

# DEMAND AND SUPPLY FOR PROFESSIONAL STAFF

## Education and employment of youth in BiH



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## Abbreviations/Acronyms

<b>GVA</b>	Gross Value Added
<b>BHAS</b>	Agency for Statistics of BiH
<b>BiH</b>	Bosnia and Herzegovina
<b>EU</b>	European Union
<b>FZSFBiH</b>	Federal Bureau of Statistics of FBiH
<b>PISA</b>	Programme for International Student Assessment
<b>RZSRS</b>	Institute of Statistics of RS

## 1. Introduction

BiH has a high youth unemployment rate, which, according to the BiH Agency for Statistics, in 2019 is almost 50%. In addition, the poor economic situation and lack of employment opportunities are one of the leading reasons why young people move abroad in search of a better life. A youth study from 2018<sup>1</sup> showed that 61.8% of young people want to move to another country. The outflow of young and, especially, young educated people, further weakens the development of the country, because the population is ageing, and the stability of the economic and social security system is also endangered.

In this study, we present the results of research within the "Youth Retention Program in BiH - General Mobilization", implemented by the Citizens's Association "Nešto Više" in cooperation with the PRONI Center for Youth Development, funded by the European Union.

The main goal of this research is the analysis of supply and demand for professional staff, ie. the need of employers and the offer of secondary vocational schools, the analysis of the teaching system and its harmonization with the skills required by the economy. It is also important to provide decision makers in BiH with a concise analysis in the field of youth unemployment, followed by a series of active measures to combat youth unemployment, as well as inputs on what solutions should be taken.

The basic methodology in the research is the analysis of primary and secondary data, review of existing literature and documents in this field. The basis for this research were the results of surveys, standard reports of institutions for statistics, but also special quantitative and qualitative analyses and reports used for the specific needs of this research.

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<sup>1</sup> Turčilo, L., et al, Youth Study Bosnia and Herzegovina 2018/2019, Friedrich-Ebert-Stiftung (FES), Sarajevo, 2019

## 2. Current situation

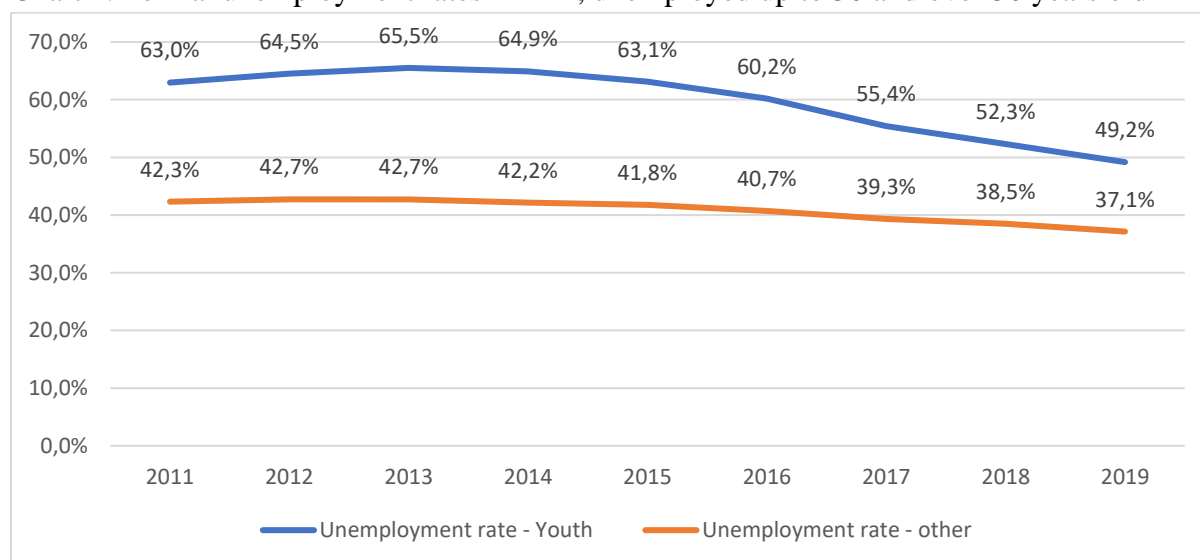
One of the most important and most difficult problems BiH is facing with is the **very unfavorable position of young people in society**. This is reflected, above all, in the economic sphere where **youth unemployment is very high, the structure of jobs offered to them is unfavorable and where the education system is such that it often does not provide qualifications to young people which they can use to achieve a high standard of living**.

Many young people (almost 62%) do not see future in staying in Bosnia and Herzegovina, because they cannot find an adequate job, start a family and live independently. The data we considered in this research, which confirm the above views, also show that this situation **leads to a large outflow of young people abroad, which threatens the survival of society as a whole**.

We will start the analysis with an insight into the youth unemployment rates compared to the unemployment rates of the rest of the workforce. As we can see in the chart below, from 2010 to 2015, the youth unemployment rate was above 60% all the time, which is extremely high.

At the same time, we see that the unemployment rate of people over 30 is significantly lower. In some years (2013, 2014 and 2015) it is even over twenty percent lower, which tells of a much more unfavorable position of young people compared to others.

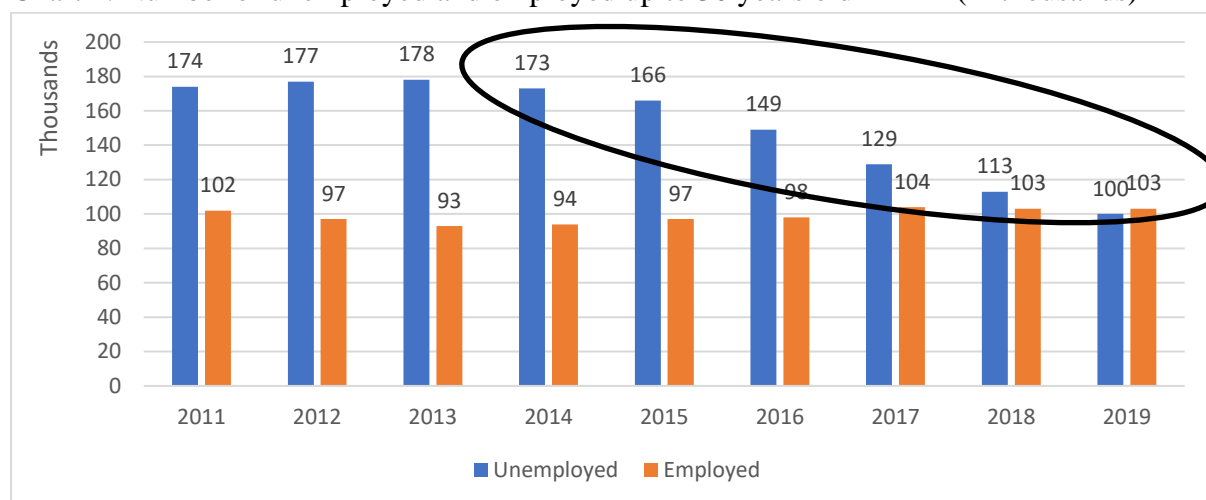
Chart 1. Formal unemployment rates in BiH, unemployed up to 30 and over 30 years old



Source: Institute of Statistics of RS (RZSRS) and Federal Bureau of Statistics of FBiH (FZSFBiH)

Since 2014, there has been a significant drop in unemployment in all categories of the population, including young people. However, the big difference still remains. This means that in the period of great economic expansion that BiH had from 2014 to 2019, the structural problem of the unfavorable position of young people in relation to others still remains.

