport						
	96	Refuse workers and other elementary workers						
		No occupation						
		General secondary education					260	

Source: Employment Service Agency of the Republic of North Macedonia, calculations by the author

Caption:

■ Significant surplus
 ■ Surplus
 ■ Adequately matched
 ■ Deficit
 ■ Significant deficit

RECOMMENDATIONS

Recommendations to overcome the problem with the shortage of qualified labour for the Employment Centre and ESARNM

To design active labour market measures for the unemployed active job seekers in the municipality of Shtip, in particular:

- Skilling of persons with primary education and no occupation into elementary workers. The centre for validation of adult education programmes, in cooperation with ESARNM, should design and deliver training courses and modules for persons without occupation so as to provide them with qualifications suitable for occupations at skill level 1
- Upskilling/re-skilling of persons who completed general secondary education in some of the deficient occupations with secondary education (for instance, salespersons, welders, cashiers)
- Activation of passive job seekers able to work. The Employment Centre should carry out a campaign for activation of passive job seekers and identification of the reasons for their passivity. To enhance the mechanisms preventing the manipulations of the system and consistent application of the law on suspension of minimum guaranteed assistance in case of refusal of offered work.

For the educational institutions and the Ministry of Education and Science

- To bridge the gap in deficient occupations short-term through:
 - o Educational institutions which have established programmes in the deficient occupations should increase the attractiveness and enrollment quotas so as to produce more graduates. For instance, the deficiency gap for textile workers (sewers and textile handicraft workers) may

be mitigated with the profiles produced by the secondary school “Dimitar Miraschiev”, with upskilling to secondary education qualifications of the unemployed with this occupation who have completed primary education.

- o Stimulating and intensifying the validation of adult education programmes in cooperation with ESARNM and the Employment Centre

- o Secondary vocational schools should improve their cooperation with the private sector. The cooperation could be promoted through:

- Regular internship for students of secondary vocational schools in relevant companies
- Pilot-programme for deficient occupations

- In the medium term, it is necessary to redesign the programmes / profiles and skills acquired with the diploma:

- o The programmes and profiles of the educational institutions should be designed in line with the occupations in demand on the labour market in the municipality of Shtip

- o The curricula should reflect the demanded skills of the XXI century (e.g., skills relating to the STEM sciences, analytical skills, critical thinking, etc.)

- o Career counselling and guidance of the youth in view of selecting an occupation matching the labour market demand

For the business sector

- To intensify the cooperation with secondary vocational schools
- When recruiting elementary workers, to make persons without occupation eligible to apply to the vacancy ads

- To improve the quality of the jobs and the quality of the practical training for pupils and students in the companies

- In cooperation with ESARNM, to provide on-the-job training for elementary workers without occupation, until they obtain minimum qualifications

For the Municipality of Shtip, regional chambers, secondary schools

- To raise the awareness of young people about which educational profiles are in demand, and which are redundant, so as to help them make an informed decision when they are selecting their educational pathways

For the State Statistical Office

- To collect and publish labour market statistics at municipal level (employment, unemployment, and activity rates)



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