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KOF Swiss Economic Institute

The KOF Education System Factbook:
Bosnia and Herzegovina

Edition 1, December 2019

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List of Abbreviations

GCI	Global Competitiveness Index
GII	Global Innovation Index
GDP	Gross Domestic Product
ISCED	International Standard Classification of Education
KOF	Swiss Economic Institute
OECD	Organisation for Economic Co-operation and Development
PET	Professional Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education and Training
VPET	Vocational Professional Education and Training
VPETA	Vocational and Professional Education and Training Act
WEF	World Economic Forum
YLMI	Youth Labour Market Index

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FOREWORD

The increasing competitiveness of the world economy as well as the high youth unemployment rates after the worldwide economic crises have put pressure on countries to upgrade the skills of their workforces. Consequently, vocational education and training (VET) has received growing attention in recent years, especially amongst policy-makers. For example, the European Commission defined common objectives and an action plan for the development of VET systems in European countries in the *Bruges Communiqué on Enhanced European Cooperation in Vocational Education and Training for 2011-2020* (European Commission, 2010). In addition, a growing number of US states and other industrialized, transition, and developing countries (for example Hong Kong, Singapore, Chile, Costa Rica, Benin and Nepal) are interested in either implementing VET systems or making their VET system more labour-market oriented.

The appealing outcome of the VET system is that it improves the transition of young people into the labour market by simultaneously providing work experience, remuneration and formal education degrees at the secondary education level. If the VET system is optimally designed, VET providers are in constant dialogue with the demand-side of the labour market, i.e. the companies. This close relationship guarantees that the learned skills are in demand on the labour market. Besides practical skills, VET systems also foster soft-skills such as emotional intelligence, reliability, accuracy, precision, and responsibility, which are important attributes for success in the labour market. Depending on the design and permeability of the education system, VET may also provide access to tertiary level education (according to the ISCED classification): either general education at the tertiary A level or professional education and training (PET) at the tertiary B level. PET provides occupation-specific qualifications that prepare students for highly technical and managerial positions. VET and PET systems are often referred to together as “vocational and professional education training (VPET)” systems.

Few countries have elaborate and efficient VPET systems. Among these is the Swiss VPET system, which is an example of an education system that successfully matches market supply and demand. The Swiss VPET system efficiently introduces adolescents to the labour market, as shown by Switzerland’s 2007-2017 average youth unemployment rate of 8.1 percent compared to 14.8 percent for the OECD average (OECD, 2017).

Though not many countries have VPET systems that are comparable to Switzerland’s in terms of quality, efficiency and permeability, many have education pathways that involve some kind of practical or school-based vocational education. The purpose of the KOF Education System Factbook Series is to provide information about the education systems of countries across the world, with a special focus on vocational and professional education and training.

In the KOF Education System Factbook: Bosnia and Herzegovina, we describe Bosnia and Herzegovina's vocational system and discuss the characteristics that are crucial to the functioning of the system. Essential components comprise the regulatory framework and the governance of the VPET system, the involved actors, and their competencies and duties. The Factbook also provides information regarding the financing of the system and describes the process of curriculum development and the involved actors.

The Factbook is structured as follows: First, we provide an overview of Bosnia and Herzegovina's economy, labour market, and political system. The second part is dedicated to the description of the formal education system. The third section explains Bosnia and Herzegovina's vocational education system. The last section offers a perspective on Bosnia and Herzegovina's recent education reforms and challenges to be faced in the future.

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The KOF Education System Factbooks should be regarded as work in progress. The authors do not claim completeness of the information which has been collected carefully and in all conscience. Any suggestions for improvement are highly welcome!

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1. The Bosnia and Herzegovina Economy and its Political System

One of the main purposes of an education system is to provide the future workforce with the skills needed in the labour market. The particularities of a country's economy and labour market are important factors that determine the current and future demand for skills. Therefore, these will be briefly described in the first part of this Factbook. In addition, this part provides an overview of the Bosnian-Herzegovinian political system with an emphasis on education politics.

1.1 The Bosnia and Herzegovina Economy

In 2017, Bosnia and Herzegovina (BiH) had a gross domestic product (GDP) per capita of US\$11,731¹ compared to its direct neighbour Croatia, which had a GDP per capita of US\$22,828, and the OECD average of US\$ 38,945 in 2017 (World Bank, 2017).

In the time between 2000 and 2017, the economy grew with 3.43 percentage points per annum at a faster pace than Croatia with 1.95 and OECD full member countries with 1.93. After the independence war – lasting from April 1992 until December 1995 – growth amounted to rates of 21 percent in 1995, 89 percent in 1996, 35 percent in 1997, 16 percent in 1998, and 10 percent in 1999. The driving factor for this growth was consumption. On the production side, agriculture and manufacturing contributed about 80 percent of the total growth following the war (World Bank, 2017).

However, there is still great uncertainty about the size of the Bosnian-Herzegovinian economy and about basic macroeconomic aggregates such as GDP growth, unemployment, and the balance of payments. The main reason for this uncertainty is that official statistics fail to take informal activities into account. There is general agreement that informal activities are widespread throughout the country, as in many other transition countries. Yet there has been very limited analysis of this phenomenon in Bosnia and Herzegovina (Krstic & Sanfey, 2006).

¹ Constant purchasing power parity (PPP, 2011 international \$), reference year 2017.

Table 1: Value added and employment by sector, 2016

Sector	Bosnia and Herzegovina: Value added (%)	EU-28: Value added ² (%)	Bosnia and Herzegovina: Employment (%)	EU-28: Employment (%)
Primary sector	7.5	1.6	19.2	4.5
Agriculture, hunting and forestry, fishing	7.5	1.6	19.2	4.5
Secondary sector	27.2	24.8	32.3	21.8
Manufacturing, mining and quarrying and other industrial activities	22.6	19.5	n.a.	15.3
of which: Manufacturing	14.6	16.3	n.a.	13.8
Construction	4.6	5.3	n.a.	6.3
Tertiary sector	65.2	74.0	48.5	73.4
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	27.5	23.9	n.a.	27.7
Financial intermediation; real estate, renting & business activities	14.6	27.5	n.a.	16.4
Public administration, defense, education, health, and other service activities	23.1	22.2	n.a.	29.7

Source: Own table based on: Eurostat (2016a; 2016b), WorldBank (2017).

Table 1 summarises the value added and employment by sector for Bosnia and Herzegovina and the member states of the European Union (EU-28). Bosnia and Herzegovina and the EU-28 show similar patterns for all three sectors in terms of value added and employment. In each case, the tertiary sector is the most important for both – value added and employment – followed by the secondary sector. The primary sector accounts for the lowest percentages in both value added and employment for Bosnia and Herzegovina, as well as for the EU-28.

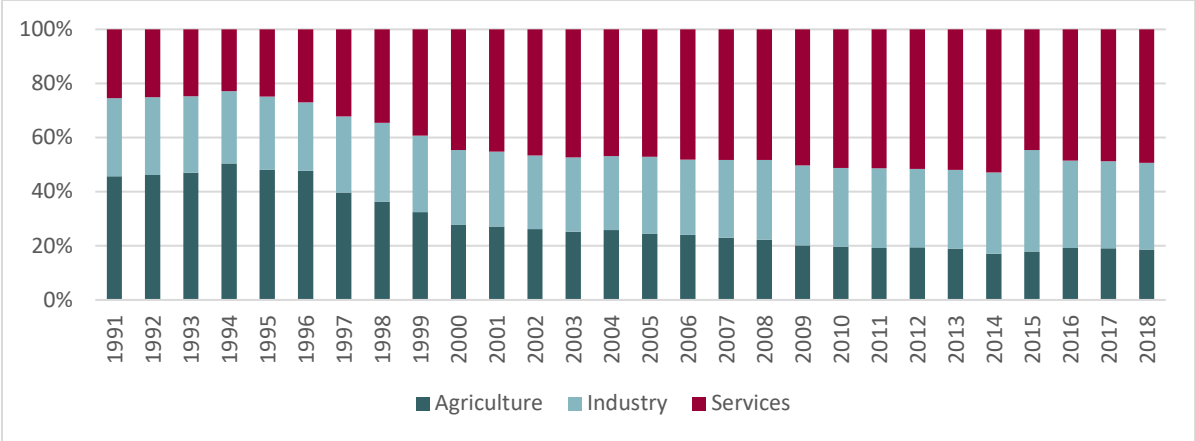
However, employment in the primary sector of Bosnia and Herzegovina is substantially higher than in the EU-28. In the EU-28, the primary sector makes up for only 1.6 percent of the member states' value added and for 4.5 percent of employment, whereas the primary sector of Bosnia and Herzegovina accounted for 7.5 percent (of value added) and 19.2 percent (of employment). Thus, the agricultural sector is of greater importance to the Bosnian and Herzegovinian economy (World Bank, 2018a), which is a characteristic feature of the Balkan states (Gligorov et al., 2011).

Just like the primary, the secondary sector is much more important for Bosnia-Herzegovina than for the EU-28, both in terms of value added and employment. Even though the tertiary

² Due to rounding differences, the sum of all sectors falls above 100 percent.

sector is the most important driver of value added, less than half of all working Bosnian-Herzegovinians are employed in this sector. This stands in contrast to the EU-28 average, where about 73.4 percent of all working people are employed in the tertiary sector.

Figure 1: Employment by sector (as % of total employment), 1991–2018



Source: Own figure based on: World Bank (2018).

As Figure 1 shows, a shift from agriculture to services can be seen in the post war years (1996–2000). The industry sector stayed on a stable level. Bosnia and Herzegovina’s employment structure by sector did not substantially change between 2000 and 2018. However, a further small increase of employment in the secondary and tertiary sectors is visible, with the percentage of employment in the primary sector decreasing accordingly.

According to the WEF Global Competitiveness Index (GCI) rankings 2015–2016 (WEF, 2019), Bosnia and Herzegovina ranked 111th out of 140 countries, placing it in the rear third. The GCI report indicates that the Bosnian and Herzegovinian economy ranks best in macroeconomic stability relative to other branches. The performance of the public sector as an economic branch is classified as particularly poor by the report. Furthermore, the country’s infrastructure is not on a high standard, and it is not known to be innovative.

