

# DIGITALES ARCHIV

ZBW – Leibniz-Informationszentrum Wirtschaft  
*ZBW – Leibniz Information Centre for Economics*

Kemper, Johanna (Ed.)

## Book

## The KOF education system factbook: Macedonia

**Provided in Cooperation with:**  
ETH Zürich

*Reference:* (2019). The KOF education system factbook: Macedonia. Edition 1. Zurich, Switzerland : ETH Zurich, KOF Swiss Economic Institute.

This Version is available at:  
<http://hdl.handle.net/11159/2955>

### Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics  
Düsternbrooker Weg 120  
24105 Kiel (Germany)  
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)  
<https://www.zbw.eu/econis-archiv/>

### Standard-Nutzungsbedingungen:

Dieses Dokument darf zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden. Sie dürfen dieses Dokument nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen. Sofern für das Dokument eine Open-Content-Lizenz verwendet wurde, so gelten abweichend von diesen Nutzungsbedingungen die in der Lizenz gewährten Nutzungsrechte.  
<https://zbw.eu/econis-archiv/terms-of-use>

### Terms of use:

*This document may be saved and copied for your personal and scholarly purposes. You are not to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public. If the document is made available under a Creative Commons Licence you may exercise further usage rights as specified in the licence.*

**KOF** Swiss Economic Institute

**The KOF Education System Factbook:  
Macedonia**

**Edition 1, April 2019**

# KOF

ETH Zurich  
KOF Swiss Economic Institute  
LEE G 116  
Leonhardstrasse 21  
8092 Zurich, Switzerland

Phone +41 44 632 42 39  
Fax +41 44 632 12 18  
[www.kof.ethz.ch](http://www.kof.ethz.ch)  
[kof@kof.ethz.ch](mailto:kof@kof.ethz.ch)

## Table of Contents

FOREWORD .....	V
EDITING AND ACKNOWLEDGEMENTS.....	VI
<b>1. The Macedonian Economy and its Political System.....</b>	<b>1</b>
1.1 The Macedonian Economy .....	1
1.2 The Labour Market.....	4
1.2.1 Overview of Macedonia's Labour Market .....	4
1.2.2 The Youth Labour Market.....	6
1.2.3 The KOF Youth Labour Market Index (KOF YLMI) for Macedonia .....	7
1.3 The Political System .....	8
1.3.1 Overview of the Macedonian Political System.....	9
1.3.2 Politics and Goals of the Education System .....	10
<b>2. Formal System of Education.....</b>	<b>12</b>
2.1 Pre-Primary Education.....	14
2.2 Primary and Lower Secondary Education.....	15
2.3 Upper Secondary Education .....	16
2.4 Postsecondary, non-tertiary .....	18
2.5 Higher Education .....	19
2.6 Continuing Education (Adult Education) .....	21
2.7 Teacher Education.....	22
<b>3. The System of Vocational and Professional Education and Training.....</b>	<b>23</b>
3.1 Vocational Education and Training .....	24
3.1.1 Vocational Education and Training (VET; Upper Secondary Education Level) .....	24
3.1.2 Vocational programmes sponsored through foreign aid .....	29
3.2 Professional Education and Training (PET; Post-Secondary Level).....	31
3.3 Regulatory and Institutional Framework of the VPET System .....	33
3.3.1 Central Elements of VPET Legislation.....	33
<b>3.3.2 Key Actors</b> .....	<b>34</b>
3.4 Educational Finance of the VPET System .....	35
3.4.1 Educational Finance of Secondary Vocational Education .....	35
3.4.2 Educational Finance of Higher Professional Education (HBO).....	36
3.5 Curriculum Development .....	36
3.5.1 Curriculum Design Phase .....	37
3.5.2 Curriculum Application Phase.....	37
3.5.3 Curriculum Feedback Phase .....	38

3.6	Supplying Personnel for the VPET System (Teacher Education) .....	38
<b>4.</b>	<b>Major Reforms in the Past and Challenges for the Future .....</b>	<b>39</b>
4.1	Major reforms .....	39
4.2	Major challenges .....	39
<b>References</b> .....		<b>41</b>

## List of Abbreviations

BDE	Bureau for Development of Education
CEA	Centre for Economic Analyses
EIU	Economist Intelligence Unit
ESA	Employment Service Agency
ETF	European Training Foundation
GCI	Global Competitiveness Index
GII	Global Innovation Index
GDP	Gross Domestic Product
ISCED	International Standard Classification of Education
KOF	Swiss Economic Institute
MES	Ministry of Education and Science
MoLSP	Ministry of Labour and Social Policy
NQF	National Qualifications Framework
OECD	Organisation for Economic Co-operation and Development
PET	Professional Education and Training
SEI	State Education Inspectorate
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
2Y-VET	Two-Year Vocational Education and Training
3Y-VET	Three-Year Vocational Education and Training
4Y-VET	Four-Year Vocational Education and Training

## List of Figures

Figure 1: Employment by sector (as % of total employment), 2000-2014.....	3
Figure 2: KOF YLM Spiderweb for Macedonia and the OECD 2015 .....	7
Figure 3: YLM-Index Macedonia and OECD, 2006-2015.....	8
Figure 4: ISCED 2011 Mapping of Macedonia's Education System .....	13
Figure 6: Population by educational attainment level, aged 25-64 (in %) .....	14
Figure 7: Upper Secondary Enrolment 2016/2017 .....	29
Figure 8: Curriculum Value Chain (CVC) .....	36

## List of Tables

Table 1: Value added and employment by sector, 2016 .....	2
Table 2: Labour force participation rate, unemployment rate by age 2015 .....	5
Table 3: Labour force participation rate, unemployment rate by educational attainment (persons aged 25-64) .....	5
Table 4: Enrolment (number) and gross enrolment ratio 2015.....	14
Table 5: Gymnasium Enrolment 2016/2017 .....	18
Table 6: Enrolment in first Cycle tertiary 2015/2016 (Absolute Numbers and % of total) .....	20
Table 7: Summary statistics of the Macedonian VET system .....	23

## 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, 2017c).

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: Macedonia, we describe Macedonia'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 Macedonia's economy, labour market, and political system. The second part is dedicated to the description of the formal education system. The third section explains Macedonia's vocational education system. The last section offers a perspective on Macedonia's recent education reforms and challenges to be faced in the future.

## **EDITING AND ACKNOWLEDGEMENTS**

This Factbook is edited by Johanna Kemper. We want to thank Louis Uzor and Pascal Emmenegger for the elaboration of the contents, and Clair Premzic for the excellent language and content editing. Without you, the realization of this Factbook would have been impossible!

**The KOF Education System Factbooks has to 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!**

**Contact: [factbook@kof.ethz.ch](mailto:factbook@kof.ethz.ch)**

### **Suggested citation:**

KOF Swiss Economic Institute (2017). KOF Education System Factbook: Macedonia. KOF Education System Factbooks, ed. 1. Zurich: Swiss Federal Institute of Technology.

# **1. The Macedonian 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 Macedonia's economy and labour market, which are important factors for determining the current and future demand for skills, are briefly described in the first part of this Factbook. In addition, this section provides an overview of Macedonia's political system with an emphasis on education politics.

## **1.1 The Macedonian Economy**

Formerly called the Social Republic of Macedonia, Macedonia declared its independence from the Socialist Federal Republic of Yugoslavia after its collapse in 1991. Macedonia's early economic history was rough, starting with several structural deficits and an embargo imposed over a fight for the name "Republic of Macedonia" with its Greek neighbour. After these initial setbacks, the Macedonian economy grew and nearly doubled its gross domestic product (GDP) between 1997 (6,223 Billion US\$ - constant 2010\$) and 2015 (10,587 Billion US\$ - constant 2010\$) (World Bank, 2017b). This corresponds to a GDP per capita of US\$ 5,094 (constant 2010\$), which is comparable to fellow transition country Serbia's GDP per capita of US\$ 5,663. However, Macedonia's GDP per capita is much lower than the OECD average GDP per capita of US\$ 37,714 (ibid.). Despite this difference, Macedonia has experienced an average annual GDP per capita growth rate of 2.5 percent, comparable to 3.1 percent in Serbia and 1.3 percent for the OECD average between the years 1996-2015. The average total GDP growth in Macedonia, Serbia and the OECD over the same time span was 2.9 percent, 2.7 percent, and 2 percent, respectively. (World Bank, 2017b).

Although Macedonia's declaration of independence was initially peaceful, post-Yugoslav wars in neighbouring countries resulted in negative GDP growth rates between 1991 and 1996. Macedonia experienced positive growth rates between 1996 and 2001, until an outbreak of ethnic tensions between Macedonians and the large Albanian minority led to negative growth rates again. The Ohrid agreement<sup>1</sup> of 2001 finally restored peace. Macedonia's growth rate fell back into the slightly negatives in 2009, provoked by the 08/09 financial crises.

---

<sup>1</sup> "On 8 August 2001 in Ohrid, south-western Macedonia, the leaders of the Republic of Macedonia's main political parties, that since 13 May 2001 had formed a shaky 'National Unity Government', struck a deal which aimed at ending the violent conflict between Macedonian security forces and armed Albanian extremists in the country" (Brunnbauer, 2002, S. 2)

"The 'Framework Agreement' consisted of three parts: first, far-reaching amendments to the Macedonian constitution; second, changes to the current legislation; and third, a plan to end hostilities as well as a timetable for its implementation" (Brunnbauer, 2002, S. 4)

Table 1 shows Macedonia's employment by sector in 2014 and gross value added (GVA) in 2016. The tertiary or services sector contributes the most to Macedonia's economy, in terms of value added and employment. The tertiary sector employs around half of all Macedonians, relative to 74 percent tertiary sector employment in the EU28. In contrast to the EU28, the agricultural sector is much more important for Macedonia's economy, both in terms of value added (accounts for 9.9 percent GVA in Macedonia vs. 1.5 percent in the EU28) and employment (24 percent vs. 4.5 percent, respectively).

This difference between Macedonia and the EU28 countries is less obvious in the secondary sector, which accounts for about one quarter of gross value added (Macedonia: 29.7 percent, EU28: 24.6 percent) and employment (Macedonia: 26.4 percent and EU28: 21.6 percent).

**Table 1: Value added and employment by sector, 2016**

Sector	Country: Value added (%)	EU-28: Value added <sup>2</sup> (%)	Country: Employment <sup>3</sup> (2014) (%)	EU-28: Employment (2014 in Parenthesis) (%)
Primary sector	9.9	1.5	24.0	4.5 (5.0)
Agriculture, hunting and forestry, fishing	9.9	1.5	24.0	4.5 (5.0)
Secondary sector	29.7	24.6	26.4	21.6 (21.9)
Manufacturing, mining and quarrying and other industrial activities	20.7	19.3	18.6	15.3 (15.5)
of which: Manufacturing	15.3	16	15.7	13.8 (13.9)
Construction	9.0	5.3	7.8	6.3 (6.4)
Tertiary sector	60.5	73.9	49.6	73.9 (73.1)
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	24.3	24.1	24.1	27.7 (27.4)
Financial intermediation; real estate, renting & business activities	19.4	27.3	6.7	16.4 (16.0)
Public administration, defence, education, health, and other service activities	16.8	22.5	18.8	29.8 (29.7)

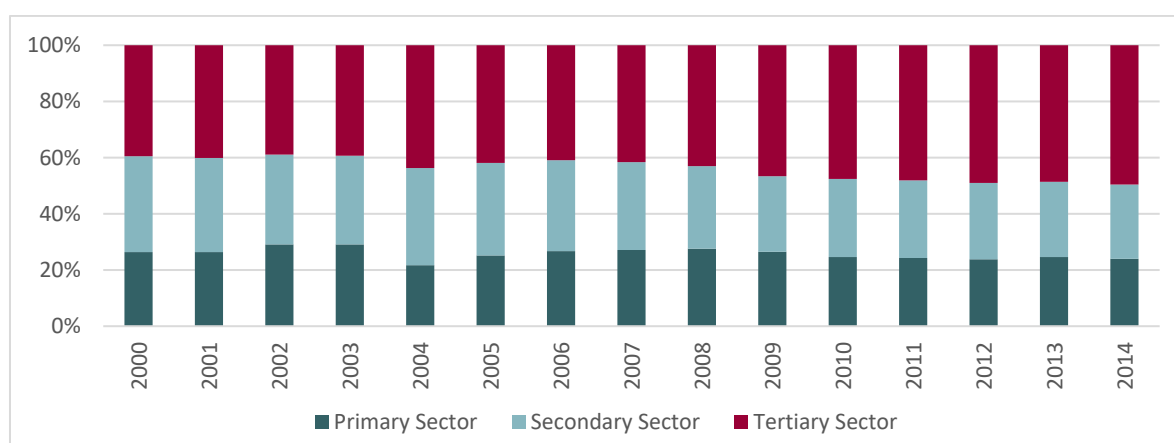
Source: (Eurostat, 2017a) (Eurostat, 2017b).

Figure 1 shows employment in Macedonia by sector between 2000 and 2014. Over these years, the tertiary sector gained in importance, while the relative importance of the secondary sector decreased. The agricultural sector, accounting for around 25 percent of employment, remained relatively constant.

<sup>2</sup> Due to rounding differences, the sum of all sector falls below 100 percent.

<sup>3</sup> Only Data for 2014 available.

**Figure 1: Employment by sector (as % of total employment), 2000-2014**



Data Source: (Eurostat, 2017b).

The World Economic Forum (WEF) puts Macedonia at rank 68 out of 138 countries in their Global Competitiveness Index (GCI). Macedonia's macroeconomic environment, goods market efficiency, and innovativeness are the major forces contributing to its position in the GCI. Market size, labour market efficiency and infrastructure belong to the economy's weaknesses. Macedonia advanced in the GCI rankings in the years leading up to the most recent publication (2015), until political instabilities sabotaged this progress in 2016. (WEF, 2016)

In line with the GCI, the Global Innovation Index (GII) ranks Macedonia as 58<sup>th</sup> out of 128 countries. Within the GII, Macedonia outperforms regional competitors like Serbia (65<sup>th</sup>), Bosnia and Herzegovina (87<sup>th</sup>) and Albania (92<sup>nd</sup>), but stands behind its southern neighbour Greece (40<sup>th</sup>). Enabling strengths for innovation lie mainly within Macedonia's business environment, which can counteract the weaknesses found in infrastructure (Dutta, Lanvin, & Wunsch-Vincent, 2016).

