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The KOF education system factbook: Austria

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The KOF Education System Factbook: Austria

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List of Abbreviations

AHS	Academic Secondary School (Allgemeinbildende Höhere Schulen)
AK	Arbeitskammer
AQ Austria	Quality Assurance and Accreditation Austria
BAK	Bundesamt zur Korruptionsprävention und Korruptionsbekämpfung
BHS	College for higher vocational education (Berufsbildende höhere Schule)
BIFIE	Bundesinstitut für Bildungsforschung, Innovation & Entwicklung des österreichischen Schulwesens
BMS	School for Intermediate Technical & Vocational Education (Berufsbildende mittlere Schulen)
BMB	Bundesministerium für Bildung
BMBF	Bundesministerium für Bildung und Frauen
BMEIA	Bundesministerium für Europa, Integration und Äußeres
BMUKK	Bundesministerium für Unterricht, Kunst und Kultur
BMWFW	Bundesministerium für Wissenschaft, Forschung und Wirtschaft
CBA	Collective Bargaining Agreements
CHVE	College for Higher Vocational Education
GCI	Global Competitiveness Index
GII	Global Innovation Index
GDP	Gross Domestic Product
IBA	Integrative Vocational Training
ISCED	International Standard Classification of Education
KOF	Swiss Economic Institute
LAP	Apprenticeship Examination
LFPR	Labor Force Participation Rate
LKÖ	Landwirtschaftskammer Österreich
NMS	New Secondary School
OECD	Organisation for Economic Co-operation and Development
ÖIBF	Austrian Institute for Research on Vocational Training
ÖGB	Österreichischer Gewerkschaftsbund
PET	Professional Education and Training
QIBB	VET Quality Initiative

SchoOG	Schulorganisationsgesetz
UAS	University of Applied Science
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
VSA	Vocational School for Apprentices
WEF	World Economic Forum
WGI	Worldwide Governance Indicators
WIFI	Wirtschaftsförderungsinstitut
WKÖ	Wirtschaftskammer Österreich
YLMI	Youth Labour Market Index

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FOREWORD

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

The appealing outcome of the VET system is that it improves the transition of young people into the labor 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 labor market, i.e. the companies. This close relationship guarantees that the learned skills are in demand on the labor 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 labor 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 labor market, as shown by Switzerland’s 2007-2017 average youth unemployment rate of 8.1 percent compared to 14.8 percent for the OECD average (OECD, 2017).

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

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

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

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1. The Austrian 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 labor market. The particularities of a country's economy and labor market are important factors determining the current and future demand for skills. Therefore, we describe these in the first part of this Factbook. In addition, this part provides an overview of Austria's political system with emphasis on the description of the education politics.

1.1 The Austrian Economy

Austria is a small, but highly developed and open economy. In 2015, 8.58 million people lived in Austria. Around one fifth of the population lives in the capital Vienna. Austria is a rather wealthy country. In 2014, the Austrian economy had the seventh highest gross domestic product (GDP) per capita in the world (US$ 42,765[1]). This was lower than the US GDP per capita (US$ 50,620), but larger than the OECD average (US$ 36,493). Despite the above-average GDP per capita, its aggregate GDP did not grow as quickly as that of the OECD countries on average: from 1990 to 2014, the Austrian economy grew two percent each year, while the OECD average grew by 2.2 percent. (OECD, 2016a)

As in many developed countries, the tertiary sector is the most important sector for Austria's economy. In 2014, it provided for 70.5 percent of gross value added. While the secondary sector constituted 28.1 percent and the primary sector - only 1.4 percent (Table 1: Value added and employment by sector, 2014). Within the tertiary sector, tourism, but also trade and banking, are important subsectors. Despite the dominance of the tertiary sector, the secondary sector is still relatively more important for the Austrian economy than in the EU-28 countries on average. One reason for this could be the large number of medium to large sized-export-oriented manufacturing companies, which contribute a large part of the value added of the secondary sector (OECD, 2015b).

Besides value-added by sector, Table 1 shows the distribution of employment across sectors, which roughly follows that of the value-added. About 72.7 percent of the entire Austrian workforce is employed in the tertiary, 23.1 percent in the secondary and less than 5 percent in the primary sector. A somehow similar pattern can be found for the EU-28 average.

[1] Constant prices, constant purchasing power parity (PPP), reference year 2010.

Table 1: Value added and employment by sector, 2014

Sector	Austria: Value added (%)	EU-28: Value added (%)	Austria: Employment (%)	EU-28: Employment (%)
Primary sector	1.4	1.6	4.4	5.0
Agriculture, hunting and forestry, fishing	1.4	1.6	4.4	5.0
Secondary sector	28.1	24.3	23.1	22.0
Manufacturing, mining and quarrying and other industrial activities	21.7	18.9	16.1	15.6
of which: Manufacturing	18.4	15.3	14.7	14.0
Construction	6.4	5.4	7.0	6.3
Tertiary sector	70.5	74.1	72.7	73.1
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	26.2	23.8	29.6	27.5
Financial intermediation; real estate, renting & business activities	24.0	27.4	16.1	15.9
Public administration, defense, education, health, and other service activities	20.3	22.9	26.8	29.7

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

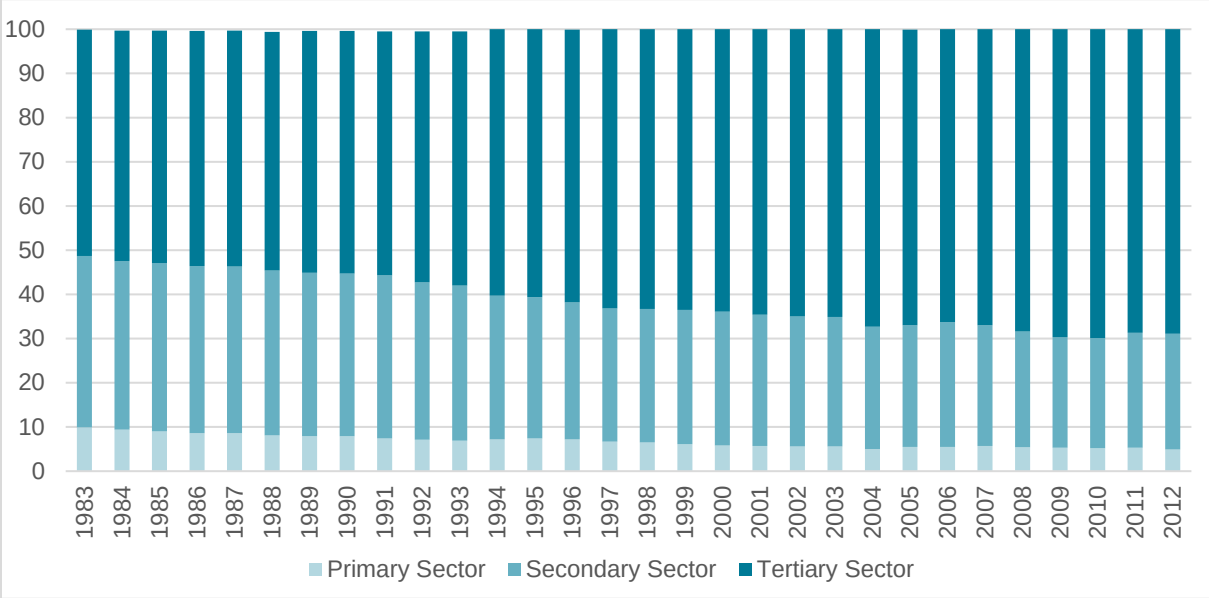
Figure 1 shows the distribution of employment over the three sectors over time, from 1983 to 2012. In this time, service sector employment grew substantially: from an initial share of 50 percent, it accounted for 69 percent of total employment in 2012. In contrast, the employment share in the secondary and primary sector steadily declined during the same time. Consequently, a shift from the primary and secondary sector towards the tertiary sector took place.