Chart 2. Number of unemployed and employed up to 30 years old in BiH (in thousands)

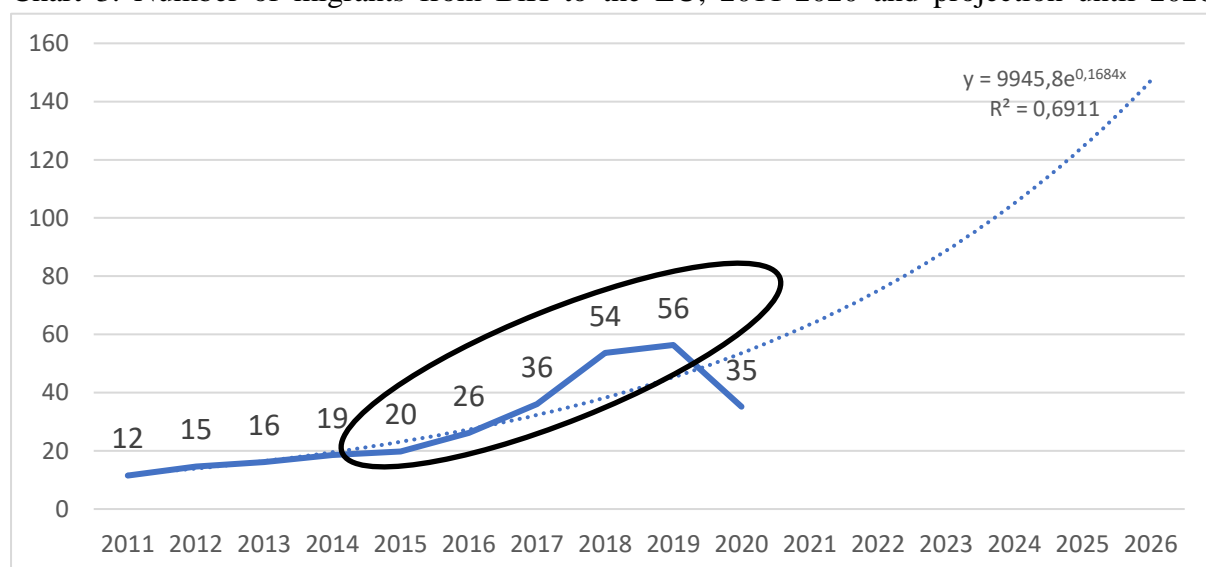


Source: Institute of Statistics of RS and Federal Bureau of Statistics of FBiH

However, a much more drastic picture can be seen when it comes to the number of unemployed and employed young people, in the chart above. Until 2014, there was a relatively stable situation. Since 2014, everything has changed drastically. The number of unemployed is falling sharply, and the number of employed young people is growing very slightly.

From 2014 to 2019, the number of unemployed young people decreased by 73,000, and the number of employed increased by only 9,000. What does it tell us? **This means that about 64,000 young people in this period found work outside the borders of BiH, most likely abroad.** This is especially important if we compare these data with the official data on migration from BiH, where we have an "explosion" in the same period ie. exponential growth of the total number of migrants from BiH.

Chart 3. Number of migrants from BiH to the EU, 2011-2020 and projection until 2026



Source: Eurostat and author's calculations

These data are exact proof that young people are leaving BiH en masse. What are the consequences? The consequences for society are enormous. The key consequence is that society is losing one of the most important levers of its development. The population in BiH, according to the 2013 census, is relatively old, with the largest contingent of people aged 45-65. If we have an additional outflow of young people, then this situation is getting worse. Young people are leaving today because they believe that they have no future in BiH, and once they leave, there will be no future at all.

### **Why do young people leave?**

First of all, most young people are unemployed, we have seen this from the data discussed above, and they can hardly find a job. However, even those who are employed have employment problems, where young people are exposed to discrimination based on their experience and financial position. Among those who are employed, more than one third are employed as casual and temporary workers, part-time workers, etc. This all leads to lower wages. Unemployment and poor employment lead to great dissatisfaction of young people with the life of BiH.

Since exact data on youth education were not available for the purposes of this research, we will use other sources that considered these data at the level of Bosnia and Herzegovina. First of all, BiH ranked 62nd out of 79 countries in the largest global survey in education - PISA test - for 2018<sup>2</sup>. Students from BiH are behind their peers from EU countries by an average of 3 years. Every second student tested was assessed as functionally illiterate. Furthermore, according to the findings of the Youth Study Bosnia and Herzegovina 2018/2019, Friedrich-Ebert-Stiftung (FES), "almost every second young person in BiH who completes the formal education system remains at the level of three years of secondary education or lower"<sup>3</sup>. This indirectly means that young people in BiH are not educated enough to meet the needs of the 21st century economy. This study also finds the following characteristics:

- 97.1% of young people have never been abroad for the purpose of higher education, 99.5% have never attended any form of professional training abroad, and 69.1% do not intend to do so in the future.
- 46.5% of young people state that they have never passed practical or internship work.
- 73% of young people think that it would be difficult or very difficult to find a job with their degree.

This same study states that about 20% of young people who are unemployed have been looking for a job for more than five years, and over half of them have been looking for a job for more than two years. What is worse, "over 50% of children, coming from poor families, who completed primary education do not continue their education, while 10% of them do not have health insurance<sup>4</sup>."

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<sup>2</sup> Džumhur, Ž., Et al, PISA 2018 Report for Bosnia and Herzegovina, Agency for Preschool, Primary and Secondary Education of BiH, Sarajevo, 2019

<sup>3</sup> Turčilo, L., et al, Youth Study Bosnia and Herzegovina 2018/2019, Friedrich-Ebert-Stiftung (FES), Sarajevo, 2019

<sup>4</sup> Ibidem



### 3. Supply and demand for labor in BiH

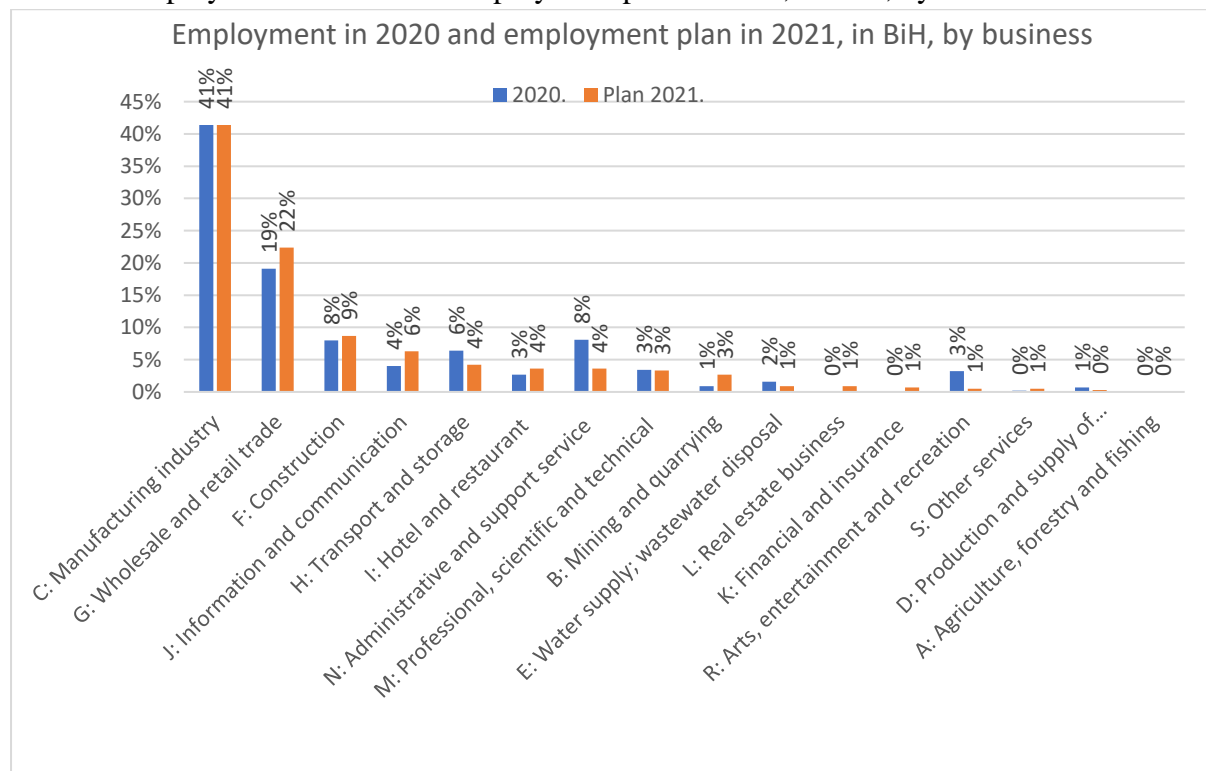
The survey of labor supply and demand in Bosnia and Herzegovina was conducted on the basis of various data. As a basis for the research, we used data from the Employment Agency of Bosnia and Herzegovina, which show the current demand for various occupations. Also, we used data related to the employment plan in 2021 and these are the results obtained on the basis of the survey questionnaire of the Employment Agency of Bosnia and Herzegovina.