The Global Innovation Index (GII) 2018 ranks Bosnia and Herzegovina 71th out of 126 countries (Cornell University, INSEAD, and WIPO, 2019). This is mainly due to the country’s lack of infrastructure, ecological sustainability, and intangible assets.

1.2 The Labour Market

In the first part of this section, we will describe the general situation of Bosnia and Herzegovina’s labour market. In the second part, we will refer to the youth labour market in particular.

1.2.1 Overview of Bosnia and Herzegovina's Labour Market

The OECD Index of Employment Protection is a multidimensional index that quantifies the strictness of Employment Protection legislation (EPL) across countries. It is measured on a scale ranging from zero to six, where zero refers to a low level of EPL, and six to a high level of protection. Bosnia and Herzegovina's OECD Index of Employment Protection for permanent workers lies at 2.6 in 2015 (OECD, 2017). Bosnia and Herzegovina comprises three political entities which have wide-ranging autonomy. These are the Federation of Bosnia and Herzegovina (FBiH), the Republika Srpska (RS), and the Brčko District. The entities regulate Bosnia and Herzegovina's Labour Market separately according to their respective laws (ibid.).

While the workforce has the right to constitute and take membership in unions, conduct strikes, and bargain collectively, the entities' courts are not able to enforce the law due to the structural problems facing the state (U.S. Department of State, 2018). The pressure put on the employees that prevents them from organizing in unions is not sanctioned by the state; there are limited inspections of the compliances to the law, and the penalties for violations are not enough to stop the violations of workers' rights (ibid.).

The nationwide organisation of unions named the Confederation of Independent Trade Unions of Bosnia and Herzegovina comprises unions of the individual labour sectors (Confederation of Independent Trade Unions of Bosnia and Herzegovina). These unions have made wage agreements according to the area of activity (ibid.). Among all countries in the Western Balkans, Bosnia and Herzegovina had the highest wage levels in 2017 (World Bank Group, 2019). Most recent data show a gross average monthly wage of 733 euros and a net average monthly wage of 477 euros in 2019 (Institute for Statistics of the Federation of Bosnia and Herzegovina, 2019). However, as 30 percent of workers' activities lie in the informal sector, in which the wage is generally less than the wage in the formal sector, the numbers do not represent the whole labour market (World Bank Group, 2019).

As discussed above, the violation of trade union rights is significant in Bosnia and Herzegovina. Not only are the barriers to establish an organization high – for example, because of the short registration periods for unions – but also the way in which the unions organize their administration is flawed (ITUC, 2010). Thus, the administrative authorities have the power to unilaterally dissolve, suspend, or de-register trade union organizations (ibid.).

As depicted in Table 2, in 2017, 57.3 percent of the population of Bosnia and Herzegovina between the ages of 15 and 64 participated in the labour force. The labour force participation of those aged 15 to 24 years was 32.1. There is no data available on the participation of adults in the labour force (aged 25-64). For both youth and total labour force participation rate, Bosnia

and Herzegovina's values are lower than the corresponding OECD averages. The unemployment rate of the total working aged population in Bosnia and Herzegovina is significantly higher (20.8 %) in comparison to the OECD average (5.3 %). Almost half (46.7 %) of the youth is unemployed. According to ILO estimates, the youth unemployment rate decreased from 62.7% in 2015 to 46.7% in 2018 (World Bank, 2019). In contrast, the OECD unemployment rate in this age range in 2018 lies at 11.1 percent.

Table 2: Labour force participation rate, unemployment rate by age, 2018

Age Group	Labour force participation rate		Unemployment rate	
	Bosnia and Herzegovina	OECD average	Bosnia and Herzegovina	OECD average
Total (15-64 years)	57.3	72.4	20.8	5.3
Youth (15-24 years)	32.1	47.5	46.7	11.1
Adults (25-64 years)	n/a	78.1	n/a	4.7

Source: Own table based on: OECD (2019), World Bank (2019).

Table 3 shows the link between the labour force participation and unemployment rate and the level of education of persons aged between 25 and 64 in 2014. The labour force participation rate of Bosnia and Herzegovina at the education level 'less than upper secondary education' is at 49.0 percent quite similar to the OECD average of 55.2 percent. The unemployment rate at the same education level, on the contrary, shows a large gap.

While the indicator for Bosnia and Herzegovina lies at 57.2 percent the OECD average lies at 13.6 percent. The same can be identified at the upper secondary education level, where the unemployment rate of Bosnia and Herzegovina is 23 percent while the OECD average is eight percent. As the education level rises, so does the labour force participation rate. At the upper secondary education level, the participation in Bosnia and Herzegovina lies below the OECD average (59.5% compared to 73.2%). The only figure in which Bosnia and Herzegovina slightly surpasses the OECD average is the labour force participation rate at the tertiary education level (84.3% compared to 83.4%).

Table 3: Labour force participation rate, unemployment rate by educational attainment, 2014 (persons aged 25–64)

Education Level	Labour force participation		Unemployment rate	
	Bosnia and Herzegovina	OECD average	Bosnia and Herzegovina	OECD average
Less than upper secondary education	49.0	55.2	57.2	13.6
Upper secondary level education	59.5	73.6	23	8.0
Tertiary education	84.3	83.4	6.7	5.0

Source: Own table based on: OECD (2014c).

1.2.2 The Youth Labour Market

The KOF Swiss Economic Institute developed the KOF Youth Labour Market Index (KOF YLMI) to compare how adolescents participate in the labour market across countries (Renold et al., 2014). The foundation for this index is the critique that a single indicator, such as the unemployment rate, does not suffice to describe the youth labour market adequately nor provide enough information for a comprehensive cross-country analysis. To increase the amount

of information analysed and to foster a multi-dimensional approach, the KOF YLMI consists of 12 labour market indicators³ that are grouped into four categories.

The first category describes the *activity state* of youth (ages 15–24 years old) in the labour market. Adolescents are classified according to whether they are employed, in education, or neither (unemployed, discouraged, and neither in employment nor in education or training; see info box to the right). The category *working conditions* and the corresponding indicators reflect the type and quality of jobs the working youth have. The *education* category accounts for the share of adolescents in education and training and for the relevance of their skills on the labour market. The fourth category, *transition smoothness*, connects the other three categories by capturing the school-to-work transition phase. Each country obtains a score of 1 to 7 on each particular indicator of the KOF YLMI. A higher score reflects a more favourable situation regarding the youth labour market and a more efficient integration of the youth into the labour market.

Dimensions of the KOF YLMI	
Activity state	<ul style="list-style-type: none"> - Unemployment rate - Relaxed unemployment rate⁴ - Neither in employment nor in education or training rate (NEET rate)
Working conditions	Rate of adolescents: <ul style="list-style-type: none"> - with a temporary contract - in involuntary part-time work - in jobs with atypical working hours - in work at risk of poverty⁵ - vulnerable unemployment rate⁶
Education	<ul style="list-style-type: none"> - Rate of adolescents in formal education and training - Skills mismatch rate
Transition smoothness	<ul style="list-style-type: none"> - Relative unemployment ratio⁷ - Long-term unemployment rate⁸
Source: Renold et al. (2014).	

One of the major drawbacks of the KOF YLMI is data availability. When data is lacking, a category can occasionally be based on a single indicator or – in some cases – omitted entirely. A lack of indicators can make comparisons across certain countries or groups of countries problematic and sometimes even impossible.

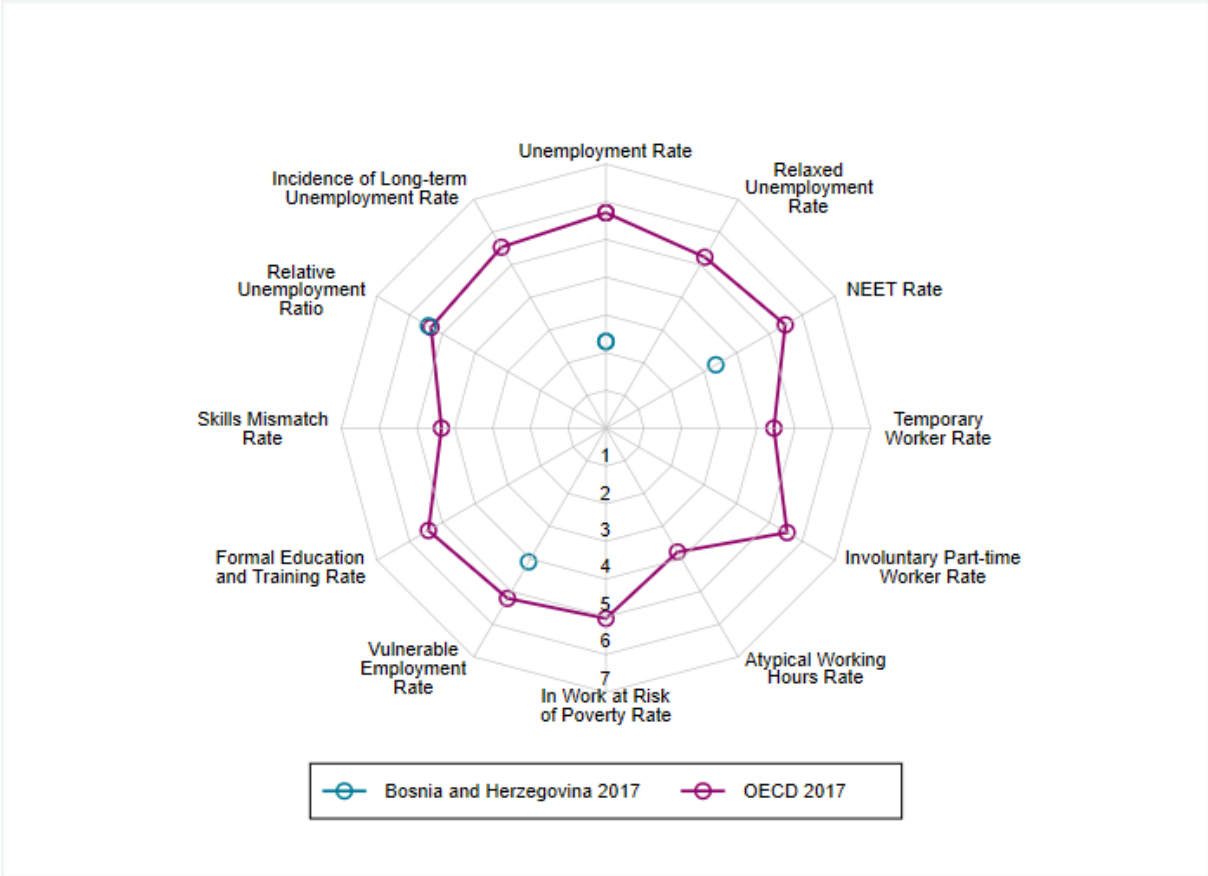
1.2.3 The KOF Youth Labour Market Index (KOF YLMI) for Bosnia and Herzegovina