Austria has a very competitive economy compared to other countries, although it has been struggling with bureaucratic hurdles for decades. In the WEF Global Competitive Index (GCI) rankings 2015-2016 (WEF, 2015), Austria is ranked 23rd out of 140 countries. The three main reasons for this result, which limited Austria's performance in the CGI rankings, are the high tax rates, restrictive labor regulations and, as already mentioned, inefficiencies in government bureaucracy. In recent years, Austria has lost ground and fell seven places from their standing in 2012-2013.

Another important indicator to make statements about the strength of an economy is its capacity for innovation. The Global Innovation Index (GII), which estimates the innovativeness of economies, ranks Austria as 18th out of 141 countries (Cornell University, INSEAD, and WIPO, 2015). The GII regards the tertiary education system and the high gross expenditure on R&D as important drivers for the innovativeness of the Austrian economy, whereas barriers

to business creation as well as a complicated tax system represent the main hurdles in realizing its full innovative potential.

Figure 1: Employment by sector (as percent of total employment), 1983-2012



Source: Own figure based on World Bank (2015a).

1.2 The Labor Market

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

1.2.1 Overview of Austria's Labor Market

The educational system, in particular the vocational training system, has been one of the main reasons for Austria's productivity growth and low youth unemployment rate (OECD, 2015b). As almost all highly developed countries, Austria faces a major challenge regarding the ageing of its population and labor force. For each person above the age of 65, there are currently four people aged between 15 and 64. The OECD (2015b) expects this ratio to fall to two to one by 2050. The ageing of the population threatens the fiscal sustainability of the large public pension system. Reforms and a strengthening of the female labor force participation are necessary countermeasures (OECD, 2013).

Austria has a relatively high level of employment protection. According to the OECD Indicator of Employment Protection for regular contracts, which measures the bureaucratic and legal costs involved in dismissing individuals or groups of workers on regular contracts, Austria had an index value of 2.37 compare to 2.04 for the OECD average in 2013. (OECD, 2016c)

Austria is a country without a statutory minimum wage; nevertheless, a significant part of the labor force has wage floors, specified in sector- or occupation-level collective agreements. Combined with a high collective bargaining coverage, these sector/occupation-specific minimum wages are a practical equivalent of a binding statutory minimum wage. In comparison with statutory minimal wages, this system could provide more flexibility and preserve the autonomy of the social partners (OECD, 2015a).

Table 2: Labor force participation and unemployment rate by age, 2015

	Labor force participation		Unemployment rate	
	Austria	OECD average	Austria	OECD average
Total (15-64 years)	75.5	71.3	5.8	7.0
Youth (15-24 years)	57.4	47.1	10.6	14.0
Adults (25-64 years)	79.2	76.9	5.1	6.0

Source: Own table based on OECD (OECD, 2017).

Table 2: Labor force participation and unemployment rate by age, 201 shows the labor force participation rates (LFPR) and unemployment rates for Austria and for the OECD average in 2015. Austria's overall LFPR (15-64 years), as well as that of adults (25-64 years) was 4.2 and respectively 2.3 percentage points above the OECD average. In addition, the labor market integration of young workers (15-24 years) works relatively well: the LFPR of those aged 15-64 was 10.3 percentage points above the OECD average and the youth unemployment rate was 3.4 percentage points below the OECD average in 2015. Unlike the LFPR, the overall unemployment rate as well as the unemployment rate of the adult population was 4 and respectively 3.2 percentage points below the OECD average. In the recent recession, countries with a strong activation approach, such as Austria, experienced a modest increase in unemployment (OECD, 2015a).

Table 3 shows that the LFPR as well as unemployment rate of those aged 25-64 vary with the level of educational attainment. The lower the educational attainment, the lower the LFPR and the higher the risk of being unemployed. This seems logical, since higher educational attainment guarantees better opportunities in the labor market (Herzog-Punzenberger, Bruneforth, & Lassnigg, 2012). In 2014, Austria's LFPR for those with less than upper secondary or upper secondary education was lower than the OECD average, while the unemployment rate at all education levels was lower.

Table 3: Labor force participation and unemployment rate by educational attainment, 2014 (persons aged 25-64)

	Labor force participation		Unemployment rate	
	Austria	OECD average	Austria	OECD average
Less than upper secondary education	59.4	63.6	10.8	12.8
Upper secondary level education	79.5	79.9	4.5	7.7
Tertiary education	88.6	87.8	3.7	5.1

Source: Own table based on OECD (2016).

The difference in LFPR does not seem to derive from differences between genders. Instead, two other factors lower the LFPR of people with less than upper secondary education (Eichmann et al. 2010). First, many persons retire before the official retirement age: between the ages 50 to 64, only 59 percent of the population participates in the labor market. Of the non-participants, many are already retired (Statistik Austria, 2015a). Second, the number of youth who are still finishing their higher education degree also lower the LFPR, since they are not yet employed. (Eichmann et al. 2010). Despite all this, Austria's low unemployment rates across all education and age levels, when compared to the OECD average, is remarkable.

1.2.2 The Youth Labor Market

The KOF Swiss Economic Institute developed the KOF Youth Labour Market Index (KOF YLMI) to compare how adolescents participate in the labor 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 labor market adequately nor provide enough information for a comprehensive cross-country analysis.

To increase the amount of information analyzed and to foster a multi-dimensional approach, the KOF YLMI consists of twelve labor market indicators[2] that are grouped into four categories. The first category describes the *activity state* of youth (ages 15-24 years old) in the labor 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

[2] 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.

labor market. The fourth category, *transition smoothness*, connects the other three categories by capturing the school-to-work transition phase of the youth.

Dimensions of the KOF YLMI
Activity state Unemployment rate[3] Relaxed unemployment rate[4] Neither in employment nor in education or training rate (NEET rate)
Working conditions Rate of adolescents: - with a temporary contract - in involuntary part-time work - in jobs with atypical working hours - in work at risk of poverty[5] Vulnerable unemployment rate[6]
Education - Rate of adolescents in formal education and training - Skills mismatch rate
Transition smoothness - Relative unemployment ratio[7] - Long-term unemployment rate[8]
Source: Renold et al. (2014).

Each country obtains a score of 1 to 7 on each particular indicator of the KOF YLMI. A higher score reflects a more favorable situation regarding the youth labor market and a more efficient integration of the youth into the labor market.

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 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 Austria