The strengths of the business environment, such as ease of starting a business and ease of paying taxes, are consequences of policy action undertaken in order to ease the reallocation of informal economic activities into the formal sector. The shadow economy in Macedonia plays an important role for the overall business environment in terms of employment and value generation. Consequently, Macedonia's unemployment rates (see section 1.2) and its GDP could be systematically undervalued. The Centre for Economic Analyses (CEA) (2012) tried to provide different estimates of the size of the shadow economy, calculating that it accounted for between 12 and 40 percent of its GDP in 2010. According to the CEA, the ease of starting and closing a business along with taxation policy (seen as strengths in the GII) should enhance transformation from the shadow economy towards formal economic activities (Garvanlieva, Andonov, & Nikolov, 2012).

## 1.2 The Labour Market

In the first part of this section, we will describe the general situation of Macedonia's labour market. In the second part, we will refer to the youth labour market in particular.

### 1.2.1 Overview of Macedonia's Labour Market

Macedonia's labour market is difficult to interpret, since many official figures must be used to contextualize and understand informal activities.

For women and youth, a low labour force participation rate and high unemployment rate raise concerns over the state of the labour market as a whole (Peterski, Mojsoska-Blazevski, & Bergolo, 2016). Similar to other eastern European countries, young people face high unemployment and NEET rates (Not in Education, Employment, or Training). The extremely high youth unemployment rate of 48.2 percent (for ages 15-24) contributes greatly to Macedonia's general unemployment rate of 24 percent in 2016 (Eurostat, 2017d).

Regarding efficiency, the GCI ranks the Macedonian labour market as 95<sup>th</sup> of 138 countries included in the report. Amongst the most problematic factors for doing business, the GCI mentions an "inadequately educated workforce" and "poor work ethics in national labour force" (WEF, 2016, pp. 244-245).

According to the *Doing Business Indicators* of the World Bank (2017a), the minimum wage in Macedonia is 287.5 US\$/month. In 2013, trade union density was 30 percent, almost double the OECD countries' average of 17 percent (Eurofound, 2015) (OECD, 2017b). The strength of Macedonia's trade unions can be attributed to the country's communist heritage. Trade union density came close to 100 percent in 1990, but it has declined in recent history until stabilizing at around 30 percent (Eurofound, 2015).

Table 2 shows the labour force participation and unemployment rates by age. It confirms that Macedonia faces problems with youth unemployment rates of 48.2 percent. Seen in an international context, adult and total unemployment in Macedonia are higher than the OECD average. However, high unemployment is a common problem in the South-Eastern European countries, e.g. in Serbia, where total unemployment amounts to 19 percent and youth unemployment to over 45 percent (Eurostat, 2017c). According to Eurofund, these high unemployment numbers mainly stem from a structural deficit caused by the recent socialist history (Eurofound, 2015). Illicit labour market actions further contribute to high official unemployment and low participation rates (Garvanlieva, Andonov, & Nikolov, 2012).

**Table 2: Labour force participation rate, unemployment rate by age 2015**

Age Group	Labour force participation rate		Unemployment rate	
	Macedonia	OECD average	Macedonia	OECD average
Total (15-64 years)	64.9	71.3	26.3	7.0
Youth (15-24 years)	32.8	47.1	47.3	14.0
Adults (25-64 years)	72.6	76.9	24	6.0
Adults (25-54 years)	78.8	81.6	24.6	6.2

Source: OECD (OECD, 2017a) (Eurostat, 2017c) (Eurostat, 2017d).

Table 3 shows the labour force participation and unemployment rates by educational attainment. Following the same trend as the OECD average, the Macedonian labour force participation increases with educational level. The low participation rate for people with less than upper secondary education does not necessarily imply that these people do not work. Instead, many of them may work in the informal sector, which is less likely to appear in the statistic (Garvanlieva, Andonov, & Nikolov, 2012). Unemployment rates are generally higher in Macedonia than the OECD average but they show a similar trend to decline with higher educational achievements.

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

Education Level	Labour force participation		Unemployment rate	
	Macedonia 2015	OECD average 2013	Macedonia 2015	OECD average 2013
Less than upper secondary education	35.3	63.6	24.0	12.8
Upper secondary level education	61.5	79.9	23.7	7.7
Tertiary education	74.4	87.7	18.9	5.1

Source: (Eurostat, 2017c) (Eurostat, 2017d) (OECD, 2015c).

## 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 twelve labour market indicators<sup>9</sup> 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 and their skills on the labour market. The fourth category, *transition smoothness*, connects the other three categories by capturing the school-to-work transition phase of the youth. 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	
<b>Activity state</b>	<ul style="list-style-type: none"> <li>- Unemployment rate</li> <li>- Relaxed unemployment rate<sup>4</sup></li> <li>- Neither in employment nor in education or training rate (NEET rate)</li> </ul>
<b>Working conditions</b>	Rate of adolescents: <ul style="list-style-type: none"> <li>- with a temporary contract</li> <li>- in involuntary part-time work</li> <li>- in jobs with atypical working hours</li> <li>- <b>in work at risk of poverty</b><sup>5</sup></li> <li>- Vulnerable unemployment rate<sup>6</sup></li> </ul>
<b>Education</b>	<ul style="list-style-type: none"> <li>- Rate of adolescents in formal education and training</li> <li>- Skills mismatch rate</li> </ul>
<b>Transition smoothness</b>	<ul style="list-style-type: none"> <li>- Relative unemployment ratio<sup>7</sup></li> <li>- Long-term unemployment rate<sup>8</sup></li> </ul>
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 must be omitted entirely when not

<sup>4</sup> 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").

<sup>5</sup> Those who cannot make a decent living out their earnings, being at risk of poverty as a percentage of the working population.

<sup>6</sup> 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.

<sup>7</sup> 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.

<sup>8</sup> Those unemployed for more than one year (52 weeks) in the total number of unemployed (according to the ILO definition).

<sup>9</sup> The data for these indicators are collected from different international institutions and cover up to 178 countries for the time period between 1991 and 2012.

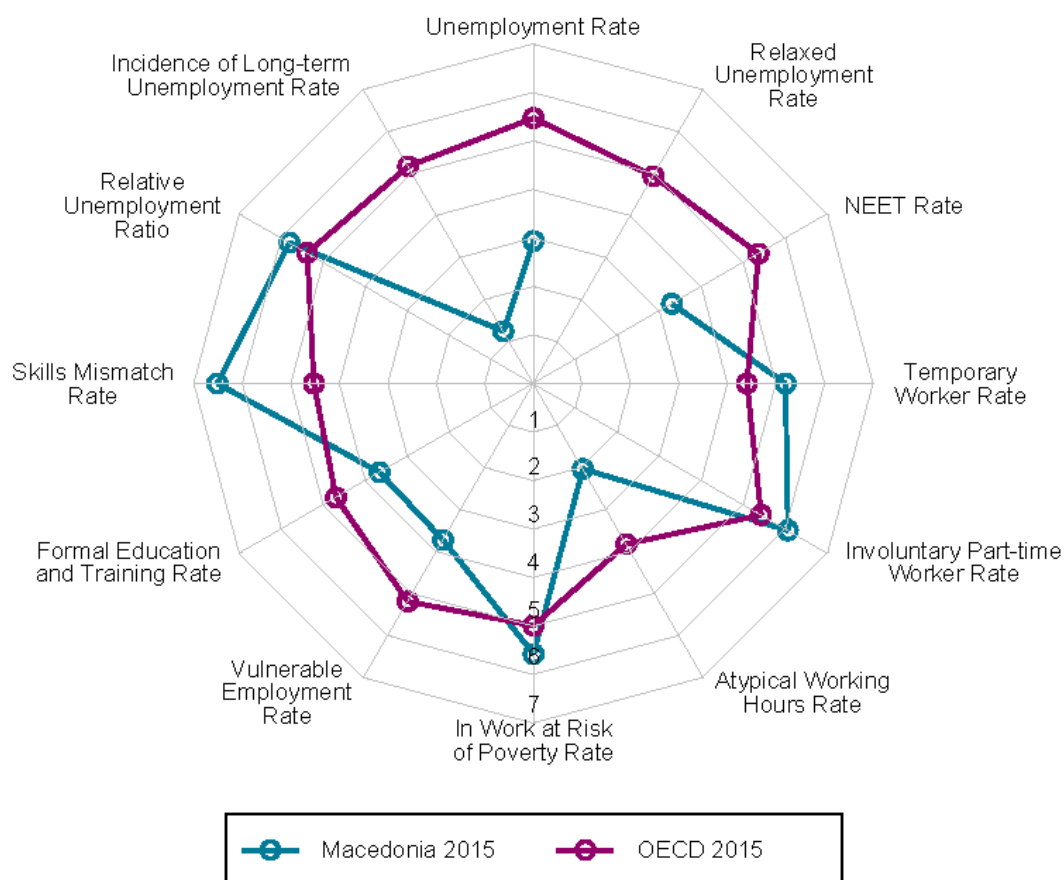
a single indicator for that category exists in a given country. A lack of indicators can make comparisons across certain countries or groups of countries problematic and sometimes even impossible.

### 1.2.3 The KOF Youth Labour Market Index (KOF YLMI) for Macedonia

The data required for the KOF YLMI in Macedonia is available for all indicators except the relaxed unemployment rate. A comparison of Macedonia's index scores to the average scores of the OECD countries can display the evolution and composition of the most recent YLMI developments.

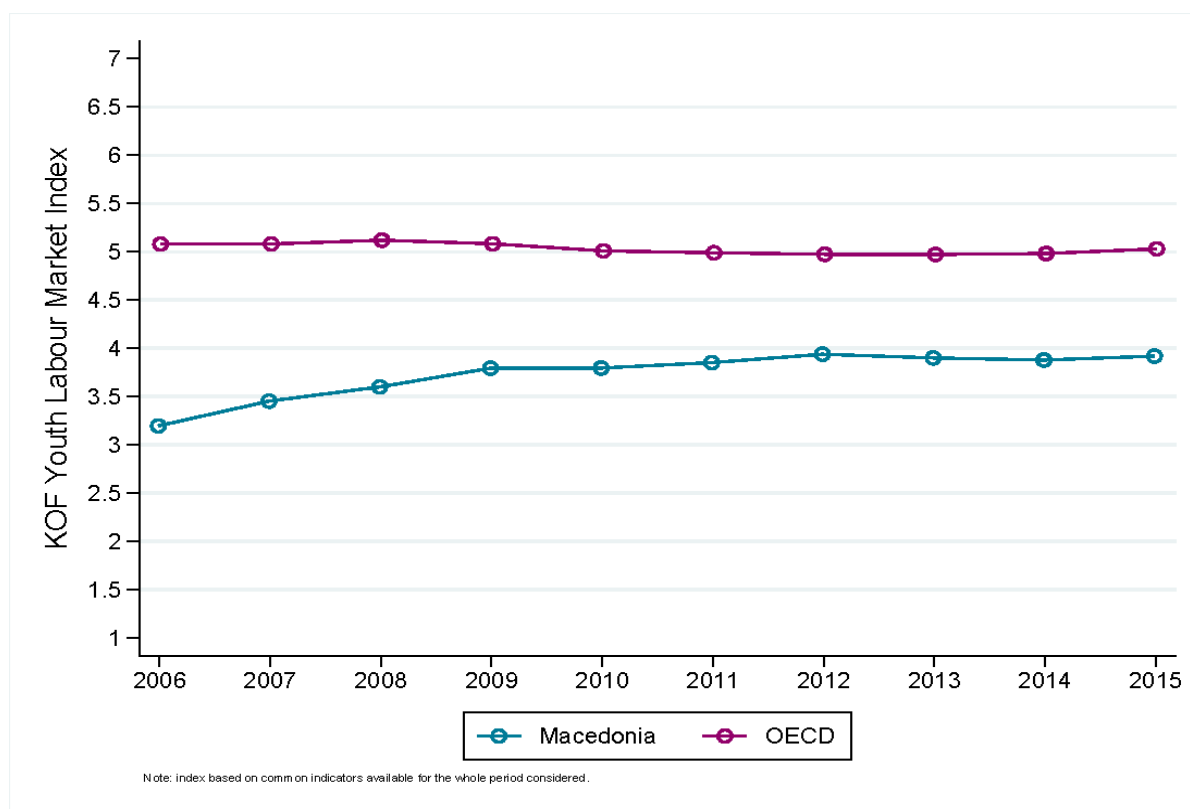
Figure 2 shows the Spiderweb of the KOF YLMI for both Macedonia and the OECD average. Macedonia outperforms the OECD average in terms of the relative unemployment rate, the skills mismatch rate, the temporary worker rate, the involuntary part-time worker rate, and the work at risk of poverty rate. Macedonia reveals weaknesses in the following dimensions: the activity state (unemployment rate, NEET rate), atypical working hours, and the long-term unemployment rate.

**Figure 2: KOF YLM Spiderweb for Macedonia and the OECD 2015**





**Figure 3: YLM-Index Macedonia and OECD, 2006-2015**



(KOF, 2018b).

Figure 3 shows the KOF YLMI in Macedonia from 2006 to 2015. The KOF YLMI for the OECD average has remained stable at 5 index points between 2006 and 2015. In contrast, Macedonia has increased its index value from around 3.2 in 2006 up to almost 4 by 2015. Macedonia's index scores show positive developments, except for a minor decrease between 2012 and 2014. The main driver of improvement is the NEET rate. Macedonia's score on this indicator has been increasing since 2006, which implies a decrease in the rate of youth neither employed nor in education. Decreasing NEET rates are an encouraging sign, but Macedonia's NEET rate is still more than double that of the EU28 (KNOEMA, 2017). Macedonia's KOF YLMI value has increased, due to progress in indicators such as the NEET rate, but still lags far behind the OECD average.