Figure 2 shows the different dimensions of the KOF YLMI for Bosnia and Herzegovina as well as the OECD average for the year 2017 in a spider web. There are only four indicators availa-

³ The data for these indicators are collected from different international institutions and cover up to 178 countries for the time period between 2005 and 2016.
⁴ It is calculated as the number of unemployed and discouraged workers as a share of the entire labour force. Discouraged workers have given up the search for work (not actively seeking), although they have no job and are currently available for work (also: “involuntary inactive”).
⁵ Those who cannot make a decent living out their earnings, being at risk of poverty as a percentage of the working population.
⁶ Share of the employed population working on their own account or those working in their family business and thus contributing to the entire family income. Both are less likely to have formal work arrangements and are therefore less protected by labour laws and more exposed to economic risk.
⁷ Is defined as the youth unemployment rate (15-24 years) as a share of the adult unemployment rate (25+). If the youth cohort is affected in the same way than the adult group with respect to unemployment, then the relative unemployment ratio will be equal to one. If the youth are relatively more affected, then the ratio will be bigger than one.
⁸ Those unemployed for more than one year (52 weeks) in the total number of unemployed (according to the ILO definition).

ble for Bosnia and Herzegovina. The relative unemployment ratio and the vulnerable employment rate are quite favourable and come close to the OECD average. The unemployment rate with a score of 2.3 and the NEET rate with a score of 3.36 are unfavourable and lie substantially below the OECD average.

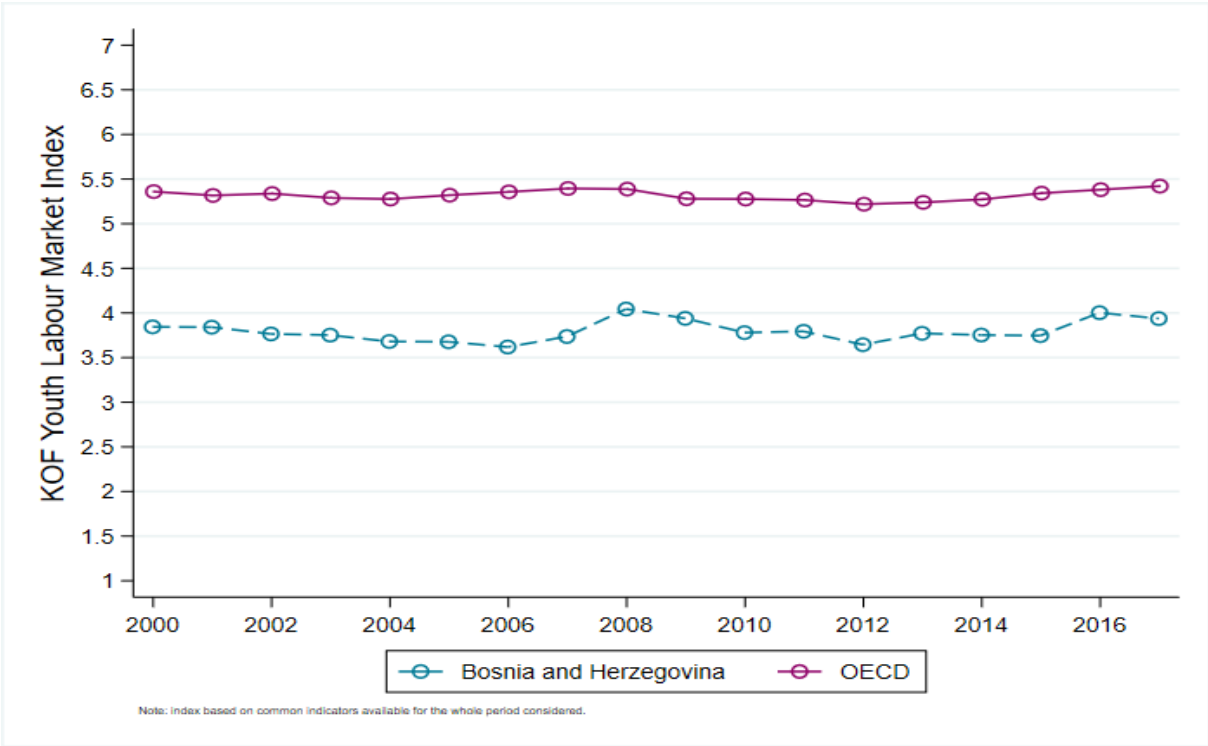
Figure 2: YLM Scoreboard: Bosnia and Herzegovina versus the OECD average, 2017



Source: Own figure based on: KOF Swiss Economic Institute (2019).

Figure 3 below illustrates the trend of the aggregated KOF YLMI for Bosnia and Herzegovina and the OECD average for the years ranging from 2000 to 2017. As there are only four indicators available for Bosnia and Herzegovina, the data is not conclusive. The data available indicates an inferior performance for Bosnia and Herzegovina for the whole period. The gap between the OECD average and Bosnia and Herzegovina is nearly constant for the years 2000 to 2017, with just a slight increase of the index for Bosnia and Herzegovina between the years of 2007 and 2011.

Figure 3: YLM-Index Bosnia and Herzegovina versus OECD, 2000-2017



Source: Own figure based on: KOF Swiss Economic Institute, (2019).

1.3 The Political System

Understanding the basics of a country’s political system and getting to know the political goals with respect to its education system are crucial points for understanding the education system in a broader sense. In the first part, we explain Bosnia and Herzegovina’s political system in general. The politics and goals regarding the education system will be referred to in the second part.

1.3.1 Overview of the Bosnia and Herzegovina Political System

The breakup of Yugoslavia, the Bosnian War, and economic reforms severely affected the old economic structure and patterns of employment in Bosnia and Herzegovina. Since the Dayton agreement in 1995, the main focus in policy for Bosnia and Herzegovina has been on maintaining peace, a stable political environment, and initiating a process of state-building. In this context, the restructuring of the economy and efficient governance have been secondary issues.

The Dayton Peace Accords preserved the international borders of Bosnia and Herzegovina and created a multi-ethnic and democratic government responsible for foreign, diplomatic, and financial policy (CIA, 2018). However, simultaneously it established a highly decentralized, fragile, and ethnically divided state (Encyclopaedia Britannica, 2018). The three major ethnic

groups are Bosniaks, Serbs, and Croats (ibid.). The corresponding geographical and political separation is mirrored by highly autonomous entities, namely the Republika Srpska (RS) located in the north and east and inhabited mostly by Serbs (81.51%) and the Federation of Bosnia and Herzegovina (FBiH), situated in the western and central areas of Bosnia and Herzegovina and linked with the ethnicity of Bosniaks (70.4%) and Croats (22.4%). The third legal unit is the Brčko District, which is not associated with any ethnicity (42.36% Bosniak, 20.56% Croats, and 34.58% Serbs) (CIA, 2019; Agency for Statistics of Bosnia and Herzegovina, 2016).

The central institution of Bosnia and Herzegovina is a directly elected tripartite presidency. The presidency rotates every eight months between one Bosniak, one Serb, and one Croat member and appoints a multi-ethnic Council of Ministers. The chairman of the council is appointed by the presidency and approved by the national House of Representatives and is the head of government. The members of the bicameral parliament are directly elected to the 42-seat lower house (House of Representatives). Of the total number of seats, 28 are reserved for the Federation and 14 for the Republika Srpska. The entity legislatures elect members of the upper house (the House of Peoples, with five members from each ethnic group) (Encyclopaedia Britannica, 2018).

The established governance system, with several different institutions at different levels responsible for policymaking has remained intact, although it is not conducive to effective economic reforms. Despite increasing macroeconomic stability, the structural problems of the economy in Bosnia and Herzegovina remain substantial and serious (ETF, 2005; Britannica, 2018).

The governments of the Federation and the RS are responsible for monitoring most government functions. In addition, the Dayton Agreements have established the Office of the High Representative to oversee the implementation of the civilian aspects of the Agreement. The Peace Implementation Council at its conference in Bonn in 1997 also gave the High Representative the power to enforce laws and remove officials, the so-called 'Bonn Powers' (CIA, 2018).

According to the Worldwide Governance Indicators (WGI) 2016, Bosnia and Herzegovina ranks in the lower third to lower half with the following percentiles in 2017: 39.9 percent in 'Voice and Accountability', 31.9 percent in 'Political Stability', 39 percent in 'Government Effectiveness', 50 percent in 'Regulatory Quality', 47.1 percent in 'Rule of Law' and 34.6 percent in 'Control of Corruption' (World Bank, 2017). In the Economist Intelligence Unit's Democracy Index 2016, Bosnia and Herzegovina ranks 101 out of 167 countries with an overall score of 4.87 out of 10 and thus is referred to as a hybrid regime (Economist, 2016).

According to the Corruption Perception Index, Bosnia and Herzegovina is ranked 89th out of 180 countries in 2018 with a score of 38 out of 100. The score has slightly decreased since 2012 (Transparency International, 2018).