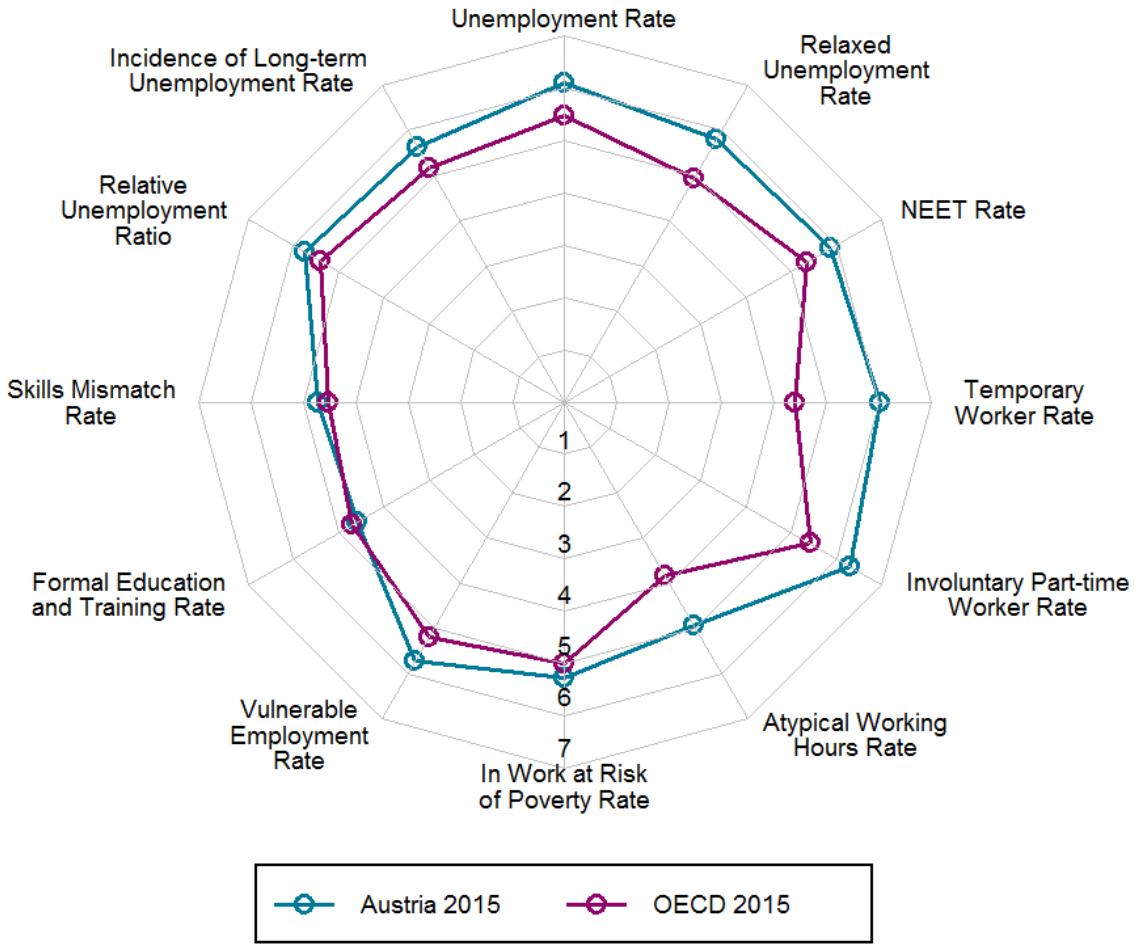
Figure 2 shows the 12 dimensions of the KOF YLMI in a spider web graph for Austria and the OECD average for 2015. It shows that the KOF YLMI for Austria exceeds the OECD averages for eleven out of twelve indicators. Only the formal education and training rate is lower for Austria than for the OECD average.

Figure 3 illustrates the evolution of the aggregated KOF YLMI over time from 2005 to 2015. For this period, all twelve indicators of the KOF YLMI are available for Austria as well as for the OECD average, making a meaningful comparison feasible. Figure 3 unveils that the Austrian youth labor market has continually outperformed the OECD average in recent years

[3] According to ILO definition.
[4] The relaxed unemployment is 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 ("involuntary inactive").
[5] The in work at risk of poverty measure indicates those people, who cannot make a decent living out their earnings, thus are at risk of poverty as a percentage of the working population.
[6] Vulnerable employment is the share of the employed population working on their own account or those working in their family business, thus contributing to the entire family income. Both are less likely to have formal work arrangements and are therefore less protected by labour laws and more exposed to economic risk.
[7] Relative unemployment is defined as the share of youth unemployment rate (15-24 years) of the adult unemployment rate (25+). In case unemployment affects the youth equally as the adults, then the relative unemployment ratio is equal to one. In case unemployment affects the youth is more than the adults, then the ratio is larger than one.
[8] Long-term unemployment captures those unemployed for more than one year (52 weeks) in the total number of unemployed.

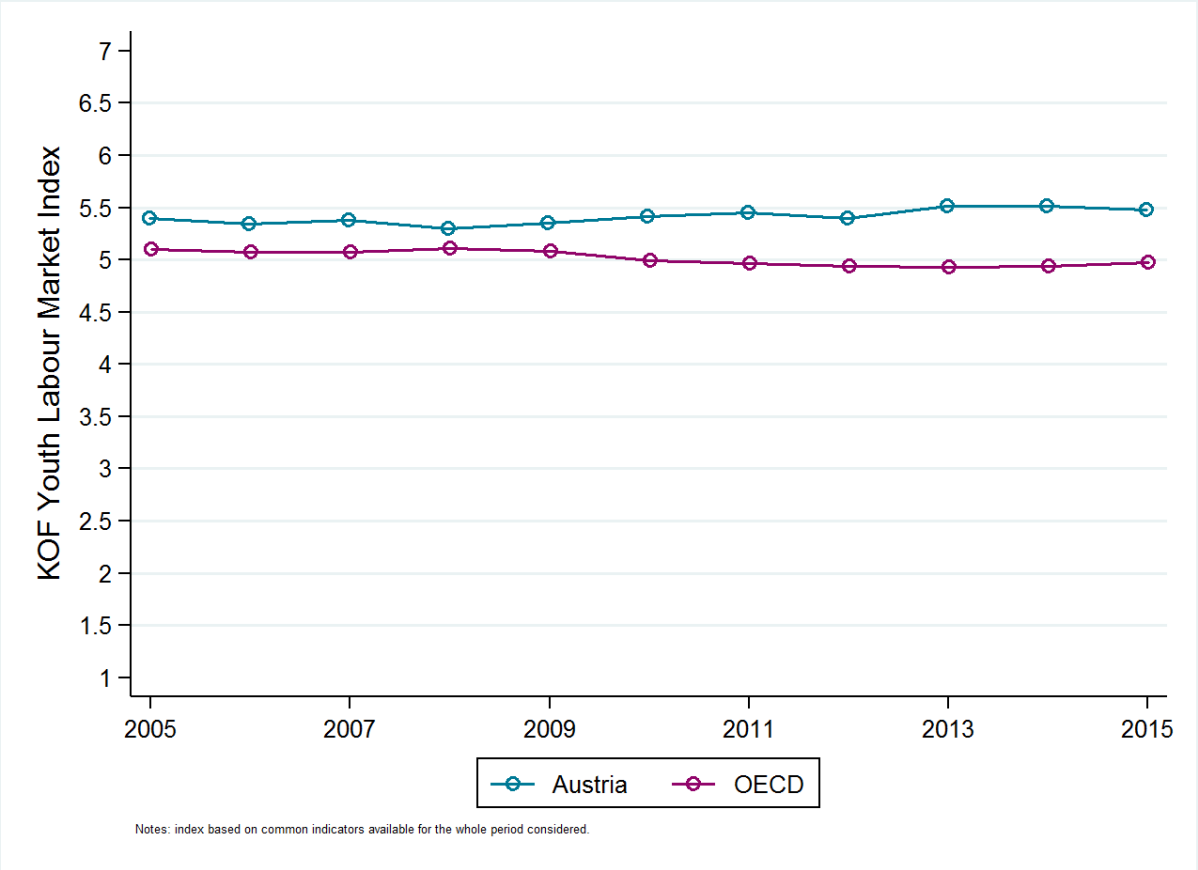
and that the youth labor market situation in Austria has improved relative to the OECD average, which even slightly deteriorated.

Figure 2: YML Scoreboard: Austria versus the OECD average, 2015



Source: KOF Swiss Economic Institute *(forthcoming).*

Figure 3: YLM-Index Austria versus OECD, 2005-2015



Source: KOF Swiss Economic Institute *(forthcoming).*

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 towards understanding the education system in a broader sense. In the first section, we provide an overview of Austria's political system. The second part refers to the politics and goals regarding the education system.

1.3.1 Overview of the Austrian Political System

Austria is a democratic republic with separation of powers into legislative, executive and judicial bodies. The citizens elect the president and the legislative bodies. As Austria is a federal state with nine member states, the so-called "Bundesländer", there are three levels of executive power: national, provincial and municipal. The national parliament consists of two chambers with one chamber directly elected by all voting citizens and the other chamber elected by the members of the provincial councils (in which the latter is responsible for representing the interests of the federal states). The two chambers of parliament exercise the federal legislation. The law enforcement bodies of the federation are the president and the members of the federal government, whose chairman is the chancellor. (BMEIA, 2016a)

In the Economist's Democracy Index 2015, Austria ranks among the top fifteen best working democracies with an overall score of 8.54 out of 10 (Economist, 2016). Austria scored 76 out of 100 points on the Corruption Perceptions Index 2015, so it is 16th least corrupt country in the world (Transparency International, 2015).