### 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 the understanding of the education system in a broader sense. In the first part, we explain Macedonia'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 Macedonian Political System

According to its Constitution of 1991, Macedonia is organised as a parliamentary republic with separate executive, legislative, and judicial branches. The executive power is shared between the President ("President of the Republic of Macedonia) and the Premier Minister ("President of the Government of the Republic of Macedonia). The President is elected by popular majority vote and can serve a maximum of two five-year terms. However, the Premier Minister is said to hold more executive power (Encyclopaedia Britannica, 2016). While the President is administrating and representing the country internationally, the Premier Minister oversees the government at a national level and is responsible for new policies and regulations (President of the Republic of Macedonia, 2017) (Government of the Republic of Macedonia, 2017).

The legislative branch is formed by the Assembly ("Sobranie") of 120 to 140 representatives (Assembly of the Republic of Macedonia, 2017). Each representative is elected by proportional representation for a term of four years. (ibid.)

The republic is divided into eight statistical regions and 84 municipalities with important social, judicial, and economic functions. The Macedonian population - 2,028,706 people in 2002 and 2,078,453 people in 2015 - consists of people from several different ethnicities (World Bank, 2017b). A national census in 2002 showed that 64 percent (1,297,981 people) of the population refer to themselves as Macedonians, 25 percent (509,083 people) as Albanians, and 3.9 percent (77,959 people) as Turks. The remaining 7 percent identifies as Romani<sup>10</sup> (53,879 people), Serbs (35,939 people), Bosnians (19,571 people; 2,553 self-identified themselves as Muslims), Aromenians<sup>11</sup>, and other ethnicities (State Statistical Office Macedonia, 2005). Ethnic conflicts, which culminated in 2001, were temporarily resolved with the Ohrid agreement. Unfortunately, the wide range of ethnicities, together with differences in religions (Orthodox Christians, Muslims and other persuasions), still accounts for many problems on the political agenda and is currently a major threat to Macedonian stability and peace today (The Economist, 2017). Disputes in 2015 over corruption and wiretapping reinvigorated ethnic clashes and a political crisis turned into a question of ethnicities. The consequential shift in political leadership was accompanied by a rise in nationalist parties and a return to fights and

---

<sup>10</sup> "The official figure for Roma is almost certainly well below the real figure, with other sources, including the Roma community, European Roma Rights Centre and the World Bank, estimating the Roma population between 80,000 and 135,000." (Minority Rights Group International, 2017)

<sup>11</sup> "**Vlach**, also spelled Vlah, autonyms Armân and Râmân, also called Aromanian, Macedoromanian, and Macedo-Vlach, any of a group of Romance-language speakers who live south of the Danube in what are now southern Albania, northern Greece, the Republic of Macedonia, and southwestern Bulgaria. Vlach is the English-language term used to describe such an individual. The majority of Vlachs speak Aromanian, but inhabitants of a few villages on both sides of the border between Greece and southeastern Macedonia speak Meglenoromanian and call themselves Vla (plural Vlaš). There is also a Vlach diaspora in other European countries, especially Romania, as well as in North America and Australia." (Encyclopaedia Britannica, 2016)

heavy disputes in parliament. The involvement of influential external actors<sup>12</sup> that support different parties and political ideas does not stimulate mutual understanding and political stability (Euractive, 2017).

According to the World Bank, Macedonia faces weaknesses in the following Worldwide Governance Indicators: “Voice and Accountability” and “Political Stability and Absence of Violence”. “Regulatory Quality” stands out as a relative strength, while Macedonia’s performance in “Government Effectiveness”, “Rule of Law”, and “Control of Corruption” is only average. Similar to its neighbouring country Serbia, Macedonia’s indicator scores rank far behind those of the OECD (Kaufmann & Kraay, 2015).

In 2016, the Democracy Index provided by the Economist Intelligence Unit (EIU) ranked Macedonia 95<sup>th</sup> out of 167 countries. This ranking has declined since 2014, when Macedonia was ranked 72<sup>nd</sup>. In addition, the EIU categorized Macedonia as a “flawed democracy” in 2014 and a “hybrid regime” in the most recent report. Unsurprisingly, the “functioning of the government” indicator eroded in recent years, relating to Macedonia’s political instability and problems with corruption (Economist, 2017).

The same problems are evident in the 2016 Corruption Perceptions Index. Macedonia deteriorated to rank 90<sup>th</sup> of 176 countries, thereby falling behind the 50<sup>th</sup> percentile rank (Transparency International, 2017). Conflicts between President Ivanov and the opposition party of the Social Democrats (The Economist, 2017), along with leaked wiretaps proving corruption (The Economist, 2016), partially explain the worsened country score in the formerly mentioned indices. These incidents resulted in countrywide demonstrations and resurfaced the discussion concerning Macedonia’s Albanian minority.

### **1.3.2 Politics and Goals of the Education System**

The Ministry of Education and Science (MES) is responsible for all issues concerning the education system (UNESCO-IBE, 2011). As the result of substantial disputes over education and minority representation in Macedonia, the Ohrid-Agreements decentralized the operation of education and curricula to the municipal level in 2001 (Fontana, 2017, S. 103). The official education strategy from 2005-2015 was prioritizing ‘education for all’. Within this framework was the goal of inclusion of all ethnicities in education and a more decentralized organisation of the education system, leading to a better understanding and inclusion of minorities (Ministry of Education and Science, 2004).

---

<sup>12</sup> The European Union and many of its members, which support a new coalition between Macedonian socialists and an Albanian minority party, clash with the Russian support for nationalist parties (opposing Albanian minority demands) who claim that Western countries want to create a Greater Albania to destroy Macedonia.

Pursuing these goals, Macedonia currently faces new problems concerning education. Contrary to its initial focus on inclusion, peace and a national understanding of a Macedonian identity, the decentralization generated huge gaps and differences in education between the Macedonian and other ethnicities within the population (Fontana, 2017).

Education in Macedonia has the potential to foster mutual understanding and acceptance of the differences between cultures that were misleadingly interpreted, and therefore neglected, in the implementation of the last education strategy (Schenker, 2011). In some primary and secondary schools, classes are or were<sup>13</sup> held in shifts and in different languages: either Macedonian, Albanian, Turkish or Serbian. Consequently, there is little or no room for interaction between students from different ethnic groups (Koneska, 2012). Rather than being invigorated, the national Macedonian identity was driven further apart into separate ethnic groups with parallel education systems of diverging quality (Schenker, 2011).

The current education strategy attempts to tackle these new issues. The MES has begun elaborating curricula and has devised a plan that addresses the problems of differences in education. (Ministry of Education and Science, 2017a). Quality control in education is now a top priority as the MES manages proceedings more at the municipal level with its Strategic Plan 2017-2019. (Ministry of Education and Science, 2017b). The second priority is the modernization of the education and science systems in order to provide competencies needed for the labour market and economic development (ibid.). Together with a wider use of modern information and communications technologies (the third priority), the MES hopes to approach European standards, generate acceptance for differences in ethnicities, and fulfil, as a long-term strategy, EU educational requirements (ibid.). Macedonia became a candidate for the European Union in 2005. In order to show commitment towards a European Union membership and values, Macedonia must work towards achieving certain structural reforms and EU educational guidelines. Although most current reforms work towards European harmonization<sup>14</sup>, Macedonia has a long way to go until EU accession. Due to political crises and instabilities in both Macedonia and the EU, both parties involved must focus on tackling their own political issues prior to forming new, long-lasting partnerships. (Charlemagne, 2017)

Mojsoska-Blazevski and Ristovska (2013) state: “The education system in the Former Yugoslav Republic of Macedonia including VET has undergone significant changes during the last two decades [e.g. compulsory upper secondary education, Amendments to the laws of educations]. However, the VET sector is one of the public policy fields where reforms are difficult to implement [...]”

---

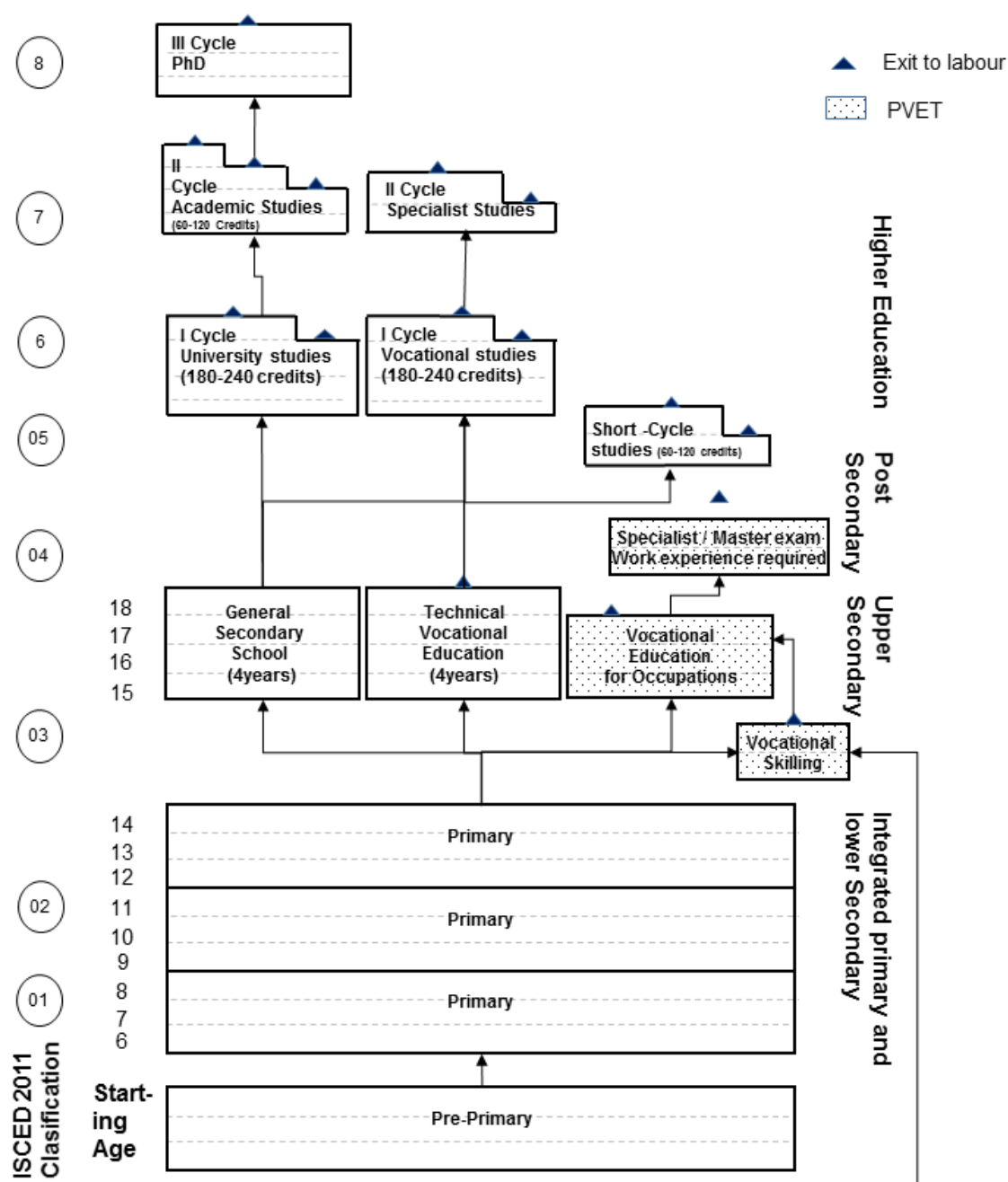
<sup>13</sup> The author is unaware of the current situation.

<sup>14</sup> They mostly depend on technical or financial assistance from the European Union and its members.

## **2. Formal System of Education**

Figure 4 shows the Macedonian education system according to the International Standard Classification of Education (ISCED) 2011. Compulsory education starts with primary school at the age of six and lasts until the end of secondary education at age 17, 18 or 19, depending on the chosen educational path (Eurydice, 2016a). Pre-primary education is not compulsory and has programs for children and babies based on age. Pre-primary education initially provides care for children younger than 12 months, and preparatory classes for those aged five or six. Primary school is structured in three cycles and integrates the ISCED levels 1 and 2 (primary and lower secondary education). The term 'integrated primary school' will refer to both primary and lower secondary school. After completing primary school, students have several opportunities. The student can choose either a vocational or a general education path. Vocational education is provided in three different programs for two, three or four years. General secondary education lasts four years and provides access to higher education institutions. Until the completion of secondary school, education in Macedonia is free and compulsory in publicly provided schools. Private education is also provided but is rather uncommon (Macedonia has only 16 private secondary schools). Formal academic education takes place at higher education institutions and is structured in three cycles - undergraduate, graduate, and doctoral studies. Higher vocational education is structured in two cycles: the first cycle lasts either one, two or three years, while the second cycle lasts one or one-and-a-half years and leads to a qualification as a specialist. (Eurydice, 2016a; UNESCO-IBE, 2011).

**Figure 4: ISCED 2011 Mapping of Macedonia's Education System**



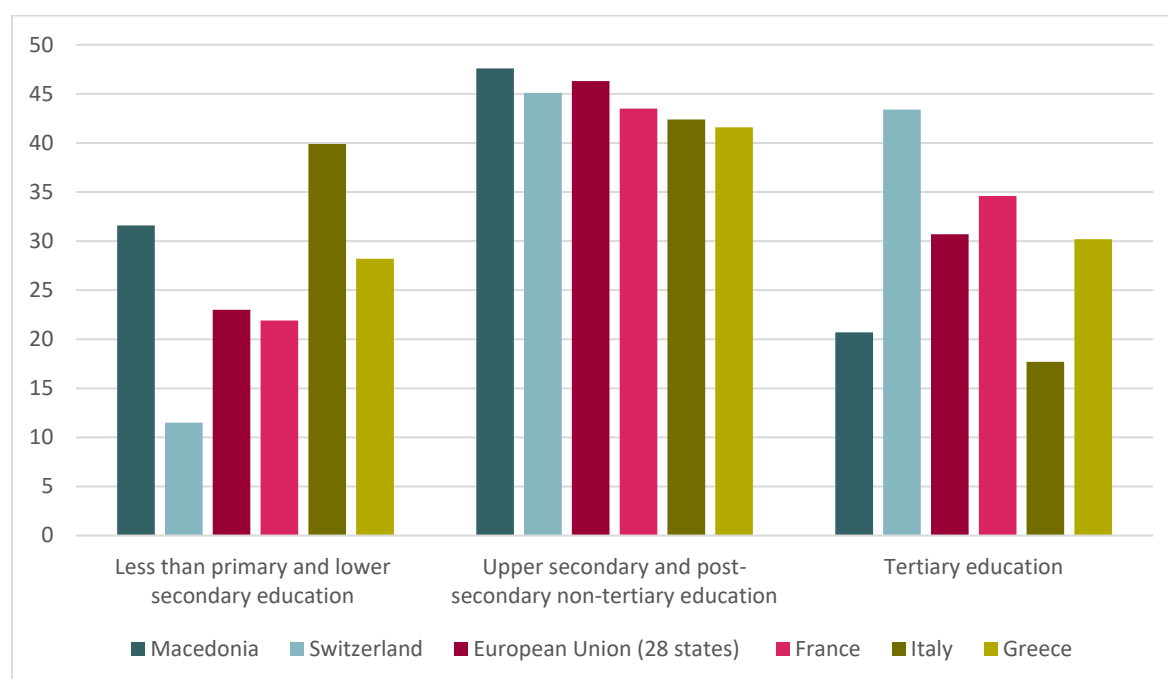
Source: Own illustration based on Eurydice (2016a), Ministry of Education and Science (2014) and the ETF (2015).