This was the starting point of this research. Based on these basic data we did additional survey research for the data that interested us even more. Additional survey research was conducted on a sample of two hundred companies in Bosnia and Herzegovina in accordance with certain specific results and objectives.

#### 3.1. Demand for labor in BiH

As for new employment, we see that more than 41% of new jobs were in the manufacturing industry. There was more than twice less in trade and then in construction, information and communication sector and so on.

Chart 4. Employment in 2020 and employment plan in 2021, in BiH, by sectors



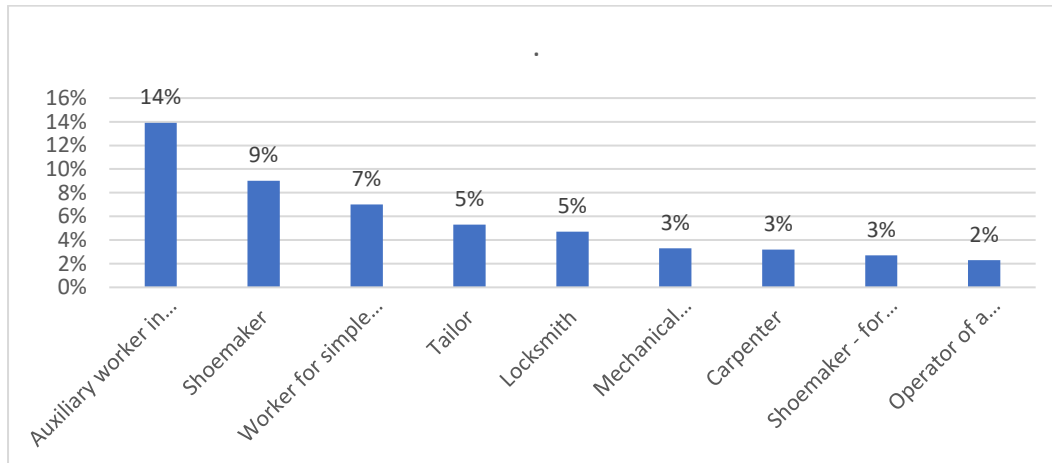
Source: Employment Agency of Bosnia and Herzegovina and author's calculations

The situation is very similar with the employment plan created for 2021. Again, over 41% is in the manufacturing industry, trade is slightly higher than in 2020 with 22%, construction is slightly higher as well, and the same is with the information and communication sector. It must be emphasized here that the information and communication sector in the standard statistical

classification is not completely oriented to the so-called IT sector because there are activities that are not directly related to software or hardware or electronic telecommunications, such as mail etc.

The chart above shows that the two largest sectors are manufacturing and trade. We will first see which are the occupations within these sectors that are most in demand.

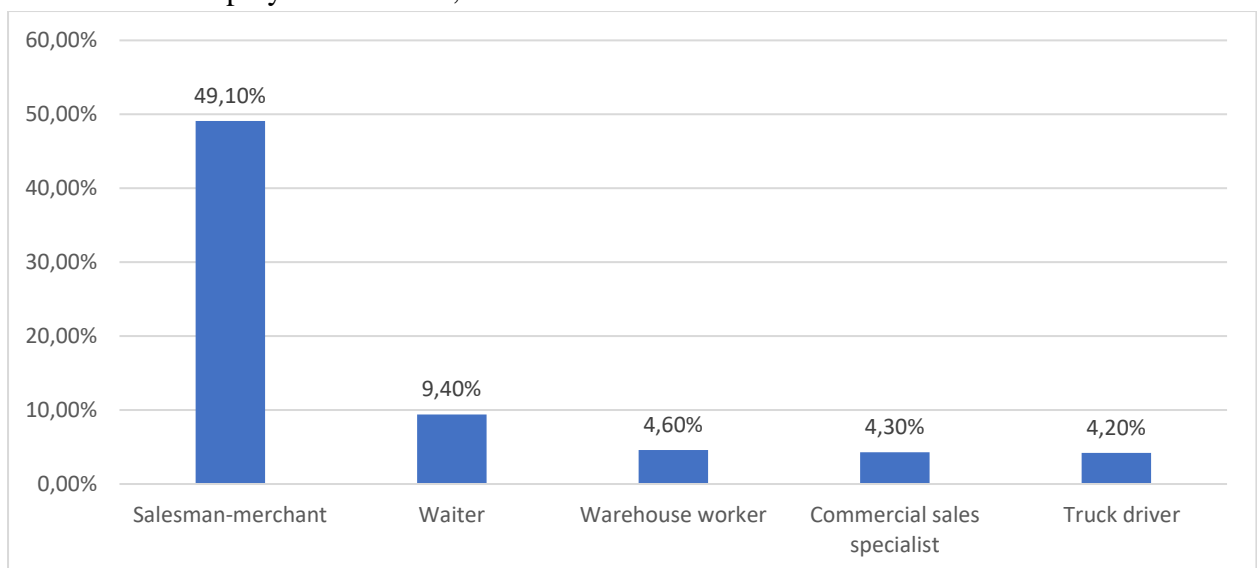
Chart 5. New employment in the manufacturing industry, 2020



Source: Employment Agency of Bosnia and Herzegovina and author's calculations

Regarding new employments in the manufacturing industry, we see that there was a demand for auxiliary workers in production, followed by shoemakers, workers for simple jobs, and in fourth place a seamstress. All these four occupations, in the first four places are simple and low-paid occupations. Unfortunately, this is a reflection of the economic structure of our manufacturing industry, which is mainly based on low value added and whose competitiveness is based on cheap labor.