A special feature of the Austrian political system is the social partnership. It is an economic and social cooperation between representatives of employers, workers and the government. The social partnership is not limited to the regulation of labor relations. It extends to practically all areas of economic and social policies, even education (Tritscher-Archan, 2014). The special nature of the social partnership is that different interest groups commit to long-term objectives, which all stakeholders believe can be better achieved through cooperation and coordinated action (WKÖ, 2016). One area of cooperation in the education sector is the vocational education and training (VET) system. Social partners, such as unions, advise the federal ministry for education (BMB) on the design of the curricula and help develop training models and qualification requirements (Tritscher-Archan, 2014).

1.3.2 Politics and Goals of the Education System

The BMB, formerly known as the federal ministry for education and women (BMBF), is responsible for the Austrian education system, women's affairs and gender equality. The administrative responsibility and competences of the BMB includes the entire school system on a nationwide level- from primary school to baccalaureate, teacher-training colleges and adult education (BMBF, 2015c). The enactment of the laws and their execution is up to each of the nine provinces (BMBF, 2016a). The Federal Ministry for Education, the Arts and Culture (BMUKK), which belongs to the BMB, defines the curricula and the main features of the different types of schools (e.g. admission prerequisites, number of students per class; Musset, Bloem, & Fazekas, 2013).

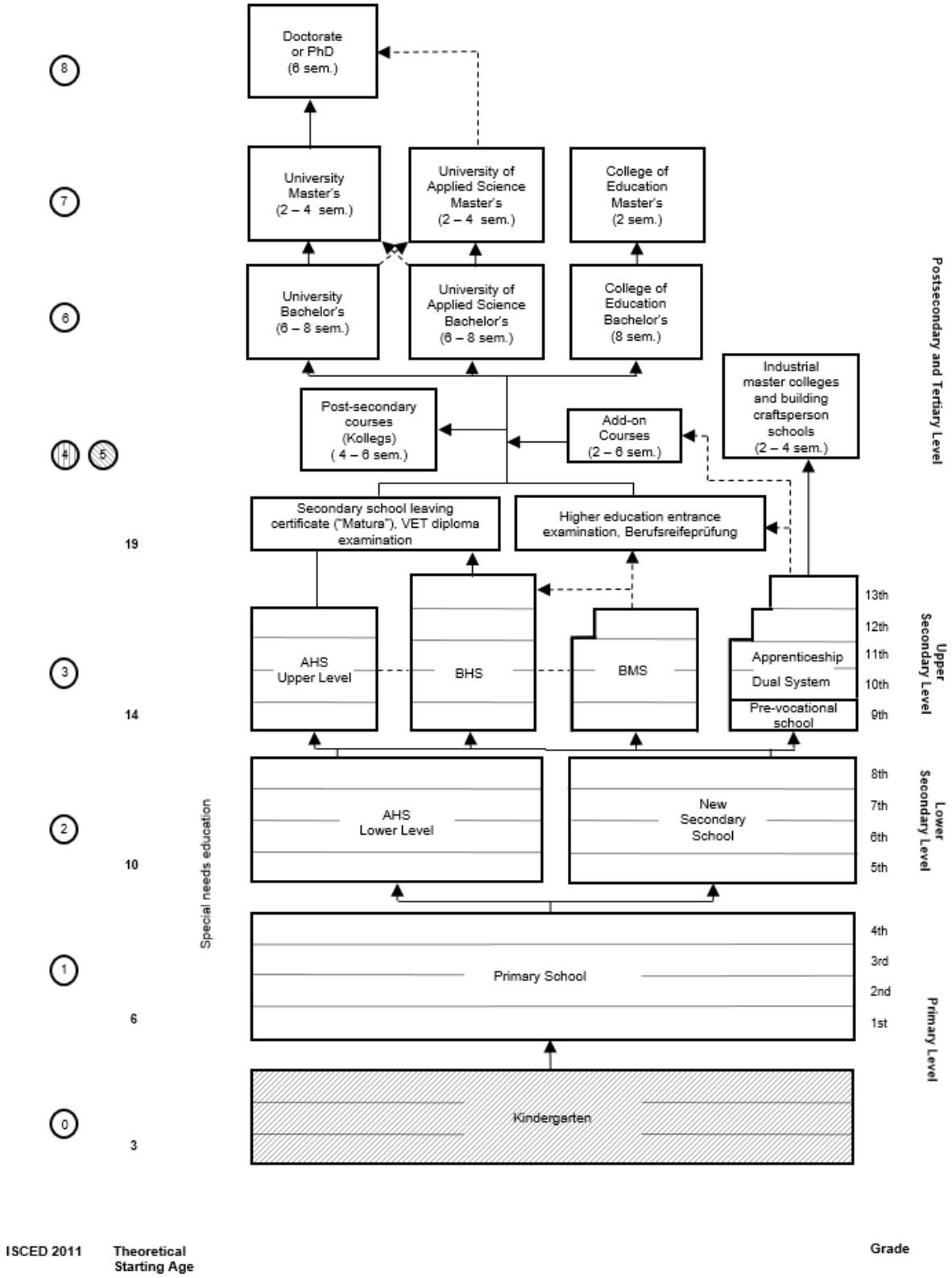
2. Formal System of Education

The composition and structure of the Austrian education system is similar to the German and Swiss system. The Austrian education system has four levels: the primary, lower secondary, upper secondary, postsecondary and tertiary level.

Figure 4 provides an overview of the most important programs of the Austrian education system. For simplicity, we omit the detailed description of the health profession education.

Compulsory education lasts for nine years. Though the last year of kindergarten is mandatory for all children, it does not count into the years of compulsory education (Pils & Kepler, 2015).

Figure 4: The Austrian education system



Source: Own Illustration based on BMB (2015b), (BMBF, 2015d), Tritscher-Archan (2014).

Four years of primary education, four years of lower secondary education, and the first year of upper secondary education are mandatory for all pupils. At the age of ten, students can choose between general education (the so-called 'AHS lower level') and a vocational education track (the so-called 'new secondary school (NMS)').

The NMS will be replacing currently existing general secondary schools by 2018 (BMBF, 2015b). Both the general and NMS pathways take four years to complete (Sozialministerium/BMI, 2016). In order to complete compulsory education (the ninth grade), students have four options. They can either continue on to an upper secondary education at an academic secondary school (AHS upper level), a college for higher vocational education (BHS), a school for intermediate technical and vocational education (BMS) or attend a one-year polytechnic school that prepares students for an apprenticeship at the upper secondary education level[9] (Bundeskanzleramt, 2016).

After compulsory education, students are encouraged to continue their studies in the upper secondary education program in which they are currently enrolled (Sozialministerium/BMI, 2016). Depending on which certificate one completes at the upper secondary level, students can continue in different post-secondary and tertiary education pathways.

To get access to the higher education level, a student must have obtained one of three baccalaureate examinations. These baccalaureate diplomas grant access to different higher education institutes (BMUKK/BMWF, 2011; BMWFW, 2016). A detailed explanation of the various diplomas can be found in Chapter 2.3.

In the school year 2014/15, 1,112,910 students (roughly 13 percent of the Austrian population) attended a form of formal education, without taking students at normal universities and universities of applied science into account (Table 4) (Statistik Austria, 2015b).

In 2014, roughly three quarters of all students in upper secondary education attended some sort of VET, whereas the remaining 25 percent attended general education programs. When compared to the EU21 average, in which 47 percent of all upper secondary students attended general education, this is a rather small share. (Statistik Austria, 2015c)

The effect of a declining number of students in primary and lower secondary education, due to the falling birth rate since the mid-1990s, has recently reached upper secondary schools (Statistik Austria, 2015a).

[9] This paper refers to apprenticeship as a dual education where on the one hand the apprentice receives practical training within his or her training company and on the other hand visits a part-time vocational school (Gesselbauer et al., 2016).