**Table 4: Enrolment (number) and gross enrolment ratio 2015**

Educational level	Enrolment	Gross enrolment ratio
Pre-primary education	24,031	36
Integrated Primary (ISCED primary and lower secondary)	193,747	88
Primary education	108,827	93
Lower Secondary education	84,920	83
Upper secondary education	84,047	76
of which: general	34,038	-
of which: vocational	50,009	-
Tertiary education	63,543	42
Bachelor or equivalent	59 359	-
Master or equivalent	3 891	-
Doctoral or equivalent	293	-

Data Source: <http://data.uis.unesco.org/>.

**Figure 5: Population by educational attainment level, aged 25-64 (in %)**



Source: (Eurostat, 2017).

## 2.1 Pre-Primary Education

Pre-Primary Education in Macedonia includes all child-care and education institutions for children aged eight months up to the compulsory school age of six years (Eurydice, 2016a). Care and education are organised and provided by both public and private institutions, in

kindergartens and in centres for early-childhood development. The gross enrolment rate for pre-primary education programs is 36 percent, as shown in Table 4. Of those children enrolled at a pre-primary program, only 2 percent visited a private provider in 2015 (UNESCO, 2017).

Attendance of pre-primary education is voluntary. Classes are organized according to age: younger than 12 months, 12 – 18 months, 18 months – 2 years, 2 – 3 years, 3 – 4 years, 4 – 5 years and a final preparatory year for those age 5 – 6 years. Pre-primary institutions offer full day, half day and short programs (lasting 260 – 600 hours annually) (Eurydice, 2016a).

The responsibility for operating pre-primary educational institutions often lies with the municipalities and the central government (specifically the Ministry of Education and Science and the Ministry of Labour and Social Policy). However, any natural person or legal entity can provide childcare in accordance to the 2013 Child Protection law (ibid.).

## **2.2 Primary and Lower Secondary Education**

Macedonia's education system combines ISCED primary and lower secondary education in so-called "primary schools" or "integrated primary schools". Attending the nine-year long primary school program is compulsory for all children ages 6 to 15. As seen in Table 4, the gross enrolment ratio for primary schools in Macedonia is 88 percent (combined ISCED primary and lower secondary). Primary school is segmented into three three-year cycles, of which the first two (ISCED Primary level) are conducted as classroom-based teaching (where students remain in a single room) and the final cycle (ISCED lower secondary level) is conducted as subject-based teaching (where students move to different classrooms to attend different subjects) (Eurydice, 2016a; UNESCO-IBE, 2011).

The Bureau for Development of Education (BDE), a body within the MES, develops primary school curricula at a national level. However, the responsibility for primary schools remains at the municipal level<sup>15</sup>. Every municipality in Macedonia is obliged to grant access to free primary schools and free transportation for students living further than two kilometres away from school. For the 2016/2017 school year, 993 primary schools were registered in Macedonia (State Statistical Office, 2017). Primary schools are either single schools or branch schools, affiliated with the central single schools. Single/central schools are larger and offer all nine grades, while branch schools, usually located in smaller villages, have lower enrolment and only offer lower grades (Eurydice, 2016a).

---

<sup>15</sup> For regular education. Education for special needs and other form of peculiar education can stand under regulatory supervision and authority of the MES (i.e. centrally controlled).



Schools internally monitor students and conduct assessments. An end-of-school exam takes place at the end of each teaching year during the last three years of primary school (ISCED lower secondary level). Students who fail an exam once can repeat it in the summer break, while students who fail an exam a second time must repeat the entire grade. (Ministry of Education and Science, 2014; Eurydice, 2016a).

There are no private providers of primary education. Within the public schools, the language of instruction is still a point of contention. The constitution of the Republic of Macedonia and the law on primary education guarantee the right to education in the native language of ethnic minorities. Therefore, the language of instruction in primary schools is not limited to Macedonian but can be Albanian, Turkish, and Serbian (Eurydice, 2016a).

### **2.3 Upper Secondary Education**

After the completion of primary school, Macedonian students have the choice between two education programs: vocational and general education (including art education as a special option). While the general education program lasts four years, the vocational program lasts either three or four years. Only the general education program and the four-year vocational program grant access to higher education. In addition to these two options, students can enrol in a vocational program that lasts two years. Enrolment in the two-year program is also possible without completing primary school.

As shown in Table 4, 76 percent of students were enrolled in upper secondary education in 2015. Sixty percent of these enrolled students attended a vocational program, while the other 40 percent attended a general education program (UNESCO, 2017). Upper secondary education is compulsory and free at public institutions until the age of 17, 18 or 19 years, depending on the chosen educational path (Eurydice, 2016a).

Most students at the upper secondary level enrol in the four-year vocational program: 55.3 percent (42,241 students) in the 2016/2017 school year (State Statistical Office, 2017). These students must choose one major vocational subject out of the 14 offered (Eurydice, 2016a). The range of subjects is wide and includes, but is not limited to, agriculture and veterinary medicine; chemical engineering; textile and leather; and travel, tourism, hotel and catering services (Eurydice, 2016a). After completion of the last school year, students can choose between the state Matura, which grants access to tertiary level education programs, and the final exam, which provides access to the labour market. (ibid.)

The three-year vocational path is less popular: only 4 percent (3,053 students) of all students at the upper secondary education level enrolled in this program during the 2016/17 school year

(ibid.). In contrast to the four-year program, the three-year program only grants access to the labour market (ibid.)

Vocational Skilling, a programming lasting up to two years, is a path that grants lateral access to education for people with or without having completed primary education. It provides training in order to qualify and prepare workers with lower requirements for different areas of the labour market (Ministry of Education and Science, 2014) Between 2012-2014 there was no enrolment in this education type, according to the ETF (2015, S. 8). According to Eurydice, the two-year program ends in an examination, which facilitates continuation<sup>16</sup> to vocational education for occupations, technical education or provides entry to labour markets. The same source (Eurydice, 2016a) states that reforms concerning two-year VET have not been implemented since 1989, although a new Concept for Vocational Skilling was developed. However, this information is contradictory to other findings. The current situation, especially whether the new Concept for Vocational Skilling has been implemented and encouraged new participants, remains opaque to the author, but further detail will be given in Section 3.1.

The general education program prepares students for higher educational institutes. There are four general education components: 1) compulsory subjects, 2) elective subjects, 3) compulsory elective programmes, and 4) project activities. Compulsory subjects are the same for everyone and account for 80 percent of the syllabus. Elective subjects provide further theoretical knowledge in the field of students' interest, be it in literature and arts, social humanities or natural sciences and mathematics. Compulsory elective programs include sports and recreation, music and visual arts. Project activities are designed to meet students' individual interests (including but not limited to: peace, tolerance and protection, civic culture, science, maths, music, urban culture, and sports) (Bureau for Development of Education, 2017b).

Enrolment at the high school level (called "gymnasium", at the upper secondary education level) for the school year 2016/2017 is shown in Table 5.

---

<sup>16</sup> Under special conditions.

**Table 5: Gymnasium Enrolment 2016/2017**

Gymnasium Education (No specification)	Philological gymnasium (Literature and arts)	Gymnasium of natural sciences and mathematics (natural sciences and mathematics)	General gymnasium (social sciences)
14,327 (46%) <sup>17</sup>	1,233 (4%)	5,325 (17%)	10,215 (33%)

Source: (State Statistical Office, 2017).

Only 6.2 percent of the students enrolled in a gymnasium attend private institutions. In 2015/2016, there were 117 gymnasia, of which 15 were private (ibid.). Gymnasia end with either a State or School Matura. State Matura allows entry into higher education while the School Matura allows entry into the labour market. (Eurydice, 2016a)

## 2.4 Postsecondary, non-tertiary

Non-tertiary postsecondary education is available in one or two-year programs, which lead to the specialisation certificate or so-called Master exam<sup>18</sup>. Macedonia adopted a new concept for post-secondary education in 2010. It superseded the law established in 1989 that did not include a comparable education tier for postsecondary VET (Ministry of Education and Science, 2010). In 2013, 340 students enrolled in this program (UNESCO, 2017). In the succeeding two years, enrolment decreased to 303 and then 223 students, respectively (ibid.). The Master exam offers different specialisations in technology, supervision, and other autonomous profiles (Eurydice, 2016a).

Admission to the program is conditional on completion of secondary education and encourages students to gain work experience in the respective field before starting the specialisation. According to the Law on Vocational Education and Training<sup>19</sup>, the Centre for Vocational Education develops curricula for these programs, but still requires approval of the MES. The curricula for the Master programmes need further approval by the chamber of the respective craft. Private and public institutions provided classes. The program is financed either by the students themselves, the employer, by funds provided by employment agencies, or by other governmental means that fall under the category of active labour market policies (Ministry of Education and Science, 2010).

<sup>17</sup> Percentage of total Gymnasia enrolment.

<sup>18</sup> Similar to the "Meisterprüfung" in Switzerland (see: <http://bit.ly/2sWDcUE> chapter 3.2)

<sup>19</sup> Article 24-29 are concerning post-secondary education and training (Law on Vocational Education and Training, 2015)

## 2.5 Higher Education

Since September 2003, the Republic of Macedonia committed to the Bologna Process and the shared determination for creating a common European Area of Higher Education. In line with this commitment, throughout 2005-2015, the strategy for the development of education lead to the implementation and development of the following measures:

- The adoption of a system of easily recognisable and comparable degrees, and introduction of a diploma of supplement,
- Adoption of a three-cycle system (undergraduate, graduate, and doctoral studies),
- Introduction of ECTS credit system,
- Promotion of mobility,
- Promotion of the European collaboration in quality assurance,
- Promotion of the necessary European dimension in higher education (subject syllabi, inter-institutional cooperation etc.),
- Lifelong learning: continuous learning during the whole life for the purpose of perfecting, supplementing, deepening and modernizing knowledge.
- Inclusion of students as partners in the process of building the European Higher Education Area
- Increase of the attractiveness and competitiveness of the European Higher Education Area towards countries outside the Area.
- Doctoral studies and synergy between the European Higher Education Area and the European Research Area; strengthening the role of research and capacity building for research and promotion of inter-disciplinarily. (Eurydice, 2016a)

Higher education in Macedonia is yet to be fully established. Since 2008, the law on higher education saw 21 changes or amendments (Ministry of Education and Science, 2016a).

Higher education is held at universities (public and private) and higher vocational schools. Higher education institutions within the universities are the faculties, art academies and higher vocational schools. However, vocational schools may be established as independent higher schools or within universities (Ministry of Education and Science, 2016a). Access to higher education is granted to students who successfully wrote the state Matura at the end of secondary education (coming from a four-year gymnasium or four-year vocational school). Gross enrolment in higher education was 42 percent in 2015, as shown in Table 4.

In the academic year 2015/2016, there were three higher vocational education schools (State Statistical Office, 2017) and 126 university faculties in 21 universities. Universities are either public, private-public or private institutions.

Enrolment in first cycle vocational and academic education can be found in Table 6.

**Table 6: Enrolment in first Cycle tertiary 2015/2016 (Absolute Numbers and % of total)**

	<b>University Academic/professional studies.</b>	<b>Higher vocational school</b>	<b>Σ</b>
<b>Public</b>	51535 (86.1%)	694 (1.2%)	<b>52229 (87.2%)</b>
<b>Private</b>	7361 (12.3%)	275 (0.5%)	<b>7636 (12.8%)</b>
<b>Σ</b>	<b>58,896 (98.4%)</b>	<b>969 (1.6%)</b>	<b>59,865</b>

Source: (State Statistical Office, 2017).

Public higher vocational schools exclusively provide education in medical sciences, while private higher vocational schools offer business, operation management, journalism and public relations as subjects. Professional and academic studies within first cycle education programs span a wide range of subjects, from natural sciences, mathematics, and biotechnical sciences to humanities and arts (State Statistical Office, 2017).

Within the new three-cycle system, the European standard suggests a three years – two years – three years distribution. Before, many of the programs lasted for more than three years, and many Macedonian universities struggled to fit their first cycle of curriculum into three years (Vujacic, Djordjevic, Kovacevic, & Sunderic, 2013).

Second and third cycle studies are less popular, as the latest enrolment data shows: In 2015/2016, about 3,034 students were enrolled in an academic second cycle postgraduate master's certificate program. A comparison to the 59,865 students in first cycle studies (2015/2016) provides a static<sup>20</sup> proxy for a transition rate of around 5 percent.

About 41 percent of all master's students are enrolled in a private university/faculty. Fewer students are enrolled in doctoral studies: 428 in the year 2015/2016. Postgraduate professional studies enrolled 287 people in the academic year 2015/2016. Of these, 45.3 percent were enrolled at a private tertiary institution (State Statistical Office, 2017).

The Law on Higher Education grants universities and other institutes of higher education both, autonomy and academic freedom. This includes the freedom of studies, the establishment of rules of study, forms and types of teaching and educational activities and the testing of student knowledge (Ministry of Education and Science, 2016a).

---

<sup>20</sup> The author is unaware of conducted tracer studies on tertiary level.

## **2.6 Continuing Education (Adult Education)**

The development of the education system after Macedonia's independence in 1991 initially disregarded adult education in favour of a focus on primary and secondary education for younger generations. Within the 2005-2015 national program for development of education strategy, adult education became a greater concern. With the help of the European "lifelong learning" concept, the strategy comprised a concept for integrating adults within the education system and aiming to provide "equal opportunities for all people to obtain quality education and to acquire certain knowledge, skills and competences." (Eurydice, 2016a)

The law on adult education was last amended in 2016 and categorizes adult education into formal and non-formal education. Formal adult education means an activity carried out under the laws regulating the actions within primary, secondary, and higher education. It includes basic adult education (equivalent to primary education), secondary education for adults, vocational training, vocational education for occupations, technical education, post-secondary education (together with retraining and further qualifications), and higher adult education (Eurydice, 2016a). Formal adult education is structured the same way as formal non-adult education. Non-formal adult education constitutes organized learning processes aimed at training adults for work, various social activities or personal development (Ministry of Education and Science, 2016b). There is a large amount of education and training in non-formal adult education that has been conducted, as means of active labour market policies. These activities are all administered by the MoLSP with the help of the Employment Service Agency (ESA) (Ministry of Education and Science, 2016c).

The Ministry of Education and Science, the Ministry of Labour, the Council for Adult Education, local self-government units and social partners are responsible for adult education. The following list provides detail of these bodies and entities:

- The government as advisory state body addressing strategic questions related to adult education policy established the Council for Adult Education. For example, it proposes curricula and syllabi or proposes national qualifications and standards of occupations to the MES. It consists of 13 members from a wide range of backgrounds (Members of e.g.: MES, MoLSP, Bureau of Development of Education, Centre for Vocational Education and Training, Economic Chamber of Macedonia, Chamber of Craftsmen of Macedonia etc.).
- The Ministry of Education and Science monitors the implementation and conduction of adult education (Registers all adult education institutions, verification of institutions, financial administration and support, syllabi and curricula)

- The Ministry of Labour and Social Policy is a stakeholder in adult education by interference in the provision of vocational qualifications by standards of occupations and through general labour market analyses.
- Local authorities, due to decentralisation, are involved and share competencies in adult education. They mainly provide analyses and expertise of the current labour market situation and possible mismatches and are thereby closest to the impact of adult education.

(Eurydice, 2016a; Ministry of Education and Science, 2016b)

## **2.7 Teacher Education**

Teachers in Macedonia are required to have a first cycle higher education degree in the appropriate subject, obtained after at least four years of university education. Besides subject matter content, this education comprises pedagogy and psychology. Part of the teacher education is practical classroom experience but also an induction period of twelve months where the teacher acquires practical experience under the guidance of a mentor. The practical experience teachers gain during the pre-service teacher education is stated as being insufficient, according to the authors of recent studies on the field of teacher education in Macedonia (Mickovska, Mitkovska, Georgieva, Stamboliev, & Reci, 2013). Further challenges become evident with only 40 percent of schools considering that novice teachers are ready or almost ready to teach immediately after being employed. The university programs are said to be too theoretical by not allowing students to acquire sufficient practical experience (ibid.).

Care for pre-school age children, according to the Law on Child Protection, has to be provided by professional support service staff (pedagogues, psychologists, social workers, speech therapist etc.), pre-school teachers, caregivers and professional associates (music pedagogues, PE teachers, etc.). A higher educational degree with 240 credits of qualifications and a valid professional support service staff licence are mandatory for these providers of education. Future teachers can enrol in programs, either at pedagogical faculties, faculties of educational sciences or institutes of pedagogy, which provide the same or very similar curricula (Eurydice, 2016a).

To address this issue and improve the overall quality of teacher education, the USAID-supported project for teacher career and professional development is proposing a system for professional development and advancement of teachers, focusing on teacher competency standards, and the administrative, legal and financial requirements necessary to be introduced for the system to become operational. In the last 20 years, other donors have supported projects for improving the quality, relevance of, and access to education, most of them

involving significant components of teacher in-service training / professional development. Among them are the World Bank, USAID, the Open Society Institute, the Step by Step Foundation, UNICEF, bilateral donors, etc. (ibid.).

### 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 system (PET) 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.

**Table 7: Summary statistics of the Macedonian VET system**

VET pathway enrollment share out of all upper secondary (%)	59.5%
Program enrollment share out of all VET pathway (%)	4Y-VET: 93.2 percent 3Y-VET: 6.8 percent.
Number of curricula/qualifications	52 occupational standards for 13 professional fields in 4Y-VET and 36 profiles for 3Y-VET
Ø Share of time spent in workplace (vs. classroom)	Practical training should be conducted in cooperation with companies, meaning that up to around 20 percent of time is spent in companies.
Work contract (Yes/No)	No.
Ø Share of vocation-specific content (vs. general) in classroom education	30 percent vocational theoretical subjects and 20 percent practical training vs. 50 percent general subjects.
Classroom/workplace sequencing (Alternating, Sequentially)	No information on sequencing of practical training.
Frequency of workplace learning (Annually, Semi-annually, quarterly, monthly, weekly)	No information on frequency of practical training.
Program duration (Years)	Between two and four years, depending on the pathway
Involved Actors	School, student
Reform Years	Amendment of VET Law in 2013
Reforms Summary	New occupational standards were designed and generally, modularised programmes were introduced. Amendment of VET Law: occupational standards and students assessment.

Source: own compilation.



### **3.1 Vocational Education and Training**

#### **3.1.1 Vocational Education and Training (VET; Upper Secondary Education Level)**

VET is the most popular educational path chosen in Macedonia: 60 percent of all students in upper secondary education were enrolled in the VET system in 2015. These students are either enrolled in a three-year, four-year or two-year VET program. (Ministry of Education and Science, 2016c).

- **Four Year Technical Education (4Y-VET)**

The four-year VET program (4Y-VET) prepares students for the labour market and for a continuation of their studies at the tertiary level. There are 52 educational profiles structured within 14 different sectors.<sup>21</sup> Completion of primary education is necessary for admission, which means that the students are usually 14 years old when enrolling. In 2016/2017, there were almost 10,000 new first year students enrolled in the 4Y-VET. They chose “economics, law and trade” as the most popular profession (24 percent enrolment in this sector) followed by “healthcare / health” (23 percent enrolment in this sector), together amounting to approximately half of the new students (State Statistical Office, 2017). Other popular sectors are electrical engineering (14 percent) and mechanical engineering (8 percent) (ibid.).

After completion of the fourth year program, students can opt for the State Matura or the Final Exam. The former enables the admission to higher education. The latter is for students choosing not to continue education in higher education institutes and grants a certificate of completion of the 4Y-VET. Both exams consist of a compulsory part, an elective part and a project task that tests practical skills (Bureau for Development of Education, 2008).

So far, there is little analysis and data on the paths of 4Y-VET graduates or VET graduates in general. According to the ETF (2015), tracer studies will be implemented beginning with graduates from 2016 onwards. The same source (2015) concludes from indicative data that approximately 60 percent of 4Y-VET graduates choose to continue their education in higher education. Other studies show contradictory findings: the ETF (2017, S. 3) estimates that about 90 percent of students who finished vocational education enrolled in higher education in 2014/2015. Given this big variance, the 4Y-VET still prepares the majority of students for

---

<sup>21</sup> 1. Geology, Mining and Metallurgy; 2. Civic Engineering and Geodesy; 3. Graphic Industry; 4. Economy, Law and Trade; 5. Electrical Engineering; 6. Healthcare and Social Protection; 7. Agriculture, Fishing and Veterinary Medicine; 8. Personal Services; 9. Mechanical Engineering; 10. Traffic, Transport and Storage; 11. Textile, Leather and Similar Products; 12. Food Service Industry and Tourism; 13. Chemistry and Technology; 14. Forestry and Wood Processing; 15. Sports and Recreation; 16. Arts. (Sports and Recreation together with Arts are non-eligible Subjects for Technical four-year education.) (Ministry of Education and Science, 2016c)

university rather than for a direct entry into the labour market. The consensus in recent studies is that practical skills in the chosen vocational field are not crucial for the completion of 4Y-VET (Maurer & Karangeleski, 2016, S. 8).

The official 4Y-VET curricula<sup>22</sup> can be divided into the following four components:

- around 50 percent General Education
- 21-35 percent Professional Education
- 8-22 percent Practical Training
- 5-7 percent Elective Subjects

The exact distribution of subjects and classes varies between sectors and professions (Bureau for Development of Education, 2017). The curriculum for general education is developed by the BDE, whereas vocational subjects fall under the responsibility of the Centre for Vocational Education and Training (Eurydice, 2016a).

The 4Y-VET is the most popular chosen education path at the upper secondary level. In 2016/2017, 94 percent of students in VET programs enrolled in the 4Y-VET (State Statistical Office, 2017). This results in 55.3 percent of all upper secondary educations. Despite these high enrolment rates, parents and students are stated to see 4Y-VET as a second best choice to gain access to higher education. According to an analysis conducted by Mojsoska-Blazevski & Ristovska (2013, S. 11) there is: "greater pressure for places in general secondary schools but because of their limited capacity (and quota) students that fail to enrol in those schools (due to low prior performance) end up studying in VET schools." In addition, the same authors mention that some students see VET schools as the only viable choice, given constraints due to financial situations and/or accessibility of alternatives (Mojsoska-Blazevski & Ristovska, 2013).

Compared to the Swiss system, the 4Y-VET is closer to general education than a Swiss dual VET system. It involves practical training and vocational subjects, but the majority of analyses (e.g. ETF (2015)) state the labour market preparation to be unsatisfactory after completion of 4Y-VET program. Students willing to enter the labour market face high youth unemployment rates, which indicates that their skills do not match labour market needs, i.e. that there may be a skills mismatch. This becomes evident with a study by the World Bank (2010, S. 7). Their analysis states that the dominant reason for employers having difficulties recruiting workers is the workers' a lack of required skills. In the study, 60 percent of all interviewed companies state that job applicants lack the required skills. This skill mismatch analysis was conducted on a

---

<sup>22</sup> Recent curricula for the year 2017/2018

general level and does not provide specific information for 4Y-VET. However, given the large share of students enrolled in 4Y-VET program, this sheds a poor light on its quality. The World Bank (2014b, S. 9) later concludes that 42 percent of unemployed are people who completed a four-year<sup>23</sup> upper secondary education. In response, the World Bank launched a project in January 2014 partially dedicated to the improvement and modernization of the 4Y-VET. Unfortunately, the recent implementation status and the results report shows that reform in Macedonia's 4Y-VET is difficult to achieve and progress in terms of quality improvement is small (World Bank, 2017c).

- **Three Year Vocational Education for Occupations (3Y-VET)**

Vocational Education for Occupations is a three-year program that is meant to equip students with the skills necessary to enter the labour market. Students can choose between 12 different occupational sectors<sup>24</sup> and 36 different educational profiles (Eurydice, 2016a).<sup>25</sup> All students with completed primary school are eligible for this educational path and can enrol in one of 45 public vocational schools providing 3Y-VET (ibid.).

Enrolment in 3Y-VET is low: Between 2015 and 2017, it never exceeded 4 percent of total upper secondary students; there are 3,053 students currently enrolled in a 3Y-VET program for the school year 2016/2017 (State Statistical Office, 2017). Enrolment is on a constant decline in recent years. Within ten years, the number of 3Y-VET students more than halved, with 7,052 students enrolled in 2007 (Ministry of Education and Science, 2013, S. 23). Currently, around 75 percent of students are enrolled in three sectors: mechanical engineering (e.g. car mechanics), personal services (e.g. hairdresser) and the food service industry and tourism (e.g. chef) (ibid.). To finish their education, students must pass a final exam. Upon successful completion of the exam, they will be granted a Diploma (Ministry of Education and Science, 2016c). The final assessment is split into a theoretical and a practical part. The theoretical part is tested internally at the schools, whereas the practical part is tested in front of a commission of teachers and employers, delegated by the respective chambers of the profession.

---

<sup>23</sup> Not specifying whether 4Y-VET or four-year gymnasium education.

<sup>24</sup> Sectors: Geology, Mining and Metallurgy; Graphic Industry; Economy, Law and Trade; Electrical Engineering; Agriculture, Fishing and Veterinary Medicine; Personal Services; Mechanical Engineering; Traffic, Transport and Storage; Textile, Leather and Similar Products; Food Service Industry and Tourism; Chemistry and Technology; Forestry and Wood Processing.

<sup>25</sup> The stated 36 education profiles are contradictory to only 17 different profiles with curricula for vocational education for occupations provided by the Bureau for Development of Education (Bureau for Development of Education, 2017b)

Completion of 3Y-VET program grants access to the labour market and facilitates the transition to the last year of 4Y-VET (Ministry of Education and Science, 2016c).<sup>26</sup> Whether this transitory option is used remains unclear to the author as data concerning this option is not available.

3Y-VET also grants access to post-secondary education, namely the specialist or master qualification paths. The recently developed NQF does not imply major reforms to 3Y-VET but tries to tackle previously experienced problems within the 3Y-VET. For example, in 2012 the German Society for International cooperation (GIZ<sup>27</sup>) tried to reform the 3Y-VET and implemented dual VET program in eight schools as a pilot project. However, their conclusion was not encouraging: “So far, such reform is not possible on a broader scale (except in the pilot schools) due to a lack of qualified teachers, equipment, links with the industry and the required resources.” (Mojsoska-Blazevski & Ristovska, 2013). Other analysts concluded that the implementation of work placements in these eight schools have: “completely crowded out available placements” (Nielsen, 2013). Still, over the years 2011-2013, within the EU Twinning project, thirteen 2Y-VET and 3Y-VET curricula were reformed based on occupational standards (ARS Progetti & Archi-data SRL, 2014). This reform, according to the ETF (2015, S. 26), can serve as an example of good practice, with all the new programmes being implemented without delay in the following academic year.

Within the later established NQF, special emphasis is put on the design of curriculum, qualification standards and occupational standard that will hopefully tackle the poor quality of 3Y-VET (Ministry of Education and Science, 2016c, S. 29-30).