Chart 6. New employment in trade, 2020

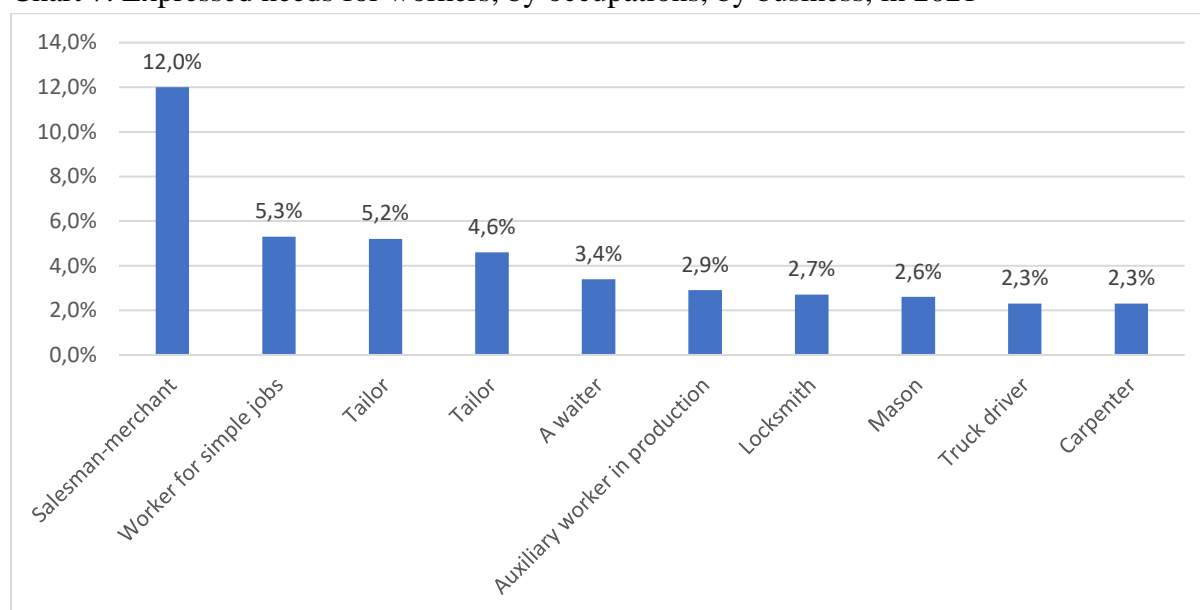


Source: Employment Agency of Bosnia and Herzegovina and author's calculations

Regarding the jobs in trade, the most in demand is a workforce with the qualification of a salesman, almost 50%, followed by other occupations, waiters, warehouse workers, salesmen and truck drivers. Basically, according to the structure of wages, low-paid jobs dominate here as well. In a trade, one cannot expect a job where the worker is highly paid, due to the trade activity being specific.

If the two largest employment sectors are dominated by occupations with low qualifications and wages, the next logical move is to analyze the overall picture of the needs for workers in all industries. The goal here is to see which occupations are most in demand for all sectors together.

Chart 7. Expressed needs for workers, by occupations, by business, in 2021



*Source: Employment Agency of Bosnia and Herzegovina and author's calculations*

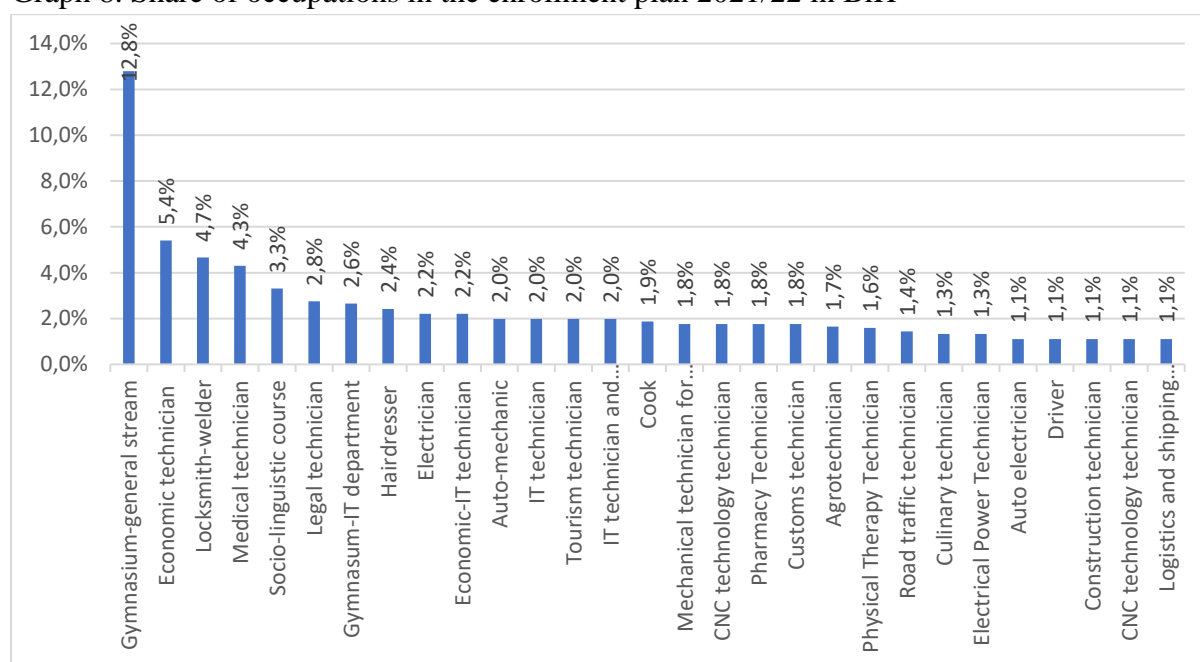
Unfortunately, the picture that includes all sectors is no more favorable than in the manufacturing industry or trade. **Almost all jobs, where there was a significant need for labor, are low-skilled and low-paid.** In the chart above, we see that except for locksmiths and truck drivers who may have the opportunity to earn salaries above a thousand KM, all others are paid significantly lower.

This is also a reflection of the fact that most of our economy is based on cheap labor and that its needs are mainly based on low-skilled and low-paid workers. This fact alone shows that it is difficult to adapt the educational system to this demand for workers, because it means creating staff that is low-skilled and low-paid, which, in and of itself, does not make sense.

### 3.2. Labor supply provided by secondary education

This is especially important when looking at the enrollment policy and structure of secondary education in Bosnia and Herzegovina. The chart below shows the results obtained from a sample of more than 10,000 enrolled high school students in Bosnia and Herzegovina. As we can see, enrollment in high school, apart from the occupation of locksmith, there is none in the top 10 that is listed in the required occupations by the economy.

Graph 8. Share of occupations in the enrollment plan 2021/22 in BiH



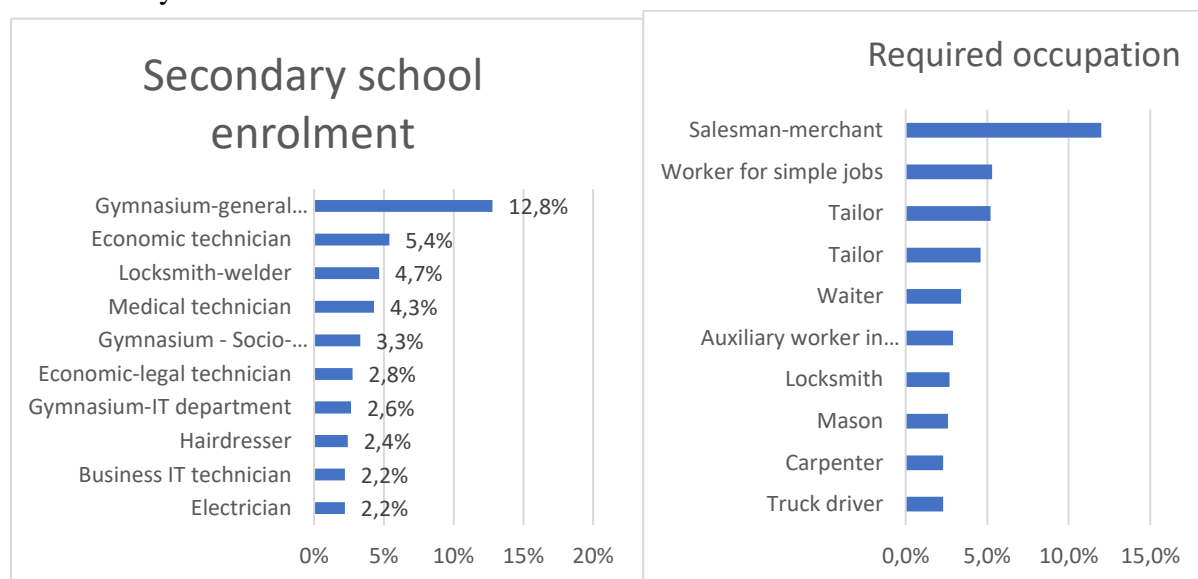
Source: Agency for Statistics of BiH

In all previous analyzes of the relationship between secondary education and the needs of the labor market, ie. economy, education sector was blamed for not providing sufficient quality staff and not providing occupations for which there is a high demand in the labor market. However, when we look at the chart above, and we can see it even better in the chart below where we compare high school enrollment and required occupations from the economy, then we see that it is not really the fault of the education system that does not supply enough workers and auxiliary workers and other low-skilled and low-paid occupations.