Table 4: Enrolment by school type 2014

School type	number of students	Percentage
Primary School	328,143	29%
General School	59,568	5%
New Secondary School	148,568	13%
Special Need School	14,247	1%
Pre-Vocational School	15,816	1%
AHS - Lower Level	112,802	10%
AHS - Upper Level	91,222	8%
Other Forms of General Education Schools	9,490	1%
Part-Time Vocational School	123,232	11%
BMS	45,523	4%
Other Forms of BMS	8,240	1%
BHS	134,802	12%
Schools in Healthcare	21,257	2%
Total number of students	**1,112,910**	**100%**

Source: Own Illustration based on (Statistik Austria, 2015b).

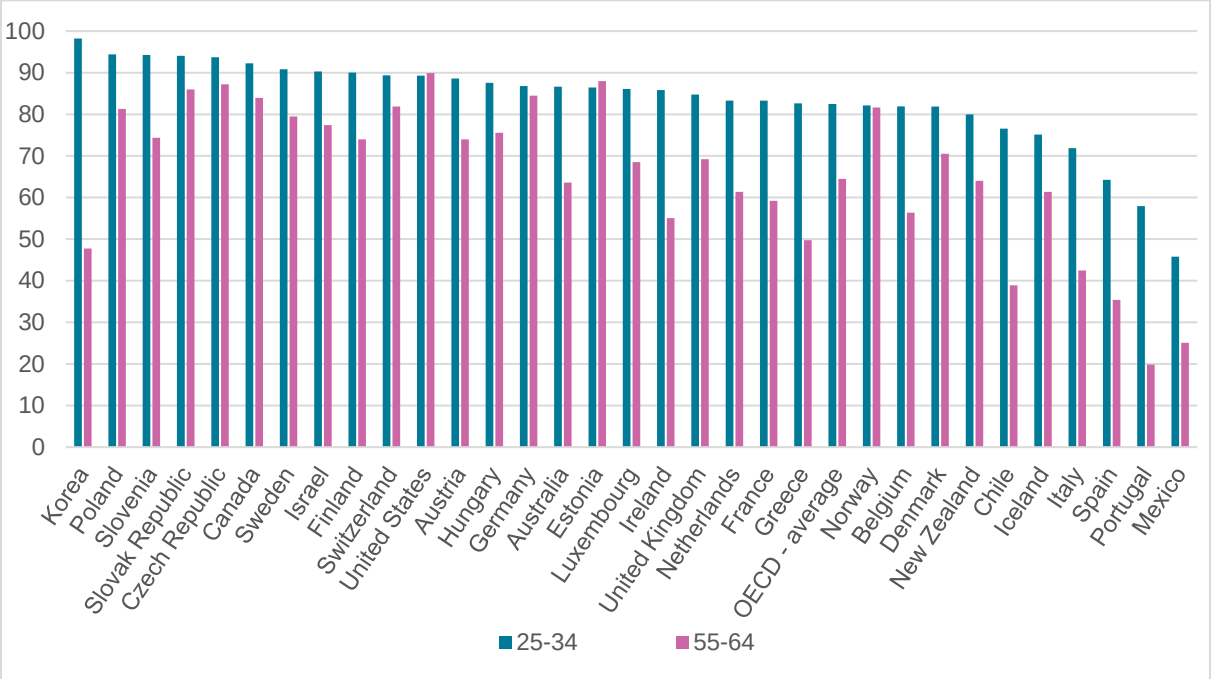
In 2014, the number of students in upper secondary schools was 8.5 percent lower than in 2004 (ibid.). During compulsory education, students primarily attend public schools, only five percent attend private schools. At the upper secondary education level, between 5 and 33 percent attend private schools, depending on the institution (Statistik Austria, 2015c)

As displayed in Figure 1, 88.6 percent of all Austrians aged 25 to 34 possessed an upper secondary education degree in 2012. This is 6.1 percent points more than the OECD average, but nearly 10 percent points less than the leader, South Korea.

Between 1971 and 2013, the Austrian population has experienced an overall rise in the education level attainment. In 1971, nearly 60 percent of the 25 to 64 year olds had accomplished only compulsory education as their highest level of education. This rate of minimal attainment decreased to 19 percent by 2013. In contrast, the proportion of people with a university degree more than quadrupled in the same period: from 3 percent to 13 percent. In 2013, 65 percent of the Austrian population ages 25 to 64 hold an upper secondary education

degree as their highest level of education. From 1971 to 2013, women also caught up regarding their educational attainment, though a gender gap remains. (Statistik Austria, 2015f)

Figure 5: Population with upper secondary education in OECD countries (2012)



Source: OECD (2015d)

2.1 Pre-Primary Education

Pre-primary education consists of Kindergarten, day nurseries, playgroups and care by childminders (Gesselbauer et al., 2016). The most frequented institution is the kindergarten, with an attendance rate of over 90 percent of all 3 to 6 years old children (Kaindl et al., 2010). The attendance of the last kindergarten year has been mandatory since 2010, for all children turning five (Gesselbauer et al., 2016; Pils & Kepler, 2015). The purpose of kindergarten is to promote the social skills of children, to prepare them for school and to relieve their parents (Pils & Kepler, 2015). Several other types of institutions cater to different needs. Day nurseries ensure age-appropriate care for children under three years. Working parents are the main patrons of these facilities (Gesselbauer et al., 2016). In 2012, one third of all two year olds attended such a care facility (Statistik Austria, 2015c). Playgroups, in contrast, are characterized by a high degree of parental participation rights and parental responsibility (Gesselbauer et al., 2016). Local government authorities operate about 60 percent of all care facilities, whereas the other 40 percent are operated by private suppliers such as parishes, family organizations, religious institutions, businesses or individuals (Pils & Kepler, 2015). In 2009, 9 percent of total public funding was dedicated to pre-primary education (Kaindl et al., 2010). The funding devoted to pre-primary education has increased by almost 50 percent from

2000 to 2009, due to initiatives enhancing kindergarten attendance (Herzog-Punzenberger, Bruneforth, & Lassnigg, 2012).

2.2 Primary and Lower Secondary Education

Primary school in Austria takes four years, addressing all children from six to ten (Gesselbauer et al., 2016). It provides a basic education for all students, taking into account the social integration of disabled children (BMB, 2016b). After successful completion of the 4th grade, students continue with lower secondary education (Gesselbauer et al., 2016). Here they get elementary education, which prepares them for upper secondary education (Weiss & Tritscher-Archan, 2011).

The two main programs at the lower secondary education level are the new secondary school (NMS) and the academic secondary school (AHS – lower level).

The NMS lasts for four years. Between 2012 and 2018, it will replace all general secondary schools, creating a common school for all 10 to 14-year-olds (Gesselbauer et al., 2016). The curriculum of the NMS is aligned to that of the AHS lower level school (BMUKK/BMWF, 2011). Students are taught all subjects within the same class, regardless of the students' performance (BMBF, 2016c). Upon successful completion of the NMS, students can visit the upper level of AHS, a school for intermediate VET (BMS), a college for higher VET (BHS) or a pre-vocational school (Gesselbauer et al., 2016).

The AHS lower level school also lasts for four years. However, since one of the goals of the AHS is to prepare students for the university, the AHS schools can be much more demanding on the students than NMS schools (Pils & Kepler, 2015). The AHS provides students with a comprehensive set of general education subjects (BMBF, 2016c). Students choose a core focus, which is either on languages, science or economics (Gesselbauer et al., 2016).

Table 5: Transition from primary to lower secondary school in 2015

School type	Percentage[1]
General secondary school	2%
New secondary school	60%
AHS – lower level	35%
Special need education	2%
Other general schools	1%

[1]Pupils in the end of 4th grade 2014, without repeaters (801), pilot project "New general school at AHS" (933) and pupils who moved abroad (629).
Source: own table based on Statistik Austria (2016b).

Besides the core primary and lower secondary programs, there are also special needs schools, which last for eight years (BMUKK/BMWF, 2011). Students receive basic general education by specially trained teachers and through personalized teaching methods (Gesselbauer et al., 2016), providing them with the necessary skills for VET or further secondary schools

(BMUKK/BMWF, 2011). Some special need schools have their own curriculum, e.g. for blind or deaf children, children with disabilities and learning difficulties (ibid.).