1.3.2 Politics and Goals of the Education System

The basic education system in Bosnia and Herzegovina is institutionalised at three levels: at the countrywide level, the entity or district level, as well as at the canton level. While the statewide institution as well as the Ministry of Education and Science of the Federation of Bosnia and Herzegovina take up a coordinating role, the 12 further institutions (the Department of Education in the Brčko District, the Ministry of Education and Culture in Republika Srpska, and the 10 Cantonal Education Ministries in the Federation of Bosnia and Herzegovina) are the decision-making powers. According to USAID (2016), this decentralized organisation is a great impediment to a uniform strategy concerning the educational policies, as it does not allow uniform jurisdiction and coordination.

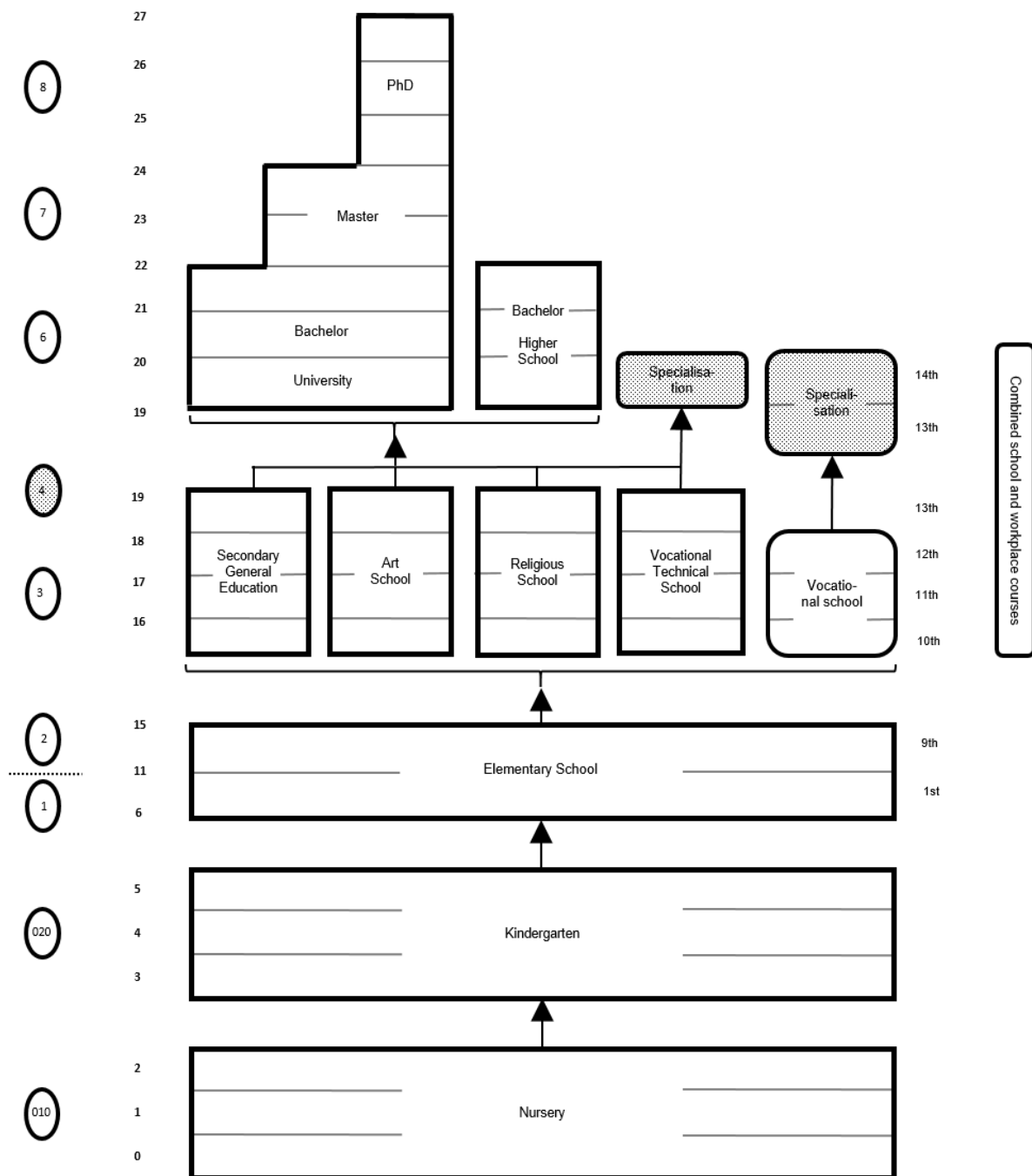
Moreover, the USAID (*ibid.* p. 17) details that, among other things, this impediment of decentralization manifests itself in the fact that quality standards are not clearly specified, that quality control is not effective, and that a mechanism for monitoring and evaluating primary education is not defined. The manifold administration levels (municipal, cantonal, entity, and state) furthermore cause a lack of transparency and therefore opportunities for corruption, which is common in the education sector (*ibid.*). In the higher education system, professors stated that bribery was a frequent cause, besides pressure from superiors and colleagues, of their giving higher grades to students from a political or family network (U.S. Department of State, 2018).

The Framework Law on Primary and Secondary Education in Bosnia and Herzegovina (2003) states the goals of the education system. These aim at giving the students an understanding of human rights, the values of a democratic society, and the religious, cultural, and historical tradition of the different ethnic groups of Bosnia and Herzegovina (UNESCO, 2010/11). This goal corresponds to the current political challenge of Bosnia and Herzegovina. The country is divided by the mutual distrust of the three main communities. This is reflected in the education system inasmuch as it segregates the children into groups according to their cultural identity (Emkic, 2018, p. 8). In the Federation of Bosnia and Herzegovina, more than 50 schools are segregated according to ethnicity and religious beliefs (U.S. Embassy in BiH, 2018). According to the U.S. Embassy in Bosnia and Herzegovina (2018), this situation is upheld by the administration of the political parties in power. Their agenda allegedly entails implementing education policies that work in accordance with patronage and ethnic exclusion (*ibid.*).

2. Formal System of Education

The formal system of education in Bosnia and Herzegovina is divided into four levels: pre-school education, compulsory primary education, secondary education, and higher education. Figure 4 shows the Bosnian and Herzegovinian education system with its various paths. The peculiarity thereof is that the primary education (ISCED 1) and the lower secondary education (ISCED 2) consist in a single structure.

Figure 4: The Bosnian and Herzegovinian Education System



Following compulsory education, the students can choose between five different institutions on the upper secondary education level. The different levels of the education system are outlined in this chapter. The vocational educational pathway and its institutions will be discussed in the next chapter in more detail.

Table 4: Net Enrolment Rate (NER) and Gross Enrolment Ratio (GER), 2014

Educational level	ISCED 2011	Net Enrolment Ratio	Gross Enrolment Ratio
Pre-primary education	020	12.7 ⁹	14.8
Primary education	1-2	97.5	100.2
Secondary education	3	n.a.	88.7
Compulsory education age group	1-3	n.a.	n.a.
Tertiary education	5-8	n.a.	47.6

Source: Own table based on: Knoema (2019).

Table 4 shows the gross enrolment ratio (GER)¹⁰ and net enrolment ratio (NER)¹¹ by education level for the year 2014. The NER quantifies the total number of students in the theoretical age group for a given education level enrolled at that level expressed as a percentage of the total population in that age group. The GER quantifies the number of students enrolled at a given education level – irrespective of their age – as a percentage of the official school-age population corresponding to the same level of education. For example, for the primary education level, the NER shows how many students of typical primary-school age are actually enrolled in primary school, while the GER sets out the actual number of students in primary education – irrespective of their age – in relation to those who are at the official age suitable to attend primary education¹².

2.1 Pre-Primary Education

The Bosnian and Herzegovinian Framework Law on Primary and Secondary Education states that the organisation of pre-school education shall be regulated at the entity, canton, and Brčko District legislation level (Government of Bosnia and Herzegovina, 2003). Pre-primary education in Bosnia and Herzegovina begins at six months and continues up until six years of age,

⁹ The NER of the pre-primary education level refers to the year 2012.

¹⁰ The UNESCO Institute for Statistics (UIS) (2017) defines the gross enrolment ratio as the “number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education.”

¹¹ The UIS (2017) defines the net enrolment ratio as the “Total number of students in the theoretical age group for a given level of education enrolled in that level, expressed as a percentage of the total population in that age group.”

¹² A gross enrollment ratio of 100 corresponds to a situation where each child in a given country is enrolled in the corresponding education level. A value above 100 could occur due to students who are older than the typical enrolment age for primary education (e.g. have to repeat grade, adult learners). A value below 100 implies that not everyone who is in the typical age for primary education is actually enrolled.

when the children enter primary school. The compulsory part of pre-primary education is a one-year preschool preparatory programme, which accepts children between five and a half and six and a half years old (EURYDICE, 2019).

According to the pre-primary education programme of the RS, the pre-primary education curriculum in the RS comprises three topics: physical development, socio-emotional personal development, and development of speech and communication (Government of Republika Srpska, 2007). The content of the topics varies according to the age of the children.

There are three different types of institutions grouped according to the age of the children and the kind of facility. First, the public facility of pre-primary education encompasses nurseries for children under the age of three, kindergarten for children between three and six years old, a combination of these two for the age range up to six years old, as well as playgrounds for children between three and six years old in rural areas with few participants. Second, there are private facilities, which are independent in terms of the content of the programme, although the RS pedagogical institutions must approve them. Third, there are specialised facilities for pre-primary children, which concentrate on cultivating special needs. The pre-primary education programme subsumes kindergarten in nature lessons, music workshops, and institutions for children with physical or intellectual impairment as well as combined leisure-, entertainment-, and learning activities in shorter programmes (Government of Republika Srpska, 2007).

Pre-primary education in Bosnia and Herzegovina has the lowest enrolment rates in the region (World Bank, 2015). The national enrolment rate for children aged three to five was 13.1 percent of all children in that age range in 2011, with a higher percentage in the Federation of Bosnia and Herzegovina (14.4%) than in the RS (10.3%) (ibid, p. 92). That same year, 14.9 percent of total enrolment was in private facilities (Knoema, 2019). As there is no standard curriculum at the national state level, the duration of pre-primary school varies between both entities. Compulsory pre-school in the Federation of Bosnia and Herzegovina provides between 150 and 300 classes. In Republika Srpska, pre-school is recommended but not compulsory (USAID, 2016, p. 20). The financing of the pre-school institutions depends on the region. In Republika Srpska, economic cost varies from 400 convertible mark (KM) to 120 KM and in the Federation of Bosnia and Herzegovina from 400 KM to 150 KM (World Bank, 2015, p. 96). According to the national state level Framework Law on Primary and Secondary Education, the government must pay the cost (Government of Bosnia and Herzegovina, 2003). Nonetheless, there are donor activities of which the biggest agent is the EU- funded project for the development of qualifications framework for general education. The assistance of the donors has improved the pre-school education system significantly (USAID, 2016).