The fact is that there is no interest in these professions from young people and their parents, which is quite justified. No normal person wants his child to receive qualifications with which he will earn low wages and live a low standard of living.

Far from it that we have quality education. However, although there are many problems with secondary education in terms of inflexibility, ie. non-adaptation of curricula to changes that are generally happening in the world and in our country, and the constant adaptation of their programs to the staff they have, however, the key problem in this area is not in the education system.

Chart 9. Comparison of enrollment in secondary schools in BiH and required occupations by the economy



Source: Agency for Statistics of BiH and Employment Agency of Bosnia and Herzegovina and author's calculations

**What is visible and striking on the chart above is the unfavorable structure of our economy. At this moment, our economy cannot offer a sufficient number of well-paid jobs. This is the main reason why young people, especially those highly educated, are leaving BiH.**

#### 4. Analysis of opportunities for quality youth employment

Where can young people earn high salaries in RS, high enough not to have to go abroad? The key task here is to look at which sectors in the economic structure of Bosnia and Herzegovina have the potential to offer more well-paid jobs. These must be sectors that create high value added products and services as this is the only way that higher wages can be paid.

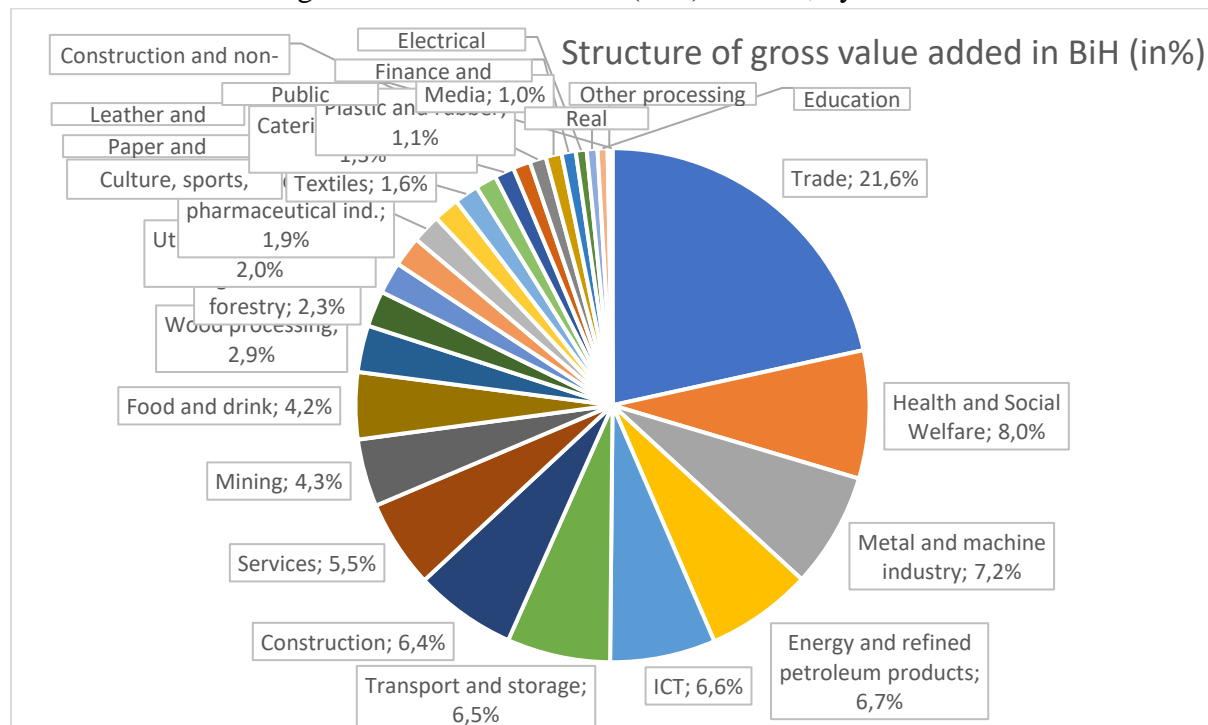
The real structure and potential of the BiH economy is difficult to see in a crisis year such as 2020, and the necessary data for 2021 are still not properly consolidated and published. Therefore, we will analyze the sectoral structure and economic potential of the BiH economy on the data until 2019.

In the territory of BiH in 2019, there were about thirty thousand companies. Since BiH has population of about 3 million, that means 10 companies per 1000 inhabitants. If we compare this average with the average of Croatia, which is about 30 active companies<sup>5</sup> per 1,000 inhabitants, then we see how much we are lagging behind. This means that BiH should have at least three times more companies, in order to approach the level of development of the least

<sup>5</sup> Croatian Bureau of Statistics, "Press Release" Number 11.1.1./1., 09.05.2018

developed EU member country. Data on the sectors with the highest gross value added are contained in the chart below.

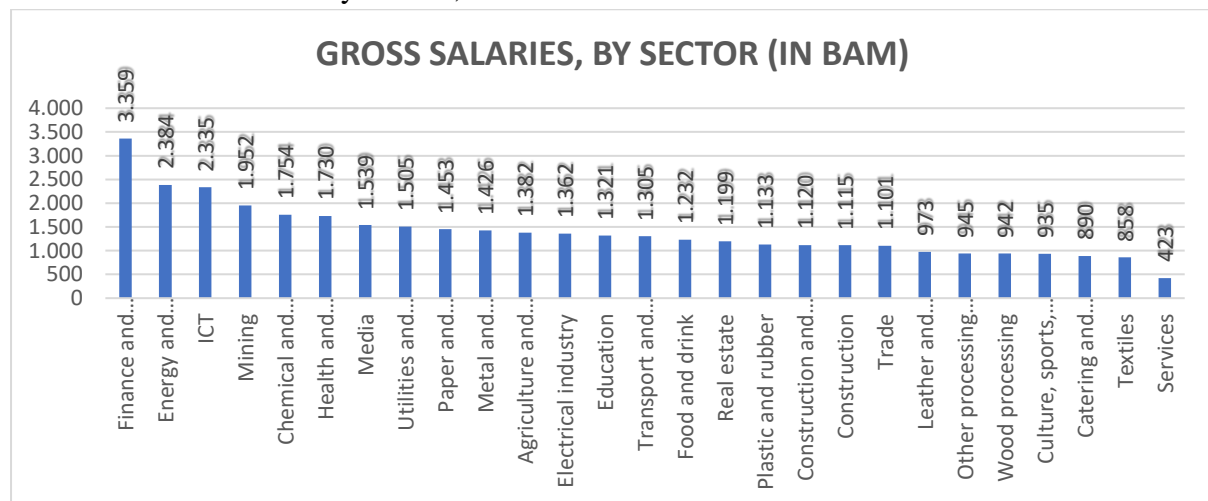
Chart 10. Structure of gross value added in BiH (in%) in 2019, by sectors



Source: Decision Service Payments Agency (APIF), RS and Financial Intelligence Agency (FIA), FBiH

The largest share in the gross value added of the economy has trade with 22.6%, and the second and third are construction (8.2%) and, interestingly, ICT sector (7.7%) which is relatively small one comparing the number of companies and employees. As for the sector of the manufacturing, the metal-machine industry is in the lead with 311 million KM and wood processing industry with 220 million KM.

Chart 11. Gross salaries by sectors, 2019



Source: APIF, RS and FIA, FBiH

As we have already said, the key question is which of these sectors is the most useful for young people to stay in BiH. For the purpose of this assessment, we use four criteria. First of all, profitability is key to long-term sustainability. In addition to profitability, we will use the level of created value, added participation in exports and, most importantly, the level of wages in the sector. The level of value added most often indicates the level of knowledge that is built into products and services. Participation in exports is also an equally important criterion because export orientation is key to economic and employment growth. The most important criterion, which is based on the level of salaries, measures the performance of the sector in such a way that the higher the level of salaries in a particular sector, the more useful it is for young people to stay.

The sector performance measurement methodology we use here is based on the use of index numbers. Namely, for each of the indicators the total average is measured, at the level of the whole economy, which is expressed by index number 1, and the performance of each sector is measured as the deviation of the sector from the average, which is also expressed by index number.

Finally, an average, composite sector competitiveness index is measured, as an average of four indices. Having in mind the results of sector competitiveness research presented in the previous part of the analysis, below is a ranking of sectors, sorted by average composite competitiveness index, calculated as the average of four indices: profitability index, GVA index per worker, wage index and export orientation index . The sectors with the highest index have the highest rank.

Table 2. Competitiveness indices of the manufacturing sector in RS

Sector	Value added index	Profitability index	Export index	Gross wage level index	Composite index
Metal and electrical industry *	1,05	1,20	4,16	1,09	1,87
Wood processing	0,73	1,14	2,40	0,73	1,25
Chemical and pharmaceutical industry	1,68	1,28	0,07	1,37	1,10
Construction and non-construction products	1,29	2,16	0,06	0,87	1,10
Plastic and rubber	1,07	1,20	0,49	0,88	0,91
Leather and footwear	0,52	1,51	0,86	0,76	0,91
Food and drink	0,95	0,51	0,61	0,96	0,76
Textiles	0,41	-0,07	0,25	0,67	0,32

Source: APIF, RS and author's calculations

\* The metal and electrical industries are observed together, because, technologically speaking, they are engaged in the same business

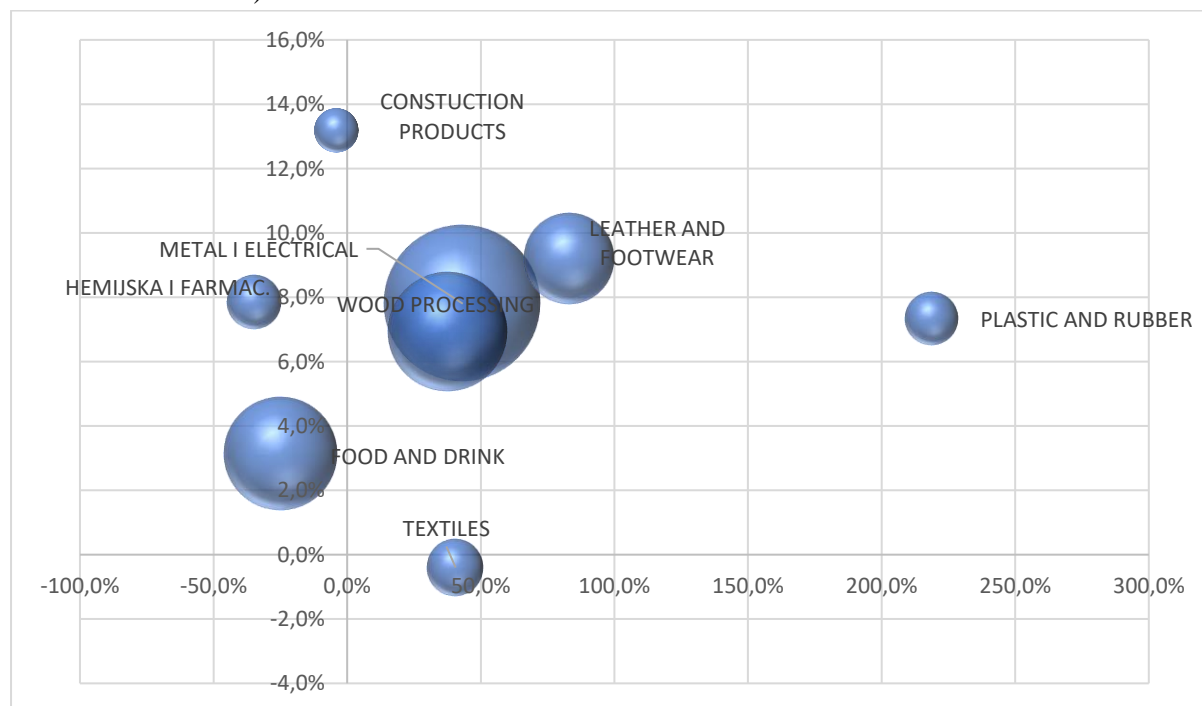
When we look at the table above and the ranking list of the composite competitiveness index, we see that the metal and electrical industry is in the first place with high profitability and other characteristics that are also significantly high, especially exports. Wood processing is, as expected, at the top, in second place, but there are extremely low salaries.

The chemical and pharmaceutical industry in BiH is an industry dominated by four large companies in terms of turnover, and they carry most of these positive trends that we see in the data. So only these four companies carry almost 62% of revenues, 84% of exports, more than 3/4 of profits and gross value added of the entire sector. Therefore, we will not consider this sector further, because these companies, due to their performance, do not need any support in raising competitiveness.

The production of construction materials also has good performance but is directly related to the development of construction and real estate prices. So, the higher the price of real estate is the more activity there is in the construction sector and the consumption of construction materials is higher due to this connection. This sector is not suitable for smart specialization consideration because in general the construction sector depends on the economic cycle and the development of the economy itself, and not the other way around.

Plastic production, on the other hand, is in the "lower" part of the table, but it represents a sector that is complementary to the sectors of the metal and electrical industries. The chart below shows that plastics and rubber have a significant increase in exports in the observed period from 2013 to 2019.

Chart 12. Export growth (x axis) and profit rate (y axis) 2013-2019 (ball size = total value added of the sector)



Source: APIF, RS and author's calculations



All other sectors provide fewer opportunities for significant wage growth. The wood processing, leather and footwear production, food and textile industries are by nature low-accumulation branches, so this result is to be expected. This is also logical considering that these are extremely labor-intensive sectors. These sectors have relatively little room for improvement in terms of productivity growth, value added growth and wage growth because their competitiveness is based on low labor costs.

Their potential and benefits for stimulating young people to stay in BiH are much less compared to, for example, the metal and electrical industries, as they have limited opportunities to increase wages and increase the living standards of people working in these sectors. It is therefore important to emphasize that these sectors, precisely because of this problem, are not suitable enough to focus on when it comes to young people. It is obvious that, from the point of view of smart specialization, it is necessary to develop other sectors that have a higher potential for value added growth, export growth and, ultimately, wage growth. This is the basis for improving the living standard in the country as well as the basis for combating the consequences of the pandemic, the increasingly difficult situation on the labor market, where from 2021 young people are expected to go abroad again due to unemployment or low wages.

**After considering the above mentioned sectors, the industrial sector with the greatest development potential and quality youth employment is the metal and electrical industries.**

In addition to the manufacturing industry, this analysis includes an analysis of sectors and activities where knowledge is a key factor in competitiveness. This is in line with the division of the World Economic Forum, which divides competitiveness into three areas:

- competitiveness based on the exploitation of natural resources
- competitiveness based on efficiency and
- competitiveness based on knowledge and innovation

In the analysis so far, we have already performed an analysis of competitiveness on the basis of efficiency, which in practical terms implies industrial sectors. We will now analyze the activities that belong to the knowledge economy.

The methodology for measuring the performance of these businesses is the same as for industry. Namely, for each of the indicators, the total average is measured, at the level of the whole economy, which is expressed by index number 1, and the performance of individual activities is measured as a deviation from the average, which is also expressed by index number. Finally, an average, composite competitiveness index is measured, as an average of four indices.

Table 3. Competitiveness indices of knowledge economy groups in RS

Groups of activities within the sector	Value added index	Profitability index	Export index	Gross wage level index	Composite index
Sports, entertainment and recreational activities *	1,18	6,10	3,83	0,76	2,96
Software publishing	1,34	4,20	3,30	1,02	2,47
Creative, arts and entertainment activities *	2,63	3,41	1,20	0,98	2,06
Software development	2,13	2,55	1,09	1,87	1,91
Production of films, TV programs and sound recordings	1,65	3,89	0,53	1,02	1,77
Manufacturing of computers and peripheral equipment	1,11	1,97	1,15	1,24	1,37
Services	0,33	3,11	0,95	0,29	1,17
Education	0,75	1,69	0,00	1,03	0,87
ICT services	0,76	0,66	0,48	1,24	0,79
Health protection	0,85	-0,16	0,00	1,39	0,52

*Source: APIF, RS and author's calculations*

\* Activities in which one company dominates, which is mostly not engaged in that business

In the table above, we have the results by individual indices and the composite index of each business. It is interesting that the businesses related to sports had by far the highest level in 2019. This is surprising, because there is no public perception that these activities are of great economic importance. However, it turned out that this is not a real result of economic activities in this area, but the result of a company that deals with transfers of large football players who register their transfers in Banja Luka, due to low taxes.

The same thing is with creative, artistic and entertainment businesses that are in third place in this ranking. It is also not the result of economic activities but the result of the business of only a small number of companies, which are mostly not engaged in this activity. The high ranking of these sectors in the analysis was a pleasant surprise, followed by disappointment with the actual data.

It is obvious that the jobs are related to software - software development, software publishing, a key competitive activity in this area. The competitiveness of sectors and activities closely related to the concept of knowledge economy has yet to be built.

Regardless of the detailed analysis of narrow, "small" activities, and some "germs" for the development of future competitive sectors (creative industries, etc.), **in terms of knowledge economy, the information and communication technology (ICT) sector is already one of the key economic sectors in BiH. That is why it is inevitable in stimulating young people to stay in BiH.**

## 5. Increasing and improving youth employment in the best economic sectors

### 5.1. Youth employment and youth entrepreneurship in the information and communication technology sector

#### 5.1.1. Youth employment in the ICT sector

BiH really has great opportunities for the development of the information and communication technology (ICT) sector. There is a significant interest of educated young people in information technology, because they can easily find a job in the ICT field than in most others. In addition, jobs in the IT field are currently among the highest paid jobs in the world. We can only keep young people by offering them good working conditions by domestic ICT companies and the organizations that employ them. In addition to high salaries, better working conditions include opportunities for advancement and training in formal and non-formal education, flexibility in working hours, reward systems and other elements related to the work process modeled on the world's largest IT companies.

It is easiest and cheapest to create well-paid jobs in this industry. This includes a massive program of additional education and retraining for software development (developers), web designers, information system administrators and other occupations in the ICT sector. This would mainly apply to highly qualified young people.

Aspect	Observed shortcomings	Key actors	Areas of action and potential interventions
<ul style="list-style-type: none"> <li>• Key skills - developers, web designers, information system administrators and other ICT occupations</li> </ul>	<ul style="list-style-type: none"> <li>• Education system does not produce enough programmers, web designers, information system administrators and other ICT professions</li> <li>• There is no well-organized and continuous (practical) training, additional education and retraining</li> </ul>	<ul style="list-style-type: none"> <li>• Ministries of Economy, Youth, Labor and Education</li> <li>• electrical faculties</li> <li>• technical high schools</li> <li>• Institute for Adult Education</li> <li>• RS Employment Agency</li> <li>• companies interested in organizing trainings</li> <li>• companies interested in skilled workers</li> </ul>	<ul style="list-style-type: none"> <li>• Legally regulate tax relief for companies that employ unemployed youth (exemption from taxes and contributions to salaries)</li> <li>• improve existing active youth employment measures, with a special focus on ICT;</li> <li>• create special training, additional education and retraining programs for developers, web designers, information system administrators and other ICT professions</li> <li>• Support the building of partnerships between adult</li> </ul>

			retraining centers and ICT companies <ul style="list-style-type: none"> <li>• support the building of partnerships between educational institutions and companies</li> </ul>
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### 5.1.2. Youth entrepreneurship in the ICT sector

This includes programs to support, train and stimulate start-up companies of young people in the ICT sector, because it requires less capital than others, and the best results are achieved. BiH, as a society, needs many new companies, because we have 10 active companies per 1000 inhabitants, and Croatia, at the bottom of the EU, has about 30.

First of all, youth entrepreneurship in the ICT sector needs to be promoted through designed activities. Successful ICT entrepreneurs are probably the best ambassadors for promoting entrepreneurship among young people. As people who are independent and successful, they can motivate young people to consider and explore opportunities for entrepreneurship and self-employment. The more successful a young person is, the more likely he or she is to start a business, because he or she has a role model to follow. Also, PR campaigns, events, competitions and awards are another way to raise the profile of entrepreneurship for young people.

However, education in the field of entrepreneurship, as well as in the field of information technology, has the most important impact on young people. Learning about business development, administration and management, as well as learning the necessary IT knowledge and skills during education creates positive attitudes towards this business and has a significant impact on a young person's decision to become an entrepreneur.

It is necessary to incorporate education in these areas as subjects in all levels of education, especially in secondary and higher education.

In addition, the lack of adequate financial resources is one of the most prominent obstacles for young people who want to start their own business. ICT youth enterprises in BiH can be

promoted by providing different types of financing, which, in accordance with our conditions, can be mainly divided into two main categories: grants and favorable credit financing.

In the end, the more business assistance a young entrepreneur receives in the start-up phase, the greater the chance of creating a successful and sustainable business is. Support services, including mentors, support networks, business clubs and incubators, can be the key to transforming start-ups from micro to successful SMEs. However, there is a general lack of awareness and knowledge among young people about how to start and run a business.

Therefore, it is necessary to stimulate the training, guidance and counseling services in business skills (on-the-job training and workshops, centers or agencies for youth companies, Internet websites and portals that provide online information, mentor support and business teaching, etc), providing work infrastructure (business incubators, common workspaces, joint start-up offices, provision / sharing of equipment, as well as interconnection of companies (entrepreneurial clubs and networks, online business networks and virtual gathering places, fairs and exhibitions, etc.)

Aspect	Observed shortcomings	Key actors	Areas of action and potential interventions
<ul style="list-style-type: none"> <li>Stimulating conditions for the development of youth entrepreneurship in the ICT sector</li> </ul>	<ul style="list-style-type: none"> <li>Youth entrepreneurship in the ICT sector is not adequately developed and its contribution to reducing youth unemployment is not sufficiently recognized.</li> <li>The education system does not sufficiently include entrepreneurship</li> <li>There is no well-organized and continuous (practical) training for starting and running a business</li> </ul>	<ul style="list-style-type: none"> <li>Ministries of Economy, Youth, Labor and Education</li> <li>Faculty of Electrical Engineering and Economics</li> <li>High School</li> <li>Institute for Adult Education</li> <li>RS Employment Agency</li> </ul>	<ul style="list-style-type: none"> <li>promote youth entrepreneurship in the ICT sector</li> <li>support the adoption of laws and bylaws that recognize, facilitate and encourage youth entrepreneurship in the ICT sector;</li> <li>Introduce entrepreneurial skills and knowledge into curricula at all levels of formal education</li> <li>improve the current and introduce new mechanisms for financial support to young people in starting an ICT business, especially by financing start-up companies</li> <li>enable the development of stimulus measures for youth entrepreneurship in the ICT sector, in the first years of business;</li> <li>provide simplification of administrative and legal procedures for youth entrepreneurship in the first years of business;</li> </ul>

## 5.2. Increasing and improving youth employment in key industries

The metal industry observed together with the electrical industry and the production of plastics and rubber is the leading industry in BiH. This sector has great potential, and has a solid human and resource base, as well as a long tradition that allows the development of various activities. This industry has shown vitality in the post-war renewal of production, and readiness to introduce modern technologies. Due to the tradition and existence of quality workforce and knowledge in this field, the production capacities for metal processing by cutting, casting, pressing, drawing, rolling, welding and other combined methods of metal processing have been renewed, and all this forms the basis of the production of metal products, assemblies and metal parts. This sector still has the potential to significantly increase sales, exports, employment and wages.

Most companies lack quality engineers. That lack is evident, so there are companies that do not have a single engineer. There is also a lack of skilled workers, especially if we keep in mind the potential development of this sector. Secondary vocational education does not produce enough workers, especially when it comes to qualifications that are in high demand and well paid in the labor market (welders, CNC programmers and operators, etc.). Also, the quality of those who complete this type of education is questionable. Most often, these are workers without sufficient practical skills. All these workers, who do not have the necessary knowledge, must be trained by companies themselves, which takes both time and money.

This sector needs a massive program of training, additional education and retraining of young people for well-paid qualifications of welders, CNC programmers and operators. This would mainly apply to relatively low qualified young people, who could get high-paying jobs in this way. Currently, young people do not sufficiently recognize employment opportunities in these industrial sectors, so it is of great importance to regularly provide information and promote employment conditions in these sectors (wages and other conditions).

Aspect	Observed shortcomings	Key actors	Areas of action and potential interventions
<ul style="list-style-type: none"> <li>• key skills - welders, CNC programmers and operators</li> </ul>	<ul style="list-style-type: none"> <li>• Vocational secondary education does not produce welders and CNC programmers and operators with practical skills</li> <li>• there is no well-organized and continuous (practical) training</li> <li>• Expensive certification of welders, no authorized institutions in the country</li> </ul>	<ul style="list-style-type: none"> <li>• technical high schools</li> <li>• Institute for Adult Education</li> <li>• companies interested in organizing training</li> <li>• Welding Institute in Tuzla</li> </ul>	<ul style="list-style-type: none"> <li>• Legally regulate tax relief for companies that employ unemployed youth (exemption from taxes and contributions to salaries)</li> <li>• promote employment conditions in these sectors (salaries and other conditions)</li> <li>• support for certification of welders</li> <li>• support for building partnerships between adult retraining centers and companies for CNC developers and operators</li> <li>• support for building partnerships between secondary vocational schools and companies</li> </ul>

### 5.3. Improving social conditions and social inclusion of young

Employment and entrepreneurship do not necessarily mean increasing the quality of life for young people. In addition to economic conditions, increasing the quality of life includes improving the education system, continuous improvement of social and health care, higher level and accessibility of cultural and sports facilities, as well as greater involvement of young people in overall social development and public life of BiH. Achieving the highest possible level of quality of social life of young people is a goal that can be considered one of the key, strategic directions of development in support of young people.

Therefore, it is necessary to create a comprehensive strategy that would address various aspects related to the situation of youth, as well as the creation of a working body, interdepartmental, consisting of representatives of several ministries responsible for youth issues, as well as larger budget allocations of ministries for youth programs that would be strategically and not project oriented.

It is crucial to provide the following assumptions:

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It is crucial to provide the following assumptions:

**Young people are provided with access to quality education.** Current education in BiH is not of good quality. As we have already said, BiH ranked 62nd out of 79 countries in the PISA test for 2018<sup>6</sup>, and every second student tested was assessed as functionally illiterate. With this kind of education, we cannot compete with others, because nowadays, knowledge has become the basis of economic competitiveness. The modern approach to development places emphasis on knowledge, new ideas and technology, and makes knowledge-based production "intangible", "easier" and "more mobile". Economic power in the world will no longer be determined by the amount of natural resources that someone possesses, but will be determined by the ability to "enrich" resources and knowledge and ideas in the most efficient and effective way.

In order to "enrich" natural resources in the best possible way, it is necessary to start building a modern education system in BiH, aimed at providing young people with competitive qualifications and improving knowledge and skills throughout life. Investing in youth education is beneficial in many ways. In addition to the obvious economic benefits, better education of young people increases their opportunities to participate in the overall development of society, reduce poverty and reduce inequality.

In such a situation, it is necessary to work on improving the quality of textbooks, as well as strengthening the competencies of teachers and their additional education, as well as greater motivation of teachers who will work with students focused on learning outcomes and greater functional literacy. Attractive programs that contribute to the development of young people's life skills should be introduced into curricula for students and young people. Considering that the PISA research showed that students of secondary vocational (three-year schools) have a lower level of functional literacy compared to primary school students, it is recommended that we work on popularizing the craft, so that certain professions do not disappear.

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<sup>6</sup> Džumhur, Ž., Et al, PISA 2018 Report for Bosnia and Herzegovina, Agency for Preschool, Primary and Secondary Education of BiH, Sarajevo, 2019



In addition to the employment measures we have already listed in previous parts of the document, it would also be important to pay attention to creating programs for gaining first work experience, recognizing social activism for gaining work experience, legal regulation of student work, and the already mentioned incentive for employers to employ young people) through tax and contribution reimbursement).

**Young people are provided with access to quality health care.** Caring for the health of young people is of general interest for BiH. Health is a basic precondition for the overall development of society, it is the responsibility of all individuals, families, communities and state institutions. Promoting the healthy development of young people is one of the most important investments that any society can make. It is necessary to implement activities that will contribute to the establishment of a responsible health care system, promote improved access of young people to health care services and help improve the overall health of young people. Student clinics such as the Student Health Clinic on the Banja Luka Student Campus can play a significant role here. Also, it is important to introduce classes (at all levels), classes related to health and health care.

**Young people have access to quality cultural and sports facilities.** Culture is an upgrade of every society and is very important for the upbringing and education of young people in the spirit of tolerance, respect for their own and others' traditional, cultural, spiritual and artistic values. Within society, the individual develops his attitude to the culture of living, to the personal and collective attitude of experiencing culture in general and in accordance with his personal affinities, towards the past, present and future. Bearing in mind that budget allocations for culture in the last 4 years are below 1% (0.72% in 2019), and that investing in cultural and creative industries is the basis for the development of national culture and economy, strategic access and significantly higher budget allocations in this area are recommended. The issue of the outflow of young people should not be seen as preventing it, but how to find the way to motivate and encourage people to stay, and have an influence on the cities to become more attractive in order to keep young people. Establish a modality of development of the creative industry because such an industry improves the economy by building the identity and image of the community, and using local and domestic cultural heritage to

Sport is also an important factor in human development, especially for young people. This points to the need to seek organizational forms and content solutions, in order to be accessible to all citizens, especially children and youth who, through free choice and their own affinity, find space in it for play, learning, healthy and cultural leisure.

**Young people are active, motivated and they proactively participate in decision-making processes, community development and policy making and implementation.** Civic participation and action of young people means that they have rights, resources, space and opportunity to participate in decision-making and to be involved in procedures and activities to contribute to building a better society. This implies a positive activity of young people that is aimed at a common goal, and affects the wider process of social change, for a more democratic and developed society. It is necessary to continue the practice and model of youth

involvement in youth policy-making by applying intersectoral approach and such budgeting, and increase the presence of young people in decision-making bodies to ensure greater participation of young people in society.

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