According to Table 5, 60 percent of all students in 2014 transitioned to the NMS after primary school and 35 percent to the AHS lower level.

2.3 Upper Secondary Education

At the upper secondary education level, students have the choice between a general education program, the AHS upper level, and vocational education and training programs including apprenticeship training (dual system), BMS, BHS and pre-vocational schools (Gesselbauer et al., 2016). In 2014, roughly 75 percent of the upper secondary students attended a VET program (Statistik Austria, 2015c). Table 6: Enrolment rates of major upper secondary programs in 2014/2015 provides the enrolment rates for the school year 2014/2015.

Table 6: Enrolment rates of major upper secondary programs in 2014/2015

School type	Percentage[1]
AHS - upper level	22%
Schools for intermediate vocational education (BMS)	13%
Colleges for higher vocational education (BHS)	32%
Part-time vocational school	29%
Pre-vocational school (PVS)	4%

Source: own table based on Statistik Austria (2016b)

The AHS upper level school involves a four-year education at one of the following institutions: the classical AHS (Gymnasium), the AHS emphasizing mathematics and science (Realgymnasium) and the AHS emphasizing economics (wirtschaftskundliches Realgymnasium). The entry requirement for AHS upper level is the successful completion of the AHS lower level or the attendance of the NMS top level in German, mathematics as well as a modern language (BMUKK/BMWF, 2011). At the end of the four upper secondary years, students take the matriculation examination (Gesselbauer et al., 2016). Upon successful completion of the matriculation examination, the graduates can enter the university, university of applied sciences (UAS) or university college of teacher education (BMUKK/BMWF, 2011).

Alternatively, the school for intermediate vocational education (BMS) takes one to four years. Entry requirement is an NMS or lower level of AHS degree, whereby NMS graduates might need to take an entry examination in German, mathematics and English. The teaching in BMS consists of 60 percent general and 40 percent vocational education (Tritscher-Archan & Nowak, 2010). Attendance of BMS for one to two years leads to a partial degree, while BMS courses lasting three to four years finish with a final examination and the full degree. This degree provides “relevant professional qualifications”, which is a technical access restriction

for UAS programs (BMUKK/BMWF, 2011). As an alternative after at least three years at the BMS, students can take an add-on course for up to three years, which leads to the matriculation examination and diploma examination (ibid.). Further, graduates of BMS schools can continue with special courses to get access to the BHS (Musset, Bloem, & Fazekas, 2013). Alternatively, BMS graduates may take the study entrance exam for university (Gesselbauer et al., 2016). Like the BMS, but at a higher level, colleges for higher vocational education (BHS) offer in-depth general vocational education, qualifying for entry into professional life (Pils & Kepler, 2015). Analogous to BMS, the BHS teaching consists of 60 percent general education and 40 percent VET (Tritscher-Archan & Nowak, 2010). After five years of BHS attendance, students are prepared for the matriculation and diploma examinations (Gesselbauer et al., 2016). These exams provide access to a university, a UAS or a university college of teacher education (BMUKK/BMWF, 2011).

The pre-vocational school (PVS) is a supplementary one-year program after the 8th year of compulsory education. It prepares students for an apprenticeship, which takes place the second year of BMS, in their area of specialization, or the first year of a BHS if they have performed well enough (BMUKK/BMWF, 2011). During PVS, students have a certain degree of freedom in their choice of subjects as they receive general and basic vocational education (Gesselbauer et al., 2016).

After completion of nine years of compulsory education (regardless of whether certain grades were repeated), students can start an apprenticeship (Gesselbauer et al., 2016). In Austria, apprenticeship training refers to the dual system of education, in which an apprentice learns a profession at two different training places (WKÖ, 2016). Training consists of VET and general education, which take place at the host firm as well as a part-time vocational school (BMUKK/BMWF, 2011). For apprentices, the attendance of the part-time vocational school is mandatory (BMBF, 2015b) and covers 20 percent of training time (BMWFW, 2016) . Each year about 110,000 people (Tritscher-Archan & Nowak, 2011) start one of the over 200 possible apprenticeship professions (Gesselbauer et al., 2016).

To be authorized to continue at the higher education level, a student must have succeeded at one of the three baccalaureate examinations. These comprise the new standardized matriculation examination (Reifeprüfung, or “Matura”), the higher education entrance examination (Berufsreifeprüfung) and the study entitlement examination (Studienberechtigungsprüfung) (BMUKK/BMWF, 2011; BMWFW, 2016). The new standardized matriculation examination (Reifeprüfung) at the AHS as well as the matriculation and diploma examinations (Reife- und Diplomprüfung) at the BHS provide a uniform school leaving certificate degree, which makes secondary school leaving certificates (Matura)

nationally and internationally comparable (BMBF, 2015b). The matriculation examination is a general higher education entrance qualification, which allows unrestricted access to all institutions at the postsecondary and tertiary level (Sozialministerium/BMI, 2016). The diploma examination provides specialized vocational training certificates, replacing professional apprenticeship diplomas or the entrepreneurial exam for business licenses (AK Oberösterreich, 2016). A successfully passed higher education entrance examination (Berufsreifeprüfung) allows graduates with initial VET (for example apprentices, BMS or nursing school graduates) unrestricted access to all higher education institutions (Gesselbauer et al., 2016). The higher education entrance examination is an external exam, which requires no school attendance (BMUKK/BMWF, 2011). By passing the study entitlement examination (Studienberechtigungsprüfung), graduates from upper secondary schools or students who have dropped out of school have access to higher education (BMBF, 2015b). While the matriculation examination and the higher education entrance examination provide unrestricted access, the study entitlement examination only allows entrance to the study field, for which the exam was passed (BMWFW, 2016).

2.4 Postsecondary /Higher Education

At postsecondary education level, students have the choice to attend professional education and training (PET) programs or programs at regular universities, universities of teacher education or universities of applied sciences (UAS) (BMUKK/BMWF, 2011). In 2013, around 80 percent of all tertiary students were enrolled at universities, 12 percent at UAS and 8 percent at a university college of teacher education (Statistik Austria, 2015c).

The universities offer studies in cultural, engineering, artistic, medical, scientific, jurisprudential, social, economic and theological fields (BMBF, 2015b). In accordance with the Bologna reform, the study programs are divided into undergraduate programs (Bachelor), graduate programs (Master) and post-graduate programs (Doctorate) (BMUKK/BMWF, 2011). The Bachelor programs take three to four years and 180 to 240 ECTS have to be acquired for graduation, depending on the field of study (BMBF, 2015b). Successful completion of a Bachelor's degree is a prerequisite for Master's studies, which last one to two years and require 60 to 120 ECTS. Doctoral studies build on a Master's degree either from a university or UAS and take three to four years to complete (ibid.).

The UAS offer a scientifically based PET to deepen the scientific and academic knowledge in a relevant study field, whereby at least one practical semester is part of the program. Currently programs offered by the UAS are in the fields of design, art, engineering, social environment, economic, military/security, natural and health sciences. The Bachelor's degree usually takes six semesters to attain and the Master's generally lasts four semesters. Doctoral studies, which

are offered only at universities, are possible after the successful completion of a UAS Master or university Master. (BMB, 2015b)

PET programs can be attended at colleges: industrial master colleges, building craftsperson and master craftsperson schools, or add-on programs. Colleges target AHS graduates who want to continue their studies with vocational education and acquire a qualification similar to the BHS graduates (BMB, 2016c). They provide theoretical and practical professional education and training for a large variety of fields of study (BMB, 2015b). The industrial master colleges as well as the building craftsperson and master craftsperson schools address graduates who have finished their VET degree in the fields of technic or trade (Gesselbauer et al., 2016). The purpose of these programs is to expand the students' theoretical knowledge and enable them to train apprentices after graduation (BMB, 2015b). Add-on courses usually target BMS graduates and apprentices who want to attain a matriculation and diploma examination (BMUKK/BMWF, 2011). All these programs last between two to four semesters on a full-time basis and four to six on a part-time basis.