2.2 Primary and Lower Secondary Education

The Framework Law on Primary and Secondary Education states that elementary education (i.e. primary and lower secondary education) is obligatory for all children (Government of Bosnia and Herzegovina, 2003). The education begins the year the child turns six years old prior to 1 April of that year. The duration of the education must not be less than eight years (ibid. paragraph 16). There is no fee, which means that free elementary school is ensured for all children (ibid.). In the year 2009, spending on elementary education per student was 1,753 KM in RS and ranged from 1,450 to 2,039 KM in Federation of Bosnia and Herzegovina (World Bank, 2015). The direct expenditure for educational institutions at the elementary education level in Bosnia and Herzegovina in 2016 amounted to 662,107,236 KM (Agency for Statistics of Bosnia and Herzegovina, 2018a).¹³ The responsibility of the primary and lower secondary education is regulated by entity and cantonal laws (BiH, 2003, paragraph 19).

The Common Core Curriculum under Articles 42 and 43 of the Framework Law on Primary and Secondary Education defines the curriculum. The assessment of the student's success is measured on a grading scale from 1 (insufficient/fail) to 5 (excellent). Besides success in particular subjects, behaviour is evaluated descriptively under the predicates exemplary, good, satisfactory, or bad (EURYDICE, 2019).

Ninety-eight percent of primary-school aged children attended school in 2011–2012 at the national state level with an insignificant difference between entities (99% in Republika Srpska compared to 97% in the Federation of Bosnia and Herzegovina) (USAID, 2016, p. 25). However, as the children of the Roma communities are not registered at birth, this number should be considered with caution (ibid. p. 25). The net enrolment rate lies at 83.2 percent at the national state level. There is an immense difference between the entities NER (92.9% in Republika Srpska compared to 9.7% in the Federation of Bosnia and Herzegovina), which means that more children repeat classes in the Federation of Bosnia and Herzegovina (World Bank, 2015, p. 92). The enrolment in private schools in primary and lower secondary education was 1.2 percent in 2012 (Knoema, 2019).

Community participation at primary school level has great importance to the development of basic education in the country. Primary schools have parent councils and student councils that are supposed to function as advisory bodies, but they have no support from cantonal ministries with the exception of the Sarajevo Canton (USAID, 2016, p. 29).

¹³ There are no data on the cost per student.

2.3 Upper Secondary Education

The responsibility for upper secondary education lies in the hands of the Ministries of Education and Culture of Republika Srpska, the Brčko District Education Department, and the ten cantonal Ministries of Education in the Federation of Bosnia and Herzegovina (EURYDICE, 2019). Upper secondary education is not compulsory for students and lasts between three and four years. There are three forms of general upper secondary education: grammar-, art-, and religious schools. On completion of either one of the school forms, the student attains secondary school education and can continue his or her education in higher education (EURYDICE, 2019). Besides general secondary schools, there are different kinds of vocational schools lasting either three or four years. The three-year curriculum does not allow access to higher education, whereas the four-year curriculum does (EURYDICE, 2019). The vocational education system will be described in more detail in Chapter 3.

On the upper-secondary school level in the 2011–2012 school year, 92 percent of all children of secondary-school age attended school. In both entities, the rate was the same. The transition rate to the upper secondary school was 97 percent (USAID, 2016, p. 32). The enrolment in private schools in 2012 was 1.7 percent (Knoema, 2019). The dropout rate during the first two years of upper secondary school was 20 percent. According to USAID (2016), the reason behind this high rate may be traced back to the economic situation of the student's family, behavioural problems, or the distance from their home to the school.

The economic cost of one year of upper secondary education is 2000–3000 KM. Students at secondary level who receive welfare are supported in some regions by the ministries (USAID, 2016). According to the article 17 of the Framework Law on Primary and Secondary Education, the education in public institutions is free of charge (EURYDICE, 2019). Any expenses for textbooks, insurance, manuals, and transportation, however, have to be covered by the parents of the students (*ibid.*).

Admission to upper secondary education is based on an examination that is taken upon completion of elementary school (EURYDICE, 2019). The student must be no older than 17 years old and have finished elementary school. The gross enrolment rate was at 77 percent in 2010, and thus was far below their regional neighbours Kosovo and Albania where the rate was 92 percent. (World Bank, 2015, p. 93). The school year starts on 1 September and ends on 31 August. The first three years are organised in 36 five-day teaching weeks. The fourth year has 32 five-day weeks and a lower class-density (EURYDICE, 2019). There are different curricula in general upper secondary education. Besides the general type, there is a socio-linguistic, natural-mathematical, and a computer-informatics type (*ibid.*). The performance assessment during elementary school and upper secondary education remains the same (*ibid.*).

2.4 Postsecondary / Higher Education

Higher education in Bosnia and Herzegovina can be either full-time, part-time, or distance learning (EURYDICE, 2019). The higher education institutions (HEIs) are either universities or higher schools (Government of Bosnia and Herzegovina, 2007). Universities must implement at least five study programmes, which must be subsumable under a minimum of three different scientific fields. These fields are natural sciences, technical sciences, biomedicine and health, biotechnical sciences, social sciences, and humanities (EURYDICE, 2019). Furthermore, universities offer academic titles in all three cycles (bachelor's, master's, doctorate) (ibid.). In contrast, higher schools only have the competence to issue degrees of the first cycle by teaching at least one study programme in one scientific field (EURYDICE, 2019).

The financing of HEIs is, on the one hand, accounted for by the budget of the responsible education authorities and the local government, and, on the other hand, by tuition fees (EURYDICE, 2019). Students are either budget-financed or self-financed. Budget-financed students are those who get their tuition fees paid by the responsible ministry of education. These students are selected according to their performance at secondary education level and the entrance exam to the HEI as well as the enrolment quota in the field of education (ibid.). In order to be eligible for budget-financing, students have to take up higher education full-time and must be enrolled in the first cycle. However, they have to pay administrative and other minor fees, such as entrance and application fees. These fees range from 94 KM to 500 KM (ibid.).

Self-financed full-time students, on the other hand, pay tuition fees. In the first cycle these fees range from 440 KM to 1,500 KM, where the most common is 660 KM (EURYDICE, 2019). In the second cycle, all students have to pay fees, and none can be budget-financed. Fees in the second cycle range from 440 KM to 4,000 KM (ibid.).

Besides the monetary help for students eligible for budget-financing, there are public grants to full-time students who have Bosnian and Herzegovinian citizenship and are enrolled in a public university (EURYDICE, 2019). Ministries of education at entity and cantonal level are responsible for awarding grants. To be eligible for public grants students have to fulfil merit- as well as need-based criteria, such as a minimum grade of 8/10 and excellent performance (first to third place) in national or international competitions. In addition, high income and employment status increase the probability of receiving public grants (ibid.). The amount payed to students ranges from 100 KM to 800 KM on a monthly basis for 10 months per year until graduation (ibid.).

Part-time students have an overall disadvantage. They are neither eligible for grants nor for budget-financing (EURYDICE, 2019). All of them have to pay tuition and administration fees, which are higher than those of full-time students, ranging from 900 KM to 4,500 KM in the first cycle, and 1,000 KM to 3,000 KM in the second cycle (ibid.).

Funds for public HEIs are provided through four sources: the budget of the responsible education authorities, one's own revenue, the budget of the local self-government, as well as donations and other sources. However, sources that are tied to conditions that may hinder HEIs in their autonomy are not allowed (EURYDICE, 2019). Private HEIs do not receive financing from the government. Their sources include their own revenue and donations (ibid.). Private HEIs must announce their tuition fee publicly for all courses. Students enrolled in private HEIs have to pay administration and tuitions fees in full.

In general, the first cycle comprises at least 180 or 240 ECTS credits. The duration of these programmes is three to four years under the condition of full-time study (EURYDICE, 2019). Admission to the first cycle is determined on the one hand by a student's grades in upper secondary school and on the other hand by entrance examinations and is thus quite similar to the eligibility criteria for budget-financing and receiving grants (ibid.). To progress in the programme the students have to achieve 60 ECTS points per year (ibid.).

Admission to the second cycle is annually in late June or the beginning of July. In order to apply, the students need a birth certificate, a transcript of examinations passed in the first cycle, the original or a certified copy of the diploma of the first cycle study, and the study curriculum that they have completed if it was fulfilled in another faculty, as well as proof of payment of administration fees (EURYDICE, 2019). By finishing the second cycle, the students achieve their master's degree. The duration varies between one and two years, which corresponds to 60 and 120 ECTS credits respectively, according to the subject (ibid.). The assessments consist of numerical grading from 5 (failed) to 10 (outstanding achievement). Study programmes in medicine, pharmacy, dentistry, and veterinary medicine are an exception to the abovementioned structure of the curricula. In these fields of study, there is no differentiation between first and second cycle. These programmes last between five and six years and consist of one block with 300 ECTS credits (ibid.).

The repetition rate of higher education students was 24 percent in 2008. That same year, 13 percent of the students dropped out completely of the higher education system (World Bank, 2015, p. 94). Furthermore, only 50 percent of the students who enrol in a university actually graduate, while it takes even successful students almost seven years on average to complete a four-year programme (ibid.). A share of 6.2 percent of the population of Bosnia and Herzegovina over 25 years old held a tertiary degree in the year 2011. The corresponding rates of

the neighbouring countries were significantly higher (11 percent in Croatia, 18 percent in Slovenia, 24 percent EU-average) (ibid.). The gross enrolment rate in tertiary education was 47.6 percent in 2014 (Knoema, 2019). That same year, 20.1 percent of enrolment was in private institutions (ibid.).

The third cycle of higher education lasts three years and leads to a doctoral degree. The admission criterion is a master's degree. A doctoral student receives a regular scholarship, which means there are no criteria to be fulfilled (EURYDICE, 2019). A mentor who guides the research leads students through the doctoral programmes. The examination of the student's performance is conducted orally and in written exams as well as by writing seminar papers. The quantitative assessment ranges from 5 to 10, where 10 is the highest achievable grade (ibid.). Upon completion of the third cycle, the student receives the title of Doctor of Science.

2.5 Continuing Education (Adult Education)

The Framework Law on Primary and Secondary Education in Bosnia and Herzegovina (2003) as well as the Framework Law on Vocational Education and Training (2008) legally set adult education at the country level. According to paragraph 20 of the Framework Law on Primary and Secondary Education in Bosnia and Herzegovina (2003), there are four sectors subsumed under adult education: professional training, supplementary training, activities that provide life-long learning, and retraining. The law does not state what these terms imply but instead refers to the laws of the entities, cantons, and the Brčko District in which they are described in more detail (ibid.). The students have to pay the fee for their adult education themselves. The implementation of the framework law lies in the hand of the ministers of the entities, cantons, and the Brčko District (EURYDICE, 2019).

The certificate, confirming the learning outcomes of formal adult education programmes, is an official public document with the same standing as regular education certification (EURYDICE, 2019). Both, formal and informal education certifications are issued according to law. In contrast to formal education however, certificates in the informal sector are not official public documents and only state the knowledge, abilities, and skills obtained (ibid.).

In Republika Srpska, the Law on Adult Education from 2009 provides the general legal framework (Government of Republika Srpska, 2009). There are three forms of adult education in Republika Srpska, formal, non-formal, and informal. In the Federation of Bosnia and Herzegovina, the legal frame is described by the Law on Adult Education, the draft of which was completed in 2014, and which states that adult education shall be regulated on cantonal level (USAID, 2016, p. 37). The intuitions facilitating adult education in the cantons are training centres and VET schools (EURYDICE, 2019). No adult education Law exists in the Brčko District

(USAID, 2016, p. 37). There are three main types of providers of adult education in Bosnia and Herzegovina: NGOs are the biggest providers, who account for 34.6 percent of all services. Besides the NGOs, there are equal shares of public and private organisations (both account for 32.7%) (USAID, 2016, p. 37).

2.6 Teacher Education

The responsibility for the conditions of teacher education lies with the Ministry of Science, Education, and Sports, as well as with local government and educational institutions, whereas the conditions of service for teachers are defined in the general labour regulation (EURYDICE, 2019). Pedagogical faculties conduct future teachers' initial educations. It is under these that the faculties of philosophy, science, mathematics, and art academies are subsumed (USAID, 2016). The curricular content varies according to the faculty. According to USAID, this autonomy leads to a deficiency in a future teacher's knowledge regarding the development of teaching competencies like methodology, psychology, didactics, and pedagogy.

The kind of education the future teacher receives depends on the school level in which he or she intends to work. Class teachers, who teach their students all subjects, work in primary schools (grades 1–6). Teachers in lower secondary schools (grades 6–9) are called subject teachers, as they do subject-oriented teaching. Finally, those teachers working in upper secondary schools are called professors (EURYDICE, 2019).

Before teaching a class themselves, the future teachers have to do a mandatory internship. The internship lasts one year and is accompanied by a mentor. Thereafter, the teacher to be takes a professional exam (EURYDICE, 2019). Once the teachers are working with qualifications, pedagogical institutes and the school inspection are responsible for the supervision of the teachers. In case the teachers encounter problems in an area of responsibility, support measures are conducted. Pedagogical advisors, working in pedagogical institutes, are employed for this task. To become a mentor or advisor, teachers have to participate in continuing professional development (CPD) (ibid.).

The teaching staff in higher education are selected from the most successful students of their respective programmes. Academic staff are public servants. Therefore, the legislation on public service, as well as higher education legislation, is the legal framework of their employment. Teachers in the sector of adult education need to have completed higher studies as well as a pedagogical education that provides specific training for teaching adults (EURYDICE, 2019).

According to USAID (2016, p. 26) the education of future teachers is one of the weakest links in the education system of Bosnia and Herzegovina. The continuing professional education of

the teaching staff lacks coordination between different policy levels and has short-term goals in implementation and planning; this is connected to the budget cuts implemented at various government levels (ibid. p. 34). According to USAID (p. 26) in the Federation of Bosnia and Herzegovina, all cantonal ministries have an unsatisfactory outlook on the professional development of primary-level teachers. On the upper secondary education level there is a great vacuum in terms of continuous professional development of the teaching staff. Further, there is no additional education for many teachers who are not trained as such but still work in schools (ibid. p. 34).

There are some international organisations financing professional education programmes for teachers. One example is Step-by-Step, introduced by the Center for Employment Initiatives (CEI), which organises and implements a number of professional education programmes for teaching staff who are already working as well as other professionals (USAID, 2016, p. 26). These programmes place an emphasis on critical thinking, the development of quality standards, and methods for high-quality teaching among other things (ibid.). Furthermore, the Norwegian Embassy is involved in improving the education of already trained teaching staff by providing training in the Cantons of the Federation of Bosnia and Herzegovina with an emphasis on working and teaching in a multicultural environment. In addition, the Institut für Internationale Zusammenarbeit des Deutschen Volkshochschul-Verbandes is active in supporting methodology and didactics in adult education for already formally qualified VET teachers (USAID, 2016, p. 35).

In vocational education institutions in Bosnia and Herzegovina, many teachers are not formally trained. As many as 26 percent of the teachers working in vocational schools have no diploma attesting the completion of a formal teacher's education programme. Besides the missing requirement of classroom experience before teaching in vocational schools, only 33 percent of the teaching staff have formally studied didactics or pedagogy at all (USAID, 2016, p. 34). There is also a lack of experienced people who could provide continuing professional development for VET teachers (ibid.). Thus, 40 percent of the VET teachers have not attended CPD during a 12-month period, 41 percent attended education-related events outside of school and only 30 percent of the teachers received CPD that was directly related to their vocational speciality (ibid.).

The USAID (2016, p. 35) identifies four key problems in teacher education in Bosnia and Herzegovina as a whole: firstly, there is a lack of standardized programmes regarding the initial education of teachers. Secondly, the curriculum underlying the teachers' education is outdated. Third, the financial resources are not sufficient to reach and uphold an initial teacher's

education of high quality. Finally, the knowledge and skills of the teachers currently in office are outdated, and therefore they cannot meet the needs of the education system.

3. The System of Vocational and Professional Education and Training

This section of the Factbook describes the vocational education and training (VET) system at the upper secondary level and the professional education and training (PET) system at the tertiary level in more detail. Thereby, the term vocational and professional education and training (VPET) refers to both the VET and the PET system.

3.1 Vocational Education and Training (VET; Upper Secondary Education Level)

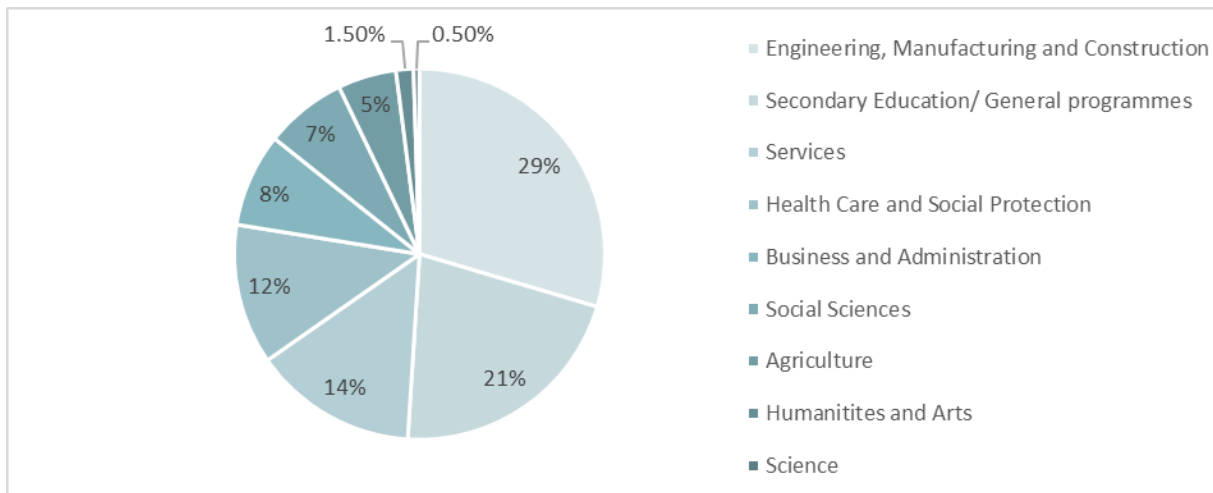
As discussed in the previous chapter, the entry requirement for the VET is the successful completion of elementary school. The student can choose between a four-year track in the vocational technical school and a three-year track in the vocational school, where the former allows admission to HEIs while the latter does not. Out of the 100 publicly recognised professions on the state level, 61 are three-year VET programs, and 39 are four-year programmes (APOS0, 2009).

Apprentices who have completed the final exam of a four-year programme receive a diploma, which is called the *Diploma o položenom maturalnom ispitu* (Diploma of completion of the matura exam) in Republika Srpska and the *Diploma o završenoj srednjoj školi* (Diploma of completion of secondary school) in the Federation of Bosnia and Herzegovina (NUFFIC, 2017). Students completing their general education receive the same diploma (ibid.). After successful completion of the three-year track, apprentices obtain the *Diploma o položenom završnom ispitu u stručnoj školi* (Diploma of a completed examination from a vocational college) in the Federation of Bosnia and Herzegovina or the *Diploma o završenoj srednjoj stručnoj školi* (Diploma of completion of secondary vocational college) in Republika Srpska (ibid.).

According to the Agency for Statistics in Bosnia and Herzegovina, 73 percent of all Bosnian students in the school year 2017/2018 on the upper-secondary education level were enrolled in VET. One quarter thereof attended the three-year vocational schools, and three quarters attended the four-year technical vocational schools (Agency for Statistics of Bosnia and Herzegovina, 2018).

In the Federation of Bosnia and Herzegovina, in the school year 2018/2019, 71.8 percent of all students attending upper secondary education were enrolled in VET. Of all students, 51.8 percent were enrolled in a four-year technical vocational school and 20 percent in a three-year vocational school (Institute for Statistics of FBiH, 2019).

Figure 5: Programme enrolment share of VET pathways in School year 2018/2019 in RS



Source: Own Figure based on: Republic of Srpska Institute of Statistics, (2019).

In the 2018/2019 school year, 61 percent of all students in upper secondary education in Republika Srpska were enrolled in vocational technical schools, 1.4 percent in private vocational technical schools, and 16 percent in vocational schools (Republic of Srpska Institute of Statistics, 2019). Figure 5 depicts the programme enrolment share of VET pathways in the same school year in Republika Srpska. Almost a third of all students enrolled in VET chose a programme subsumable under engineering, manufacturing, and construction. The second most popular was secondary education or general programmes in which 21 percent of all students were enrolled.

The Republican Pedagogic Institute organizes the detailed curricula of the different programmes (Government of Bosnia and Herzegovina, 2019). In Republika Srpska there are 117 programs for which modular curricula were developed and that are divided into 13 profession-categories.

The category agriculture and food processing, for example, comprises five professions, which require a four-year education, and seven professions that require a three-year education. The content of training is divided into general topics and topics related to professions. In the curriculum of a food technician (four-year programme), for example, 39 percent of total hours taught in the classroom are profession-related topics, 24 percent of total hours taught are taught at the workplace (first year 13%, second year 20%, third 24%, fourth year 38%). In the three-year VET programme of an agritourist technician, 39% of total hours taught in the classroom focus on work-related topics. The ratio of hours spent in the workplace to hours in total is 35 percent (first year 20%, second 34%, third 55%) (Government of Bosnia and Herzegovina, 2019).

A similar pattern appears in the other categories. The four-year curriculum has slightly more profession-related topics than the three-year curriculum. Furthermore, the three-year programme has an overall higher percentage of teaching hours in the workplace than the four-year training.

According to the Friedrich Ebert Stiftung (2018) the VET system in Bosnia and Herzegovina insufficiently provides workers with the skills needed to find a job in the labour market. The education reform as a reaction to the skills deficits had its central focus on changing the legislation in 2010 (ibid.).

The Gemeinschaft für Internationale Zusammenarbeit (2018) conducted a survey between June and August 2018 to gather data on the status and quality of the TVET system in Bosnia and Herzegovina. The representative study interviewed 294 graduates of 10 TVET schools (three-year and four-year programmes) from five municipalities. Out of all graduates 45 percent reported to have had no cooperative training (a combination of practical and theoretical training in a TVET school and in companies), 39 percent received regular in-company training, 9 percent completed summer internships, and 7 percent visited companies before or after attending school (ibid.).

When asked about shortcomings in TVET, 67 percent answered that practical skills training was lacking to a considerable extent, and 63 percent indicated a lack of equipment and training materials (GIZ, 2018). These findings suggest that the majority of graduates do not have sufficient vocational training and therefore are not adequately qualified for the labour market (ibid.).

According to the Torino Process Report – a common framework used to analyse VET policies – the quality assurance of VET in Bosnia and Herzegovina remains an issue: quality assurance mechanisms vary between and within the entities, as well as between the various responsible authorities (ministries and other major bodies) (ETF, 2017a).

3.2 Professional Education and Training (PET; Post-Secondary Level)

According to EURYDICE (2019), there is no professional education and training in Bosnia and Herzegovina. For that reason, we will only refer to the VET system (as opposed to VPET) for all following sections.

3.3 Regulatory and Institutional Framework of the VET System

3.3.1 Central Elements of VET Legislation

The principal statute for the VET system of Bosnia and Herzegovina is the Framework Law on Vocational Education and Training, which was adopted in 2008 by the assembly of parliament. For some cantons in Bosnia and Herzegovina that did not yet implement the Framework Law on VET, the VET is regulated by the 2003 Framework Law on Primary and Secondary Education (ETF, 2013).

One key element of the Framework Law on VET is Article 18, which regulates the establishment of VET councils. VET councils are elected by representatives of the labour market and are responsible for strengthening the relationships between VET schools and the local labour market. Other key elements of the Framework Law on VET include the following: Increased autonomy for VET schools (e.g. the possibility of merging with other schools), various improvements and diversification of programmes and curricula, and the formulation of objectives of VET schools, such as assisting pupils in choosing a suitable career (Government of Bosnia and Herzegovina, 2008).

3.3.2 Key Actors

The key state actors in the VET system are the Ministry of Civil Affairs of Bosnia and Herzegovina (MoCA) and the three Ministries of Education of the entities. These are the Federal Ministry of Education and Science (FMES) of the Federation of Bosnia and Herzegovina, the Department of Education of Brčko District (DEBD), and the Ministry of Education and Culture of the Republika Srpska (MECRS) (ETF, 2017b). Other important actors involved in VET governance are the Agency for Pre-primary, Primary, and Secondary Education (APOSO) and the Institute for Adult Education of the Republika Srpska (ibid.).

The MoCA is – among other things – in charge of supervising the implementation of adopted laws on education, such as the Framework Law on VET. On the entity level, the three Ministries of Education are in charge of supervising and implementing adopted laws on education. On a cantonal level in the Federation of Bosnia and Herzegovina, the ten cantonal Ministries of Education have a strategic role in VET governance, as they are involved in all of its functions. On the ground level, municipalities of the Federation of Bosnia and Herzegovina are responsible for developing public-private partnerships in coordination with the local vocational schools and private sector stakeholders (ETF, 2017b).

Social partners like trade unions and employers' associations are engaged in partnerships with previously mentioned public bodies and VET providers to help implement VET policies (ETF,

2017b). In addition, the Union of Employers' Associations of Republika Srpska (UUPRS) is involved in designing enrolment policies (ibid.).

There are state and non-state actors included in VET councils, which are active in defining and implementing VET vision and policy (ETF, 2017b). These councils consist of a tripartite composition from government institutions, employers, and trade unions (ibid.). It is possible that other actors are involved, for example, VET teachers or VET researchers and specialists. On a state level there is no established advisory council; however, there is one implemented in the Brčko District and others in some cantons of the Federation of Bosnia and Herzegovina (ibid.).

3.4 Educational Finance of the VET System

The state is the main source of VET financing (ETF, 2017b). There are 13 different budgets, namely from the entities, the cantons, and the districts. In most cantons spending on education as a whole takes up the largest part of the budget. However, financing of VET in Bosnia and Herzegovina does not provide the necessary amount (ibid.). The percentage of expenses on education of the respective GDPs in the Federation of Bosnia and Herzegovina and Republika Srpska amounts to 6 and 4 percent respectively, while the Brčko District spends 11.2 percent. Around 21 percent of all educational expenses go to VET (ibid.). In addition to state financing, there is strong involvement of other countries and institutions in VET financing. The Swiss Agency for Development and Cooperation (SDC), for instance, substantially contributed to the development of Bosnia and Herzegovina's VET system during the last five years (SDC, 2015). Other institutions that were or are highly involved in VET financing are Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the European Commission.

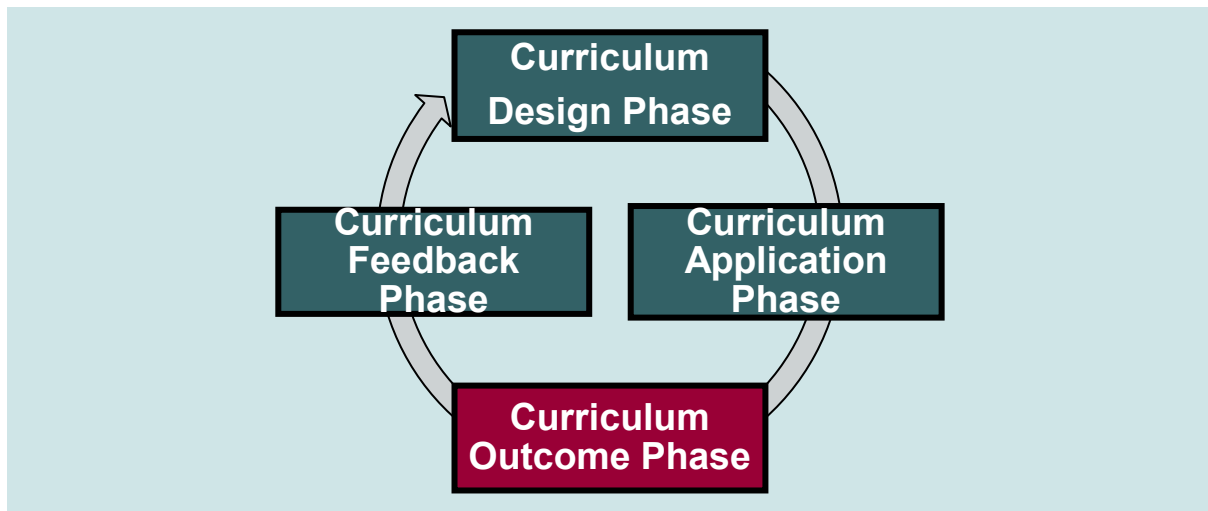
Public institutions active in the VET system are allowed – in accordance with the Law on Financing of VET – to provide training and services to generate their own income (ETF, 2017b). Further possibilities to increase revenue include donations and grants, gifts, parental contribution as well as renting premises (ibid.). This income, however, cannot be used immediately by the vocational schools because of the accounting system, the goal of which is to increase accountability and transparency (ibid.). In addition, local municipalities have the task of mobilizing financial resources (ibid.).

3.5 Curriculum Development

The curriculum is a central element of a functioning VET system. It defines the framework and the (quality) standards for the education system. The development of a curriculum proceeds in three steps: the curriculum design, the curriculum application, and the curriculum feedback

phase. This theoretical concept is called the Curriculum Value Chain (CVC) and is depicted in Figure 6 (for more details see Bolli, et al., (2016)).

Figure 6: Curriculum Value Chain (CVC)



Source: Bolli, et al., (2016).

In the curriculum design phase, the relevant actors decide upon VET curriculum content and qualification standards. Therefore, the discussion in the respective subchapter below focuses on the degree and the amount of stakeholder participation in curriculum design in Bosnia and Herzegovina. The curriculum application phase revolves around the implementation of the curriculum. Because learning environments differ heavily across countries — especially with respect to the prevalence of workplace learning — the curriculum application phase subchapter in this Factbook focuses on those learning environments. Specifically, it addresses where learning takes place and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and analysed in the curriculum feedback phase. This evaluation process is important as it may render a more refined curriculum design than was possible in the first place.

3.5.1 Curriculum Design Phase

The design phase is crucial for the whole curriculum process. In order to ensure that the skills taught in the VET programmes correspond to the needs of the labour market, experts from companies should be involved in defining the qualification standards and learning content of the curricula.

Assessing future or current skills needs in Bosnia and Herzegovina lies in the hands of various agencies. The public employment services, which conduct employer surveys and analyses the labour market data, are central in this regard (ETF, 2016). On a monthly or annual basis the

public employment services analyses job vacancy data, job advertisements, monitors the dynamics of school enrolments, and develops indicators by using general labour market information (ibid.).

The main institutions of the public employment services are the Bosnia and Herzegovina Agency for Labour and Employment, the Employment Agency of Republika Srpska, the Federal Employment Agency, and the Employment Institute of Brčko District (ETF, 2016). Their engagement in analysing skills needs by means of employer surveys gives them a leading role in assessing current and future skills (ibid.).

The public employment services and the statistical agencies that collect relevant data on education are not the only actors in the curriculum design phase. The ministries of education, such as APOS0, also play a crucial role in defining the curriculum (ETF, 2016). Teacher training, VET, development of standards, modular curricula and common core curricula, and assessment of learning outcomes are responsibilities that lie in the hands of the APOS0 (ibid.). In particular, the agency develops employers' surveys with respect to the classification of fields of education and training for vocational education (ibid.).

Further agencies engaged in curriculum design are the ministries of labour, education and economy at entity level, employers' associations, local authorities, chambers of commerce, and universities (ETF, 2016). They are mainly involved as stakeholders; only in few cases are they developing their own projects or instruments in relation to the curricula design (ibid.).

One example involves advisory councils that have been formed in many secondary vocational schools (ETF, 2017a). Their work consists of advising schools on training-related issues as well as strengthening ties between the local labour market and the school. Both tasks help determine the content of the curricula (ibid.).

The curricula for secondary vocational education and training are mainly comprised of outcome-based common core curricula (70%). A maximum of 30% of the curriculum can be set by each school in order to adapt the content to individual needs (APOS0, 2019).

3.5.2 Curriculum Application Phase

The way in which a curriculum is implemented – especially with respect to learning environments – is important to achieve the intended learning outcome.

As described in Section 3.1, VET programs (upper secondary level) in Bosnia and Herzegovina have a school- and a work-based component. An expert from Helvetas reports that some four-year VET-schools offer 15 days of practical work experience during vacations. Three-year programmes should have some sort of division between classroom-related and workplace-related

teaching (e.g. a ratio of 5:0 a week in the first year, 3:2 in the second year and 1:4 in the third year). In reality, this division rarely happens. Secondary schools report that in reality, around 30% of all students do practical work during the school year and around 55% of all students do practical work during vacations (Personal communication, October 25, 2019).

There is not much information available about the process of the curriculum application. This is partly due to the country's fragmentation and – as a result of this – also because there is no standardized procedure for implementing curricula. However, as of the school year 2018/2019, there is an ongoing pilot project in the Federation of Bosnia and Herzegovina that introduced a dual system for the occupation of welder in the JU technical school centre Zvornik (European Commission, 2019).

3.5.3 Curriculum Feedback Phase

The curriculum feedback phase deals with the question of whether and how educational outcomes are analysed. Based on this, the curriculum could be re-worked and improved.

In Bosnia and Herzegovina, there is no standardized procedure for analysing education outcomes on an entity level. However, in 2016 the EU started a project that focuses on developing quality assurance in VET (ETF, 2018). The Agency for Pre-Primary, Primary, and Secondary Education of Bosnia and Herzegovina (APOS0) joined the ETF Forum for Quality Assurance in VET as an institutional member. The goal of the membership is to improve quality assurance in VET in accordance with the EU Reference Framework for Quality Assurance in VET (EQA-VET) (APOS0, 2019).

In addition, a working group, mainly composed of educational experts from education ministries developed a quality assurance manual. The manual describes various quality assurance standards. In a 2017 pilot program, 23 VET institutes applied these quality assurance standards, and all produced a self-evaluation report as a first attempt to analyse educational outcomes (EPRD Consortium, 2018).

In Republika Srpska, the Republican Pedagogical Institute as part of the Ministry of Education and Culture is responsible for assessing and monitoring the quality of VET (Government of Bosnia and Herzegovina, 2019).

In the Federation of Bosnia and Herzegovina the pedagogical institutes of each canton are responsible for assessing the quality of VET curricula.

3.6 Supplying Personnel for the VET System (Teacher Education)

Future teachers for the VET are trained in the philosophical, pedagogical, mathematical, and natural science HEIs by choosing an education major and completing the first cycle of higher education (EURYDICE, 2019). Students who did not graduate with an education major have the opportunity to gain the necessary knowledge and skills in faculties of teacher education (ibid.). Therein they are taught in programmes that focus on pedagogical-psychological and didactic-methodological training (ibid.).

The same programmes are also intended for those who are already employed in education institutions and are legally obliged to complete pedagogical-psychological and didactic-methodological education (EURYDICE, 2019).

After successful completion of the training in HEIs, future teachers are obliged to work for one year as a trainee (EURYDICE, 2019). Thereafter they must take a professional state examination (ibid.). The Minister of Education is responsible for listing those schools in which the examination is conducted as well as deciding on the composition of the examination commission (ibid.). A record of the professional state examination is made and signed by the members and the president of the examination commission (ibid.). While teachers working in school education receive a certificate, future kindergarten teachers receive a confirmation of the examination passed (ibid.).

Of all secondary school teachers in the school year 2017/2018, 59 percent were teaching in technical vocational schools and three percent at vocational schools (Agency for Statistics of Bosnia and Herzegovina, 2018b).

According to the European Training Foundation (2017a) in Bosnia and Herzegovina, the CPD of teachers in the VET system is primarily funded by donors and EU projects. A survey showed that of all interviewed vocational teachers in the school year 2014/2015, 40 percent had no CPD at all. Furthermore, 54 percent had participated in CPD in the form of in-service training, 32 percent in professional development in vocational specialism, 13 percent in conferences or seminars, 15 percent during observation visits to schools, and 32 percent had CPD at businesses (ibid.).

Despite the obligation to conduct a one-year in-service teacher training before the professional state examination, both the quality of mentoring as well as the observance of the requirements are questionable, as only a minority of mentors received training (USAID, 2016). According to USAID (2016) the problem thereof is that experienced people who are competent at providing CPD training necessary for the needs of VET teachers and instructors are missing in Bosnia and Herzegovina (ibid.).

4. Major Reforms in the Past and Challenges for the Future

4.1 Major Reforms

The major reforms in relation to the VET system in Bosnia and Herzegovina in the years 2015–2018 were the following:

- In 2015, most of cantons in the Federation of Bosnia and Herzegovina and the Brčko District initiated development strategies (2015–2018) that primarily aimed at strengthening the link between the education system and the labour force feature (ETF, 2017a).
- In 2016, political authorities in Republika Srpska elaborated on the Strategy for the Development of Education in Republika Srpska 2016–2021 (ETF, 2017a). This paper contains specific objectives for vocational education.
- In 2016, the Ministry of Civil Affairs together with a delegation of the EU initiated the project 'Qualifications Framework for lifelong learning' (EURYDICE, 2019). The overall goal is to strengthen the efficiency and quality of the education system by setting standards to compare the education system in Bosnia and Herzegovina with that of the EU. In particular, it provides a validation instrument for informal and non-formal learning, quality assurance, and financing in VET (ibid.).
- In 2018, the political authorities of the Brčko District adopted the Law on Adult Education, initiating the regulation of adult education (EURYDICE, 2019).
- In 2018, the Canton Herzegovina-Neretva adopted the Law on Adult Education, which leaves only the Posavina Canton without a law on adult education (EURYDICE, 2019).
- In 2018, a proposal for a countrywide quality assurance framework for continuing and initial VET was developed (European Commission, 2019). It is based on the EU's EQA-VET – the European Quality Assurance in Vocational Education and Training. As of October 2019, the entities have not yet agreed on a final version of it (ibid.).

4.2 Major Challenges

As discussed in Section 3.3.1, one key element of the 2008 Framework Law on VET was the establishment of VET councils. However, the implementation of the law is proceeding at a very slow pace and thus most cantons have yet to establish such a council. The same goes for the

establishment of an advisory board in each school. Both the VET councils and advisory boards can substantially contribute to the improvement of VET curricula and the strengthening of the link between the VET schools and local labour markets (USAID, 2016).

As previously discussed in Section 3 and additionally indicated by a poll conducted by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), there are serious deficits in education and training quality in VET schools (GIZ, 2018). A considerable majority of VET graduates stated that to a large extent schools lack training in practical skills. Furthermore, most responders reported a lack of equipment and training materials. These deficits seem to reflect the opinion of Bosnian employers. According to the World Economic Forum Executive Opinion Survey, the problem of an 'inadequately educated workforce' is among the top ten problematic factors when doing business in Bosnia and Herzegovina (WEF, 2016). Companies specifically complain about the lack of curricula adaption to labour market needs. Some curricula have not been reformed since 1994. The adaption of curricula to labour market developments is especially important for VET schools that specialize in technology (ETF, 2013). Intuitively, it does not make sense to teach students about technology that is based on curricula from the last century, as the technology used in the labour market changes continuously.

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