The official curricula, for the year 2016/2017, are structured as follows:

- 40-45 percent General Education
- 20 percent Professional Education
- 35-40 percent Practical Classes

Practical classes are twofold: While a majority of them take place in schools, students are obliged to participate in two work placements of 10-20 days each, according to curricula provided by the BDE (2017). However, the placements are hard to find, and many students are said to struggle for a successful and useful placement in a company. The situation for practical learning has been subject to change over recent years. In 2013, the share of practical teaching and training was between 9-20 percent (Ministry of Education and Science, 2013). In comparison with the 30-40 percent in current curricula, the focus on practical learning has increased over time. Still, the MES (2013) stated that collaboration with the business sector is

---

<sup>26</sup> Upon completion of the final exam and by passing additional subjects.

<sup>27</sup> Formerly called GTZ.

problematic and represents the most challenging aspects of VET. Reasons for this finding include the scarcity of partners that are willing to train<sup>28</sup> as well as poor equipment and out-dated technologies in school teaching. In addition to the scarcity, large overall heterogeneity in willingness to train among businesses and differences in quality further hampers the collaboration and development of an effective 3Y-VET (Maurer & Karangeleski, 2016; European Training Foundation, 2015, S. 26).

- **Two Year Vocational Skilling (2Y-VET)**

2Y-Vocational skilling has been subject to changes in the recent years. It is only offered in a limited number of vocations and the interest in these programmes is reported to be low, but exact numbers are not available (Angeloska-Galevska, 2006). While the provision of vocational skilling is seen as a lateral entry for achievement of qualifications for low skilled work, it is conducted with influences from both the MES and the MoLSP.<sup>29</sup> Students can enter this education program with or without completion of primary school, as long as they commit to completing primary education during the 2Y-VET (Ministry of Education and Science, 2016c). A new concept for vocational skilling with a two-year duration has been developed but shows little evidence of implementation. Currently, the state statistical office does not state 2Y-VET together with other paths of formal education and provides no data concerning enrolment for the year 2016/2017. The most recently enrolled students in official data thereby date to 2011, which totalled 163 students or 0.3 percent of all VET students (Ministry of Education and Science, 2013). For the two following school years (2012/2013-2013/2014) the ETF (2015) does not state enrolment in 2Y-VET.

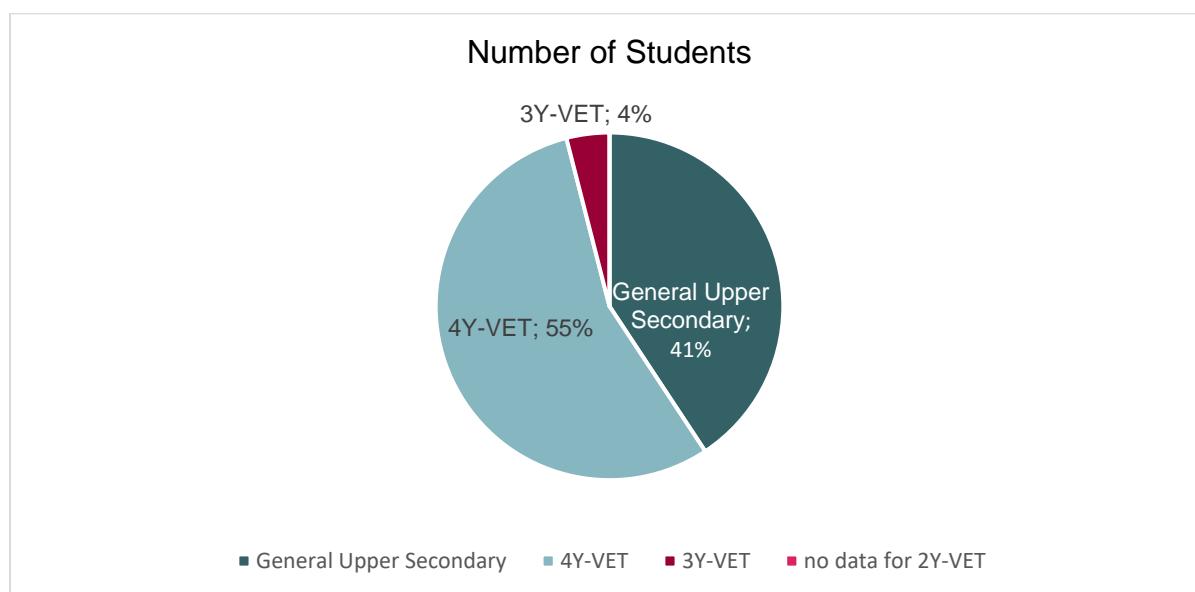
How the 2Y-vocational skilling will be implemented hopefully becomes evident by 2020, the year the national strategy for VET is foreseen to be completed. The NQF enhances both private and public 2Y-VET: public schools are financed by the national budget and private schools are financed by students and school-funders. Transition to 3Y-VET and 4Y-VET is possible, as established with the NQF, and graduates are given the 'certificate for vocational training', facilitating labour market entry.

---

<sup>28</sup> There is still a great majority of SME operating in Macedonia, which can not profit from scalable VET placements. The administration cost stays high and cooperation is difficult to achieve. Given little cooperation and the current mistrust in politics, recent clashes between Albanian minority and ethnic Macedonians, unity and trust in Macedonia stays a project for future days.

<sup>29</sup> The final examination and qualification is realised through examination carried out by the regional chambers of crafts or the chambers of commerce, respectively.

**Figure 6: Upper Secondary Enrolment 2016/2017**



Source: State Statistical Office (2017)

### 3.1.2 Vocational programmes sponsored through foreign aid

In this sub-chapter, we list an overview of past and current VET-related activities of foreign donors in Macedonia.

Project Name	Who	When	What
Instrument for Pre-Accession (IPA) I	EU	2007-2013	Preparatory measures for the Lifelong Learning and Youth in Action programmes
Twinning Project "Support to the Modernisation of the Education and Training System	EU	2011-2013	Adoption procedure of occupational standards as part of the VET-Law. Development of occupational standards also served as a basis for preparation of verified adult training programs. This project was mentioned as a best practice example of technical assistance: The planning of the 12 three-year VET curricula has been conducted in a way that could be successfully implemented in the school year 2013/2014.
Youth Employment Skills (YES) Network	USAID	2011-2016	The YES network was designed to address mismatches in labour markets. Their approach was bottom up and started at local levels. It worked on VET centre capacity development, support of the ESA and VET schools in the development and delivery of soft skills, the project enhanced work-placed learning, and career guidance within schools.
National action plan on Youth Employment	Ministry of Labour and Social Policy	2012-2015	Enhance youth employability (including the reform of the education and training system; the career counselling and guidance; the introduction of a flexible training system leading

			to gainful employment; and more and better career guidance services for young people);
Strategy for Vocational Education and Training in a Lifelong Learning Context	MES with assistance of the European Training Foundation (ETF)	2013-2020	The strategy has as many as 81 targeted measurements and is the most ambitious and comprehensive approach on reforming the VET sector. The priority areas lie in: VET and its role in strengthening social inclusion and cohesion; the attractiveness of education and training as an informed choice for youth and adults; the quality and relevance of VET, as a guarantee of competitiveness; good governance, resources, capacity and accountability in the future system of education and training.
IPA II	EU	2014-2020	Supporting a more inclusive, effective labour market; increasing access to quality education and training, to better match skills with employers' needs; establishing a modern, flexible social welfare system with greater social inclusion; strengthening professional organisations.  Focusing on the reform of the formal VET system (3Y-VET only) operated by the British Council.
Skills Development and Innovation Support	World Bank-loan together with the MES	2014-2019	The Project Development Objective (PDO) is to improve transparency of resource allocation and promote accountability in higher education, enhance the relevance of secondary technical vocational education (with a clear focus on 4Y-VET), and support innovation capacity in Macedonia.
Increasing Market Employability in Macedonia	Swiss Development Agency, and Swisscontact	2014-2019	Sustainable economic growth and job creation in the three economic sectors of 'tourism and hospitality', 'green economy' and creative industries. The approach focusses on the improvement of the capacity of the education system, to provide skilled human resources.
Vocational training and skills development Labor market development Phase I	Swiss Development Agency (funding) implemented by local partner.	2016-2018	The Vocational Skills Development project aims to address youth unemployment through supporting market relevant skills development by strengthening the engagement of the private sector (e.g. through systematised internships), thus increasing the employability of vocational training graduates.

Sources: (ARS Progetti & Archi-data SRL, 2014; Maurer & Karangeleski, 2016; Swiss Agency for Development and Cooperation, 2017; Ministry of Education and Science, 2013).

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

- **Post-Secondary / Non Tertiary Education**

Post-secondary education (ISCED 4) in Macedonia is offered throughout the course of **Specialized Education** (duration of one year) and the **Master Exam** (or “Meister exam”, duration of two years). The goal of specialization is to gain further vocational knowledge and acquire sets of operational skills (Ministry of Education and Science, 2013). Students work under mentorship for one year while receiving theoretical education at upper-secondary educational institutions (UNESCO, 2011b). At the end of the programme, the students are assessed in a specialist exam (Angeloska-Galevska, 2006). Upon successful completion, students are granted a vocational qualification at ISCED level 4.

The master exam allows graduates to teach as trainers of students in the formal VET system. Entry to master exam programs is possible after completing at least three years of upper secondary education; namely 4Y-VET, 3Y VET and gymnasium education. It used to be mandatory to gain work experience prior to the course, but the newly established NQF arranged that work experience is no longer necessary as long as the program is a continuation in line with the focus of prior education. Otherwise, the entry requirement is two years of work experience (Ministry of Education and Science, 2015). The education is conducted in private and public institutions, accredited by the MES. These include secondary schools, higher vocational schools, specialized institutions for post-secondary education, and institutions for post-secondary education as part of chambers, employers’ organizations, work associations and companies (Ministry of Education and Science, 2016c).

Enrolment has been very low: in 2015, only 1.3 per 1 million students graduating from a secondary educational program participated in post-secondary non-tertiary education (UNESCO, 2017). The low attractiveness and enrolment rates of these programs are problems that have been present for many years. The MES (2013) mentioned these weaknesses years ago and states that the development of part of the curricula dates back to 1989<sup>30</sup>. Unfortunately, the enrolment data gained by the UNESCO (2017) does not distinguish Masters or Specialization courses. Therefore, no clear statement about the specific course enrolment can be made. However, the MES (2013) mentions increasing unpopularity of the Master exam and even complete inactivity of the education program for some years<sup>31</sup>. Decreasing popularity is a problem at the post-secondary non-tertiary education level in general, with declining

---

<sup>30</sup> The MES (2016c) states that a new Concept, which shall be a basis of reforms, has been adopted. At this early stage of implementation there is little to state about the success of the newly designed concepts.

<sup>31</sup> No specific information which years.



enrolment numbers over the last years: From 449 students in 2011 (Ministry of Education and Science, 2013) dropping to 223 students in 2015 (Ministry of Education and Science, 2017a).

The curricula and programs for Specialized education and the Master exam are proposed by the VET Centre. For the former, the curricula are adopted by the MES, whereas for the latter, they are adopted by the Chamber of Crafts, upon prior positive opinion of the MES (Law on Vocational Education and Training, 2015). All students need to be self-financing or financed by the employers (ibid.). Contrary to PET in Higher Education (described below), the Master exam and Specialized Education are regulated by the law on Vocational Education and Training.

- **Higher Education**

What we consider professional education and training (PET) is poorly established in Macedonia. Universities offer “professional studies” which could cautiously be categorized as PET. The Law on Higher Education, regulating PET in Macedonia, neglects to distinguish PET and academic courses. The professional degrees do not put a clear emphasis on practical learning, thus making it hard to distinguish from academic degrees (Ministry of Education and Science, 2013). Within the implementation of the Bologna reform, universities in Macedonia are said to have missed the opportunity to clearly distinguish between vocational and academic programs (ibid.). Furthermore, the focus of universities lies in academic programmes, making professional higher education less popular. The Law on Higher Education grants the institutes autonomy together with academic freedom (Ministry of Education and Science, 2016a), which brings with it further difficulties in analysing the amount of PET and the comprehensive interpretation of PET at the tertiary level. Therefore, in line with the Macedonian Strategy for Vocational Education and Training 2013-2020 (Ministry of Education and Science, 2013), the author acknowledges that PET in university programs is evidently poor and has yet to established itself. So far, improving PET remains a project for the future and represents an almost negligible point in the VET strategy 2013-2020: only one out of 81 explicit measures planned for the future VET. The foreseen measure would be dedicated to addressing the legal environment and structure of PET in Macedonia (Ministry of Education and Science, 2013).

The author is unaware of existing enrolment data for professional studies at University Faculties, but the State Statistical Office (2017) provides detailed data concerning enrolment to Higher Vocational Schools. The difference between university faculties and Higher Vocational Schools (HVS)<sup>32</sup> is that HVS give students a larger scope of professional knowledge and skills by directly involving them in the work process while studying. The three

---

<sup>32</sup> Public: Higher Medical School – Bitola; Private: Business Academy Smilevski – Skopje and the School of Journalism and Public Relations – Skopje.

existing HVS courses are in medical sciences, business administration, and journalism and public relations. In 2015/2016, 969 students enrolled at these Higher Vocational Schools (HVS): 28 percent in private and 72 percent in public school. Albeit their misleading name, HVS cannot be clearly categorized as PET and are instead most comparable to Swiss universities of applied sciences. For example, the public HVS in Bitola, with its clear emphasis on Medical Sciences, offers courses such as ‘hospital nurse’, ‘laboratory analyst’, and ‘physiotherapist’ that include a big share of practical training in their programs. Since the school itself tries to: “[...] transform into a Higher Educational Institution with an academic degree of education in the fields of health care [...]” (Higher Medical School Bitola, 2017) it does not comply with our definition of PET.

### **3.3 Regulatory and Institutional Framework of the VPET System**

Throughout recent years, awareness and institutional arrangements enhancing VET were put in place and Macedonia enjoys a wide range of stakeholders involved or at least interested in the development of an efficient and market-driven VET education. The legal framework of VET has also recently been statutorily improved and modernized. However, coming from a communist heritage and experiencing structural deficits linked to unsustainably solved problems of the Balkan breakup mandates, Macedonia still has a long way to go towards the establishment of a functioning VET system. Many stakeholders in Macedonia are aware of reforms and possibilities of VET but still lack clear influences and stable policies (Maurer & Karangeleski, 2016; Fontana, 2017).

#### **3.3.1 Central Elements of VPET Legislation**

The “law on vocational education and training” and the “law on secondary education” regulate the Macedonian VPET system at the upper secondary / post-secondary non-tertiary level. PET action would currently fall under the legislation of the “law on higher education”, but PET in Macedonia is structurally weak. A new regulatory framework for PET is part of the Macedonian VET strategy 2013-2020, but only represents a small part of the agenda. For VET, the law on secondary education constitutes that education is compulsory and inclusive for all Macedonians, also prohibiting the discrimination of people. It further regulates secondary education e.g.: basic provisions, the establishment and termination of secondary schools, educational activity in secondary schools, qualifications and certificates.

The Law on Vocational Education and Training provides specific regulations concerning the implementation of VET. Furthermore, there are other bylaws and rulebooks with influence on VET: for example, the Law on the BDE; Law on Adult Education, Law on the State Examination Centre and the Law on the Education Inspectorate.

VET institutions are in need of improving and synchronizing plural laws, since the complexity of the legal framework makes a clear understanding of VET regulatory difficult for stakeholders (World Bank, 2014b). Weaknesses in the implementation and conduction of the laws negatively affects the effectiveness of VET policy (European Training Foundation, 2015). Even though there are many stakeholders involved within the legal framework of the VET system, there are limits to stakeholder participation, such that even the most active among them lack regulatory influence in VET (European Training Foundation, 2016).

### **3.3.2 Key Actors**

#### **Ministries**

The Ministry of Education and Science (MES) is the central governmental actor in VET. It is responsible for the VET policy and VET implementation in Macedonia (Maurer & Karangeleski, 2016). The MES shares responsibility for training programmes with the Ministry of Labour and Social Policies (MoLSP), which is responsible for finding the relevant people and also defines occupational standards for VET (European Training Foundation, 2016; Ministry of Education and Science, 2016c). The MoLSP also shares a big interest in adult education and is involved in vocational education and training through the implementation of active labour market policies (e.g. see the National Action Plan on Youth Unemployment in section 3.3.2). Within the qualifications framework, the MoLSP is obliged to establish and develop an information system on the labour market needs and forecasting (Ministry of Education and Science, 2016c). The influence of the MoLSP in formal VET is relatively small. As mentioned by Maurer & Karangeleski (2016, S. 27), formal VET is fully under the MES patronage and the MoLSP only enjoys limited responsibility.

#### **Representation and advisory bodies**

The Bureau for Development of Education (BDE), the State Education Inspectorate (SEI), the Employment Service Agencies (ESA) and the VET Centre are directly involved national implementers of the above mentioned ministries' tasks. These institutions are closely linked to the MES but operate according to legislations<sup>33</sup> mandating their operations and missions. According to these laws, the BDE is responsible for the development of curricula and education profiles. The SEI has the legal obligation to assure quality in Macedonian education on all levels except tertiary education. The ESA, a subsidiary of the MoLSP is the main actor in adult education who also organises job-related informal and non-formal VET and guidance for employment. The VET Centre was established in 2007 and has undergone a profound reform

---

<sup>33</sup> E.g. see: "Law on the Bureau for the Development of Education", "Law on VET Article 30", "Law on education inspection"

in the years 2010-2015, with assistance from the American USAID agency. In addition, an EU winning project was targeted the VET Centre from 2011-2013. Legally, the VET Centre has the obligation to join and integrate the public interest and the interests of social partners in vocational education and training in the country. In addition, the VET Centre coordinates the cooperation with international institutions and organizations in the field of VET. It has long been suffering from a shortage of funding and staff. (Ministry of Education and Science, 2015; Maurer & Karangeleski, 2016).

Chambers, particularly the Chamber of Commerce and the Chamber of Crafts, are stated to “show high interest and [possible] influence [in] VET policy making at the national level to some extent. Some of the chambers have their own training centres (e.g. the Chamber of Craft of Skopje) and sometimes even cooperate with VET schools” (Maurer & Karangeleski, 2016).

### **Education and training providers**

Vocational education at the upper secondary stage is provided at public secondary schools. 4Y-VET is provided by 73 public schools and 3Y-VET programmes are available at 45 public vocational schools (Eurydice, 2016). High school education is provided in five public universities, eleven private universities, and four private higher educational schools (Ministry of Education and Science, 2016c).

## **3.4 Educational Finance of the VPET System**

The Ministry of Education and Science monitors the government expenditure on education (Ministry of Education and Science, 2016c). The funds are distributed either directly to the VPET providers or indirectly with municipal governments as intermediaries. The public expenditure for the education sector accounted for 11.2 percent of the total expenditure of the public sector. About 64.2 percent of the public expenditures for the education sector were transfers to municipalities (largest administrative unit at decentralized level) local government units (Ministry of Finance, 2018). From the total public expenditures on education, 59.2 percent is allocated to primary, 22.7 percent to secondary, 12.5 percent to higher education, and 5.3 percent to support students with difficult financial situations (Ministry of Education and Science, 2004).

### **3.4.1 Educational Finance of Secondary Vocational Education**

The government provides the funds to the municipal governments according to the Law on Budget of the Republic of Macedonia, and the Law on Funding the Local Government Units (Ministry of Education and Science, 2016c). The municipal governments distribute the funds to the secondary vocational education institutions.

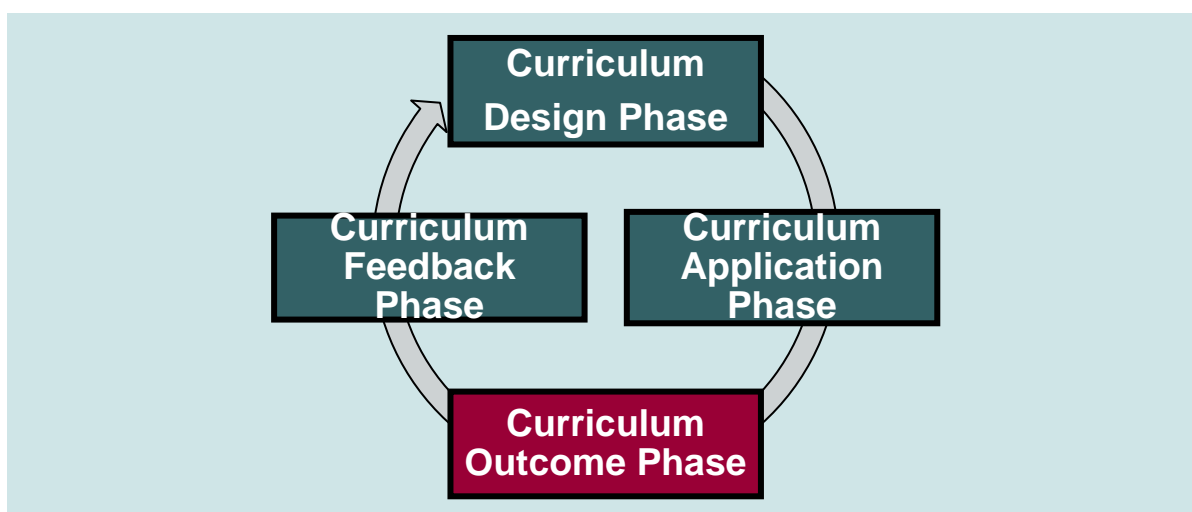
### 3.4.2 Educational Finance of Higher Professional Education (HBO)

The government directly finances public higher education institutions. Private higher education institutions are financed by the founding organisation and by tuition fees (Ministry of Education and Science, 2016a).

## 3.5 Curriculum Development

The curriculum is a central element for the functioning of a VPET system by defining the framework and the (quality) standards for the education system. The development of a curriculum can be decomposed into a three-step process with a curriculum design, a curriculum application and a curriculum feedback phase. This theoretical concept is called the Curriculum Value Chain and is depicted in the picture below (CVC; for more details see (Bolli, et al., 2016)).

**Figure 7: Curriculum Value Chain (CVC)**



Source: (Bolli, et al., 2016)

In the curriculum design phase, VET curriculum content and qualification standards are decided upon by the relevant actors. Therefore, the discussion in the respective subchapter below focuses on the degree and the amount of stakeholder participation concerning curriculum design in Macedonia. 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 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 VPET programmes correspond to the needs of the labour market, experts from companies should be involved in defining the qualification standards and learning contents of the curricula.

The Ministry of Education and Science develops the curricula and programmes on a national level. The Bureau for Development of Education and/or the VET Centre develop the curricula and programmes of secondary vocational education. After the approval of the Ministry of Education and Science, the curricula and programmes come into effect. The vocational programmes for occupations are linked with qualifications standards and occupational standards. (Ministry of Education and Science, 2016c) Municipal governments analyse the needs of the labour market and present their findings to the VET Centre and other institutions of vocational education and training. The VET Centre adopts existing curricula and programmes and introduces new ones in response to the needs of labour market. (Ministry of Education and Science, 2016c)

Higher education institutions develop their study programmes independently, which come into effect after the accreditation by the Board for Accreditation and Evaluation of Higher Education in accordance with the European Standards and Guidelines for Quality Assurance in Higher Education (ESG). (Ministry of Education and Science, 2016a)

### **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.

In Macedonia, secondary vocational education classes take place in vocational schools or in other institutions for adult education. Practical training is delivered in schools and/or in companies. The programmes are made up of 30 percent vocational theoretical subjects and 20 percent practical training as well as 50 percent general subjects. The share of practical training delivered in companies varies (Ministry of Education and Science, 2015).

To graduate, students have to pass both a theoretical and a practical exam in their final year. The responsible teacher assesses the theoretical exam, whereas the practical exam takes place in front of a committee consisting of teachers and representatives of the industry (Ministry of Education and Science, 2016c).

First, second and third cycle programmes consist of up to 60 percent compulsory subjects, at least 30 percent elective subjects, and 10 percent free subjects from a university pre-defined list. PET providers assess whether and to what extent students have fulfilled the obligations of

the study program at any cycle. For that purpose, the PET provider conducts examinations. The form and content of the examinations should reflect the aims of the study programme and enable a fair and individual assessment of the achieved learning progress of each student.

### **3.5.3 Curriculum Feedback Phase**

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

Each school performs a self-evaluation twice per year. The evaluation includes seven domains: “Programmes and curricula, student achievements, learning and teaching, student support, school climate, resources and management and administration” (Ministry of Education and Science, 2016c). The results of the evaluation are made public and serve as the basis of an integral evaluation, which is conducted by the State Education Inspectorate every three years. In addition to the above-mentioned seven domains, an assessment of the organization and quality of the practical training is conducted in vocational schools.

First and second cycle study programmes need to be reaccredited by the Board for Accreditation and Evaluation of Higher Education every five years. The reaccreditation of third cycle study programmes takes place every three years.

The implementations of standards and guidelines for quality assurance is mandatory for all PET providers. The Ministry of Education and Science establishes the legal basis for the standards and guidelines. The Interuniversity Conference establishes rules regarding the award of academic titles.

## **3.6 Supplying Personnel for the VPET System (Teacher Education)**

The training of the general subject teachers in secondary vocational schools follows the same lines as the training for other teachers discussed in section 2.7 above. The Law on Secondary Education regulates qualifications. It defines that teachers in secondary education need to have graduated with a Bachelor’s degree in an appropriate field and have passed a professional examination. In order to be able to do so, future teachers are required to attend pedagogical, psychological and subject didactics courses that are provided at universities. The entrance requirements for these programmes will increase considerably in 2018/2019 (scheduled): completed secondary education, the passing of the Matura exam, an English language certification, the passing of a psychological test as well as passing the entrance examination (Eurydice, 2017). There is a one-year initial teacher training programme that covers these subjects and is aimed at those who already graduated from university (Angeloska-Galevska, 2006).

However, it is reported that the current institutional solution provides them with insufficient pre-service preparation for the array of tasks teaching requires (Eurydice, 2016a). Moreover, in-service training is also reported to be in urgent need of improvement. A systematic organisation of professional development as well as various other measures such as a clear definition of standards of competencies were foreseen in the “National Strategy for the Development of Education in the Republic of Macedonia 2005-2015”. While the core competences and standards were developed, significant changes in the teacher training could not be achieved or the activities are still in progress (Eurydice, 2017). Therefore, the quality of teacher training still heavily depends on donor programmes. However, with the establishment of the State Education Inspectorate, the quality of education and professional development is now being monitored. (Macedonian Civic Education Center, 2016)

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

### **4.1 Major reforms**

The reformation of the 4Y-VET programme began in 1996. Its implementation started in 1999 and lasted until 2005 (Angeloska-Galevska, 2006). This reform aimed at making the profile of the curricula wider, thus involved a redesign of all curricula as well as a development of new ones.

Another reform took place in 2013 with an amendment of the VET Law and the implementation of a new national strategy for VET (2013-2020) (Eurydice, 2016). The VET Centre designed current curricula with support from the EU. On the strategic side, a strengthening of the collaboration between the different stakeholders in the Macedonian VET system is stressed. Eurydice (2016) stresses that practical training needs to become a more central aspect of VET education and conducted in cooperation with companies. The general aim is to strengthen the link of the Macedonian VET system with the labour market, thus making it a more attractive choice that leads to skilled employment and promotes entrepreneurial spirit.

### **4.2 Major challenges**

Establishing a well-working teacher education system has been a major focus for many years. The World Bank (2017c) and Eurydice (2017) regard the progress achieved as of 2017 as non-satisfactory. Despite an urgent need for improvement, many projects, although being in development, have been delayed. The European Training Foundation criticises that frontal instruction (students being merely passive listeners) is still the predominant form of instruction. The ETF (2017) regards the interactive participation of students as a key component for a



successful know-how transfer. According to Eurydice (2017), the whole VET system lacks credibility without a good level of teaching quality. In order to achieve higher credibility, the social status of the teaching profession needs strengthening, e.g. by more competitive salaries. Angeloska and Galevska (2006) criticise that most schools lack basic amenities and infrastructure, and many school buildings are in a poor state, especially in rural areas. The government carries out construction and reconstruction programmes, but schools receive no funding for equipment and teaching materials. The ETF (2017) regards the lack of resources as one of the reasons that pure frontal instruction is predominant. Materials, tools and machines required for practical training are usually not available. Instead, the whole learning process is based on textbooks. Thus, the biggest challenge is to develop an effective overall strategy that could foster sustainable development.

## References

- Angeloska-Galevska, P. D. (2006). *VET Teacher Training System in the Republic of Macedonia*. Ss Cyril and Methodius University. Retrieved from <http://hdl.voced.edu.au/10707/154315>
- ARS Progetti & Archi-data SRL. (2014). *Evaluation of Provided Financial Support for Reforms in the Lifelong Learning and in particular Vocational Education and Training and Adult Education and Recommendations for Future Assistance*. Skopje.
- Assembly of the Republic of Macedonia. (2017, 6 6). *About the Assembly*. Retrieved from Assembly of the Republic of Macedonia: <http://www.sobranie.mk/competencies.nsp>
- Bolli, T., Caves, K., Bürgi, J., Pusterla, F., Rageth, L., & Renold, U. (2016). *The Curriculum Value Chain. A Theoretical Framework for Analyzing and Managing Education and Training Systems*. Zurich: KOF Studies.
- Brunnbauer, U. (2002). The Implementation of the Ohrid Agreement: Ethnic Macedonian Resentment. *Journal on Ethnopolitics and Minority Issues in Europe*, 1-24.
- Bureau for Development of Education. (2008). [www.matura.gov.mk](http://www.matura.gov.mk). Retrieved from [www.matura.gov.mk](http://www.matura.gov.mk) (04.07.2017)
- Bureau for Development of Education. (2017a). *High School Education*. Retrieved from <http://bro.gov.mk/?q=gimnazisko-obrazovanie> (16.06.2017)
- Bureau for Development of Education. (2017b). [bro.gov.mk](http://bro.gov.mk). Retrieved from <http://bro.gov.mk/index.php?q=mk/nastavni-planovi> (04.07.2017)
- Charlemagne. (2017, July 13). Acceding expectations: The EU must show the Balkans they still have a chance of joining. *The Economist*.
- Dutta, S., Lanvin, B., & Wunsch-Vincent, S. (2016). *The Global Innovation Index 2016: Winning with Global Innovation*. Beijing, Geneva, New Delhi: Cornell University, INSEAD, and WIPO.
- Economist. (2017). *Democracy Index 2016: Democracy and its Discontents*. London: The Economist Intelligence Unit Limited.
- Encyclopaedia Britannica. (2016, 6 12). *Macedonia*. Retrieved from Britannica: [britannica.com/place/Macedonia](http://britannica.com/place/Macedonia)

- ETF. (2017). *Executive summary of the Torino Process 2016-17*. European Training Foundation.
- Euractive. (2017, March 13). *Macedonia's political crisis takes ethnic turn*. Retrieved from euractive.com: <https://www.euractiv.com/section/elections/news/macedonias-political-crisis-takes-ethnic-turn/>
- Eurofound. (2015). *Former Yugoslav Republic of Macedonia: Industrial relations profile*. Dublin.
- European Commission. (2010). *The Bruges Communiqué on Enhanced European Cooperation in Vocational Education and Training for the Period 2011-2020*. Brussels: European Commission. Retrieved from <http://ec.europa.eu/education/policy/vocational-policy/doc/br> (September, 12, 2015).
- European Training Foundation. (2015). *Torino Process 2014, Former Yugoslav Republic of Macedonia*. ETF.
- European Training Foundation. (2016). *FYR Macedonia; VET Governance, ETF partner country profile*. European Training Foundation.
- Eurostat. (2017, 04). *Population by educational attainment level, sex and age (%) - main indicators (edat\_ifse\_03)*. Retrieved from <http://ec.europa.eu/eurostat/en/data/database>: <http://appsso.eurostat.ec.europa.eu/nui/show.do> (27.07.2017)
- Eurostat. (2017a). *Gross Value Added and Income by A\*10 Industry Breakdown (nama\_10\_a10)*. Retrieved from <http://appsso.eurostat.ec.europa.eu/nui/show.do> (May 12, 2017).
- Eurostat. (2017b). *Employment by A\*10 Industry Breakdowns (nama\_10\_a10\_e)*. Retrieved from <http://appsso.eurostat.ec.europa.eu/nui/show.do> (May 12, 2017).
- Eurostat. (2017c). *Activity rates by sex, age and educational attainment level*. Retrieved from <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>
- Eurostat. (2017d). *Unemployment rates by sex, age and educational attainment level (%)*. Retrieved from <http://appsso.eurostat.ec.europa.eu/nui/show.do>
- Eurydice. (2016a). *Serbia: Overview*. Retrieved from <https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Serbia:Redirect> (August 19, 2016).

- Eurydice. (2016b). *Macedonia, Overview*. Retrieved from Country profiles: [https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/former\\_Yugoslav\\_Republic\\_of\\_Macedonia:Redirect](https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/former_Yugoslav_Republic_of_Macedonia:Redirect) (13.06.2017)
- Eurydice. (2017). *Progress Report: Reform of Teacher Education and Training in the Republic of Macedonia*. Retrieved from [https://ec.europa.eu/education/sites/education/files/wbalkans-2017/wbalkans-2017/teacher-training-report-fyrom\\_en.pdf](https://ec.europa.eu/education/sites/education/files/wbalkans-2017/wbalkans-2017/teacher-training-report-fyrom_en.pdf)
- Fontana, G. (2017). *Education Policy and power-sharing in post-conflict societies*. New York: Palgrave.
- Garvanlieva, V., Andonov, V., & Nikolov, M. (2012). *Shadow Economy in Macedonia*. Skopje: Centre for Economic Analyses.
- Government of the Republic of Macedonia. (2017, 5 31). Retrieved from [vlada.mk/?language=en-gb](http://vlada.mk/?language=en-gb)
- Higher Medical School Bitola. (2017). Retrieved from History of Higher Medical School: <http://vmsb.uklo.edu.mk/history-higher-medical-school/?lang=en> (28.07.2017)
- Kaufmann, D., & Kraay, A. (2015). *The Worldwide Governance Indicators*. The World Bank Group.
- KNOEMA. (2017). *Young people neither in employment nor in education and training by sex, age and labour status (NEET rates)*. Knoema.
- KOF. (2018b). *KOF Youth Labour Market Index*. Zürich: KOF Swiss Economic Institute.
- Koneska, C. (2012). Vetoes, Ethnic Bidding, Decentralisation: Post-Conflict Education in Macedonia. *Journal on Ethnopolitics and Minority Issues in Europe*, 28-50.
- Macedonian Civic Education Center. (2016). *TEACHER PROFESSIONAL AND CAREER DEVELOPMENT PROJECT*. Retrieved from [europea.eu: https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/former\\_Yugoslav\\_Republic\\_of\\_Macedonia:Initial\\_Education\\_for\\_Teachers\\_and\\_Trainers\\_Working\\_in\\_Adult\\_Education\\_and\\_Training](https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/former_Yugoslav_Republic_of_Macedonia:Initial_Education_for_Teachers_and_Trainers_Working_in_Adult_Education_and_Training)
- Maurer, M., & Karangeleski, V. (2016). *Concept for a programme in the area of vocational skills development in Macedonia*. Zürich/Skopje: Pädagogische Hochschule Zürich.

- Mickovska, G., Mitkovska, V. K., Georgieva, L., Stamboliev, A., & Reci, B. (2013). *Policy and practice analysis of the teacher professional and career development in the Republic of Macedonia*. Skopje: Macedonian Civic Education Center.
- Ministry of Finance. (2018, 3-13). *Economic Report 2017*. Retrieved from finance.gov.mk: [https://www.finance.gov.mk/files/Quarterly%20Economic%20Report\\_Q3%202017.pdf](https://www.finance.gov.mk/files/Quarterly%20Economic%20Report_Q3%202017.pdf)
- Ministry of Education and Science. (2004). *National Strategy for the development of education in the Republic of Macedonia*. Skopje: Ministry of Education and Science of the Republic of Macedonia.
- Ministry of Education and Science. (2010). *Concept for post-secondary education*. Skopje: MES.
- Ministry of Education and Science. (2013). *Strategy for Vocational Education and Training in a Lifelong Learning Context 2013-20*. Skopje: Ministry of Education and Science.
- Ministry of Education and Science. (2014, July 31). *Legislation*. Retrieved from Ministry of Education and Science: <http://mon.gov.mk/index.php/2014-07-24-06-34-40/zakoni> (13.06.2017)
- Ministry of Education and Science. (2015). *Law on Vocational Education and Training*. Official Gazette of the Republic of Macedonia.
- Ministry of Education and Science. (2016a). *Law for higher education*. Skopje: Ministry of Education and Science.
- Ministry of Education and Science. (2016b). *Law on Adult education*. Ministry of Education and Science.
- Ministry of Education and Science. (2016c). *EQF Referencing Report of the Macedonian Qualifications Framework and Self-Certification to the QF-EHEA*. Ministry of Education and Science.
- Ministry of Education and Science. (2017a). *Work program for 2017*. Skopje.
- Ministry of Education and Science. (2017b). *Strategic Plan 2017-2019*. Skopje.
- Minority Rights Group International. (2017). Retrieved from <http://minorityrights.org/minorities/roma-11/> (14.06.2017)

- Mojsoska-Blazevski, N., & Ristovska, M. (2013). *Mapping of VET educational policies and practices for social inclusion and social cohesion - Country Study: Former Yugoslav Republic of Macedonia*. European Training Foundation.
- Nielsen, S. (2013). A Renaissance for Apprenticeship Learning and Its Implications for Transition Countries. In L. Deitmer, U. Hauschildt, F. Rauner , & H. Zelloth, *The Architecture of Innovative Apprenticeship* (p. 104). Heidelberg: Springer .
- OECD. (2015). *OECD Labour Force Statistics*. Retrieved from [https://stats.oecd.org/Index.aspx?DataSetCode=LFS\\_SEXAGE\\_I\\_R](https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R) (September 22, 2015).
- OECD. (2017a). *Dataset: LFS by sex and age - indicators*. Retrieved from [https://stats.oecd.org/Index.aspx?DataSetCode=LFS\\_SEXAGE\\_I\\_R#](https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R#)
- OECD. (2017b). *OECD.Stat: Trade Union Density*. Retrieved from [http://stats.oecd.org/Index.aspx?DataSetCode=UN\\_DEN](http://stats.oecd.org/Index.aspx?DataSetCode=UN_DEN) (May 22, 2017).
- OECD. (2017c). *Short-Term Labour Market Statistics Dataset*. Retrieved from <http://stats.oecd.org/#>
- Peterski, M., Mojsoska-Blazevski, N., & Bergolo, M. (2016, December 29). Labor-Market Scars When youth Unemployment is Extremely High: Evidence from Macedonia. *Eastern European Economics*, pp. 168-196.
- President of the Republic of Macedonia. (2017, 5 31). Retrieved from [pretsedatel.mk/en/home.html](http://pretsedatel.mk/en/home.html): <http://pretsedatel.mk/en/home.html>
- Renold, U., Bolli, T., Egg, M. E., & Pusterla, F. (2014). *On the Multiple Dimensions of Youth Labour Markets - A Guide to the KOF Youth Labour Market Index*. Zurich: KOF Swiss Economic Institute.
- Schenker, H. (2011). *Integrated Education: Emerging concepts in Macedonia* . Skopje.
- State Statistical Office. (2017). *MAKStat Database*. Retrieved from Education and Science: [stat.gov.mk](http://stat.gov.mk) (14.06.2017)
- State Statistical Office Macedonia. (2005). *Census of Population, Housholds and Dwellings in the Republic of Macedonia*. Skopje: THE STATE STATISTICAL OFFICE.
- Swiss Agency for Development and Cooperation. (2017). *Development and Cooperation*. Retrieved from [erweiterungsbeitrag.admin.ch/deza/en/home/countries/macedonia.html](http://erweiterungsbeitrag.admin.ch/deza/en/home/countries/macedonia.html) (3.08.2017)

- The Economist. (2016, 4 21). The next Maidan; Protesters want to topple Macedonia's government over a corruption investigation. *The Economist*.
- The Economist. (2017, 3 9). Scared in Skopje: A Macedonian breakdown gets Europe's attention. *The Economist*.
- Transparency International. (2017). *Corruption Perceptions Index 2016*. Berlin: Transparency International.
- UNESCO. (2011). *ISCED 2011 Mapping for Macedonia*. UNESCO. Retrieved from [uis.unesco.org/sites/default/files/documents/isced\\_2011\\_mapping\\_en\\_fyr\\_of\\_macedonia\\_0.xls](http://uis.unesco.org/sites/default/files/documents/isced_2011_mapping_en_fyr_of_macedonia_0.xls)
- UNESCO. (2017). *Institute for statistics*. Retrieved from [data.uis.unesco.org](http://data.uis.unesco.org) (13.06.2017)
- UNESCO-IBE. (2011). *World Data on Education*. UNESCO / IBE.
- Vujacic, I., Djordjevic, S., Kovacevic, M., & Sunderic, I. (2013). *European Integration of Higher Education and Research in the Western Balkans - Country Report: Macedonia*.
- WEF. (2016). *The Global Competitiveness Report 2016-2017: Full Data Edition*. Geneva: World Economic Forum.
- World Bank. (2010). *Demand for Skills in FYR Macedonia*. World Bank.
- World Bank. (2014). *Systematic Approach for Better Education Results (SABER) Country Report*. World Bank.
- World Bank. (2017a). *Doing Buisness: Labor Market Regulation*. Retrieved from <http://www.doingbusiness.org/data/exploretopics/labor-market-regulation>
- World Bank. (2017b). *World Development Indicators*. Retrieved from [http://databank.worldbank.org/data/reports.aspx?source=2&country=&series=NY.GD.P.MKTP.KD.ZG&period=\(July 28, 2016\)](http://databank.worldbank.org/data/reports.aspx?source=2&country=&series=NY.GD.P.MKTP.KD.ZG&period=(July%2028,%202016)).
- World Bank. (2017c). *Skills Development & Innovation Support; Implementation Status & Results Report*. Worldbank.