Add-on courses are vocational programs that aim to provide graduates of BMS with the matriculation and diploma examination for the relevant BHS (BMB, 2016). Add-on courses normally take three years to complete (AK Oberösterreich, 2016) and are offered at colleges and BHS (BMUKK/BMWF, 2011). In 2012/13, 5786 students were enrolled in add-on courses (UIS, 2015).

2.5 Continuing Education (Adult Education)

Adult education in Austria consists of a variety of educational institutions with different objectives and educational services. In general, institutions offering adult education are municipals, interest groups and religious communities (BMUKK/BMWF, 2011). The programs range from general education over catch-up qualifications in second-chance education, vocational education and management courses to university courses (BMB, 2015b). Practically all school examinations of the lower and upper secondary education can be taken in adult education (BMUKK/BMWF, 2011). However, the absolute number of educational adult programs is difficult to quantify, as different institutions are involved and different restrictions and structural criteria apply (ibid.).

2.6 Teacher Education

Teachers for the formal education system of Austria are educated at university colleges of teacher education or the universities. Applicants need to have one of the three different baccalaureate diplomas ("Matura") or, in case of career changers, meet further approvals and

requirements. With the adoption of the Bologna structure in 2015, the education program for primary level teachers was renewed nationwide.

As before the reform, primary school teachers study at university colleges of teacher education. The duration of training needed to obtain a Bachelor's degree was increased from three to four years, plus one year to earn a Master's degree. In addition, students receive special training in one thematic field, e.g. intercultural education, inclusion, science or math.

In the course of the reform, a new and harmonized four-year Bachelor program for future secondary school teachers was created. Thereby, future teachers for the AHS and BMHS attend courses at normal universities, while future teachers for the NMS schools attend courses at university colleges of teacher education. Regardless of the school-type, having a Master degree- which takes another two years to complete- is a requirement for a permanent position. Everyone who earned a Bachelor for secondary school teachers/ teaching certificate (Lehrbefähigung) can start working as a teacher and can pursue his Master studies besides working. The condition for this is that he has five years' time to complete his Master degree.

These adjustments for the lower secondary teachers are made in 2016. Another major part of the reform is the change in teacher education, which is no longer provided according to the different school types. Prospective teachers are now educated within their education level. The students attain the teaching certificate (Lehrbefähigung) after successful completion of the Bachelor and Master studies. (BMBF, 2015b)

3. The System of Vocational and Professional Education and Training

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

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

The Austrian VET system at the upper secondary education level is very diverse, as full professional qualifications can be achieved by a dual apprenticeship, or through secondary VET schools and VET colleges (Trampusch, 2009). Around 75 percent of students in the tenth grade attend a VET program (Statistik Austria, 2015b). The following section describes the various VET programs in Austria.

Pre-vocational year

Students have the option to complete t heir last year of compulsory education by attending one year of pre-vocational school (PVS, polytechnische Schule). Most students who choose this pathway want to pursue with an apprenticeship afterwards (BMUKK/BMWF, 2011). The PVS familiarizes students with the working world and consists of general education and VET (BMBF, 2016e). Excursions to companies, sample work weeks and writing applications are also part of the program (Pils & Kepler, 2015). Most students start an apprenticeship after the PVS, but transition to the second year of BMS (in their PVS specialization) or to the first year of a BHS, if their performance was satisfactory (BMUKK/BMWF, 2011).

The vocational preparation year is also an opportunity for special needs children to complete the final year of compulsory education. They can enroll in PVS after attending the special needs school at the lower secondary education level (Gesselbauer et al., 2016). The pre-vocational year can be attended at a PVS or within the special needs school (BMUKK/BMWF, 2011).

Apprenticeship – the dual system

The apprenticeship programs are very popular, as 38 percent of all compulsory school graduates (Tritscher-Archan, 2014) choose one of the over 200 available apprenticeship professions (Gesselbauer et al., 2016). The most common apprenticeships for women are retail, office administration, hairdressing and stylist, while the most common for men are in the fields of electrical engineering, automotive engineering and retail (BMBF, 2016c).

In Austria, apprenticeships are organized as a dual system, where the apprentices combine one day a week of school-based learning with four days of training at the workplace (OECD, 2011; BMWFW, 2016). The part-time vocational school provides theoretical VET and general education (BMUKK/BMWF, 2011), while the firms provide practical training at the workplace (BMBF, 2016c). The success of the system lies in the combination of school and workplace based teaching (ibid.).

The only requirement for admission to an apprenticeship program is the completion of nine years of compulsory education, although the attendance of one year at an upper secondary level institution significantly increases the chance of finding an apprenticeship position (Gesselbauer et al., 2016). For students who either have left or completed their education at a BMS or a BHS, a shortened apprenticeship training (duration depending on the training profession) is possible (BMWFW, 2016).

An apprenticeship concludes with a final apprenticeship examination (LAP), which is supervised by professional experts (BMUKK/BMWF, 2011). At the LAP, practical skills and competences are tested, which are required for the respective profession (ibid.). Since 2008, apprentices who want to continue to university after completing the apprenticeship have the option to take the higher education entrance examination (BMBF, 2016c), creating an easily permeable system.

School for intermediate vocational education (BMS)

The prerequisite to enter the BMS is the completion of any lower secondary school program (Pils & Kepler, 2015). The BMS teaches professional qualifications and intends for its graduates to directly enter the labor market (Pils & Kepler, 2015). A complete VET degree can be achieved after courses lasting three to four years, while a partial VET degree can be achieved after one or two years (BMBF, 2016c).

The lessons in BMS are designed in accordance with the respective professional orientation of the BMS schools (i.e. technical, trade or artistic) (Pils & Kepler, 2015). General education accounts for approximately 40 percent and vocational education for 60 percent of the teaching time (Tritscher-Archan & Nowak, 2010). The vocational education is carried out entirely in schools. After completing at least three years at the BMS, students take the final examination (BMBF, 2016c). This level is considered to be of "relevant professional qualification", and the same level as an apprenticeship, which is one of the access conditions for a UAS program (BMUKK/BMWF, 2011). Besides the access to the UAS, graduates may attend add-on courses (for another three years), which conclude in the matriculation and diploma examination (ibid.). However, students may also try to pass the higher education entrance examination or matriculation and diploma examination without taking add-on courses (BMBF, 2016c).

College for higher vocational education (BHS)

Like the BMS, colleges for higher vocational education (BHS) offer general and vocational education, but on a higher level (Pils & Kepler, 2015). BHS can be attended upon successful completion of the 4th year of the NMS, the 4th or a higher class of AHS or the PVS (BMUKK/BMWF, 2011). For students of NMS or PVS, entrance exams and aptitude tests may apply (ibid.). The BHS teaching consists of 60 percent general and 40 percent vocational education (Tritscher-Archan & Nowak, 2010). As in the BMS schools, there are different BHS colleges, depending on the respective professional fields (Pils & Kepler, 2015). A central part of the vocational education at the BHS is the independently created project work (sometimes in collaboration with businesses), in which students demonstrate their acquired practical skills (BMUKK/BMWF, 2011). After five years and upon successful completion of the BHS, students

receive the matriculation and diploma examinations (BMBF, 2016c). After the BHS, students can start an apprenticeship (Gesselbauer et al., 2016), proceed to higher education institutions, such as to university, UAS, or teacher education, or directly enter the working world (Pils & Kepler, 2015).

Schools for Healthcare and Nursing

Schools for health and medical care provide VET at (or with the cooperation of) hospitals, leading to a professional qualification as certified health nurse, certified pediatric nurse or certified psychiatric health nurse. The training lasts three years and ends with a written project-oriented subject-specific piece of work (Fachbereichsarbeit) and the diploma examination.

VET for Healthcare Professions

Other professions in healthcare exist, which do not involve a defined educational pathway. In addition to achieving the professional qualification of certified health, pediatric, or psychiatric health nurse at a VET program, young adults can join the healthcare profession as medical assistants (i.e. surgical assistants, x-ray assistants, or doctor's assistants), ambulance paramedics, medical masseurs or dental assistants. There are no uniform entry requirements to these health professions and even for a particular profession, entry requirements differ according to schools. In most cases, the successful completion of the ninth compulsory school year and a minimum age of 17 years are the basic entry requirements for medical assistance professions, nursing aid courses and further VET professions in healthcare. (BMG, 2015)

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

The vocationally oriented programs at the post-secondary level will be described in more detail in the following section.

Schools for people in employment

Various Institutions offer PET occupation programs for people already in employment. Among the important public institutions are upper level trade and technical institutes, commercial academies, upper level institutes for commercial professions, training institutions for early childhood education and training institutions for social education. The requirements for admission to the institutions mentioned above are a completed vocational education or professional experience in the relevant field and a minimum age of 17 reached by the end of the year of the admission. The training programs at the upper level institutes usually last 4 years (2 years for training institutions for education) and lead to a higher level vocational qualification (SchOG, Schulorganisationsgesetz).

Post-secondary courses at PET Colleges (Kollegs)

Post-secondary courses (Colleges, BMHS) are a special form of BHS and address mainly graduates of academic secondary schools, such as AHS, who want to acquire PET qualification within a short period (BMBF, 2016c). These courses at the post-secondary education level are offered as modular programs lasting for two to three years in different study fields (BMUKK/BMWF, 2011). Programs are available in the area of business, engineering, nursing, school teaching, social and service sectors (BMBF, 2016c). To gain admission, the successful completion of one of the three baccalaureate examinations is required (BMUKK/BMWF, 2011). The successful completion of a post-secondary courses ends with a diploma examination (ibid), which gives professional allowances under trade regulations for relevant professional groups (BMBF, 2016d). Approximately 4'500 students enroll per year in one of the Colleges (BMUKK/BMWF, 2011).

Industrial master colleges (Werkmeisterschulen) and building craftsperson schools (Bauhandwerkerschulen)

There are PET qualifications such as industrial master colleges and building craftsperson schools are outside of the formal education system and the Bologna system (BMUKK/BMWF, 2011). These special forms have public law curricula, but are offered in further education institutions (Tritscher-Archan, 2014). They allow professional upskilling after passing a VET program in the technical and commercial (industrial master colleges) and the construction sector (building craftsmen schools; Musset, Bloem, & Fazekas, 2013). The programs take two years and end with a final examination. Successful completion allows one to train apprentices and provides, after four years of labor activity, the authorization of self-employment in a related work field (Tritscher-Archan, 2014). Every year around 3'500 people take master craftsperson and industrial master exams (Musset, Bloem, & Fazekas, 2013).

From a legal point of view, master craftsperson examinations are merely examinations, and the preparation for these is the responsibility of every candidate who wants to complete the program (Schneeberger, Schmid, & Petanovitsch, 2011).

A note on VET oriented programs at Universities of Applied Sciences (UAS)

The first UAS in Austria were founded in 1994. The objective of UAS is "(…) to enable greater vocational orientation of tertiary education while complementing the already existing long studies at scientifically oriented universities (…)" (Schneeberger, Schmid, & Petanovitsch, 2011). According to the ISCED classification, UAS belong to the general education sector (marked by an "A", e.g. ISCED level 5A). With the introduction of the UAS, some of the programs formerly offered at PET colleges (ISCED 5B) were transformed into general

education (ISCED 5A) programs offered at UAS. This is a rather recent phenomenon, especially in the health care sector (Schneeberger, Schmid, & Petanovitsch, 2011) where it is possible to receive training in general health and medical care in the form of a Bachelor degree program at a UAS (BMG, 2015).

3.3 Regulatory and Institutional Framework of the VPET System

In Austria, the policy and framework development in the VPET system is constantly challenged by the different interests of the various stakeholders (Musset, Bloem, & Fazekas, 2013). Additionally, no overarching centralized control system exists for the education system (Luomi-Messerer, et al., 2009) and several governance structures prevail side by side, managed by different authorities (ibid.). The responsibility for the VPET system is divided among the following key actors: federal institutions, municipal institutions, and social partners (Trampusch, 2009). Social partners play a special role within the Austrian VPET system by backing it strongly (ibid.). Furthermore, the institutional framework of the federal as well as the corporatist structures of the VPET system are very centralized, when comparing Austria to countries with a similar dual system such as Germany (ibid.).

Appendix A contains a detailed compilation of the regulatory and institutional framework of the VPET System.

3.3.1 Central Elements of VPET Legislation

The federal constitutional act (Bundes-Verfassungsgesetz, B-VG) defines the legislation and implementation competencies of the federal government and the provinces. According to the B-VG, the federal government has the responsibility for the legislation and implementation of the VPET system (Art. 10 Abs. 1 Z8, Z11 and Art. 14 B-VG). The B-VG provides the provinces of Austria with the responsibility for legislating and implementing forestry and agriculture affairs, as well as partial responsibility for vocational school affairs (Art. 14 Abs. 1-4 B-VG).

The principle statute for the VET-System is the Federal Act on Vocational Training of Apprentices (Berufsausbildungsgesetz, BAG). It provides the legal basis for in-company training in the dual system. The School Organisation Act (Schulorganisationsgesetz, SchOG) and the School Education Act (Schulunterrichtsgesetz, SchUG) regulate the organization of and education at public schools. Education at vocational schools fall within their purview. There are special regulations for the legislation of VET in forestry and agriculture affairs. Also of importance for the legislation of the VET system are the Youth Training Provision Act (Jugendausbildungssicherungsgesetz, JASG), the Federal School Authority Act (Bundes-schulaufsichtsgesetz), the School Provider Act (Schulerhaltungsgesetz), the Educator

Employment Act (Landeslehrer-Dienstrechtgesetz, LDG) and the Higher Education Act (Hochschulgesetz, HG).

The JASG contains provisions for labor market policy interventions to compensate for lacking training positions in schools and companies (Cedefop, 2006). The Federal School Authority Act regulates the composition and competence of the federal school authorities. The School Provider Act defines the school providers for compulsory public schools and regulates their obligations and competencies. The Higher Education Act regulates the education of the public compulsory schoolteachers, while the Educator Employment Act regulates their rights and duties and sets minimal requirements for the nomination of a teacher. There is no principle statute for the PET system comparable to the BAG. Despite the lack of a principle statute, there are secondary statutes, namely the Adult Education Promotion Act (Erwachsenen-bildungsförderungsgesetz, EW-FB), the School Organisation Act (Schulorganisationgesetz, SchOG) and the School Education Act for Employed Persons (Schulunterricht für Berufstätige, SchUG-BKV), which are important for the legislation of the PET system. The EW-FB regulates the federal government's financial support of PET institutions; the School Organisation Act and the School Education Act for Employed Persons regulate the organization as well as the education of public PET institution.

3.3.2 Key Actors

a) Vocational Education and Training

Federal Institutions

The federal government is generally responsible for the legislation and implementation of VPET system affairs (B-VG).

The Federal Ministry for Education (BMB) is the responsible administrative body for school-based education in the government. The responsibility and capabilities of the BMB concerns the entire school system, from primary school to baccalaureate, teacher-training colleges, as well as adult education (BMBF, 2015c). Its responsibilities range from curriculum creation (SchOG) to performance evaluation of the respective educational institutions and educational research projects (BIFIE, 2016b; BIFIE, 2016a).

The responsibility for the company-based VET lies with the Federal Ministry of Science, Research and Economy (BMWFW), while the Federal Ministry for Education (BMB, previously BMUKK) is responsible for the school-based VET (BMUKK, 2008; Cedefop, 2012). The BMWFW implements training regulations by decree, which consists framework curricula for

the company-based VET. The BMB provides the legislation for VET schools and colleges and sets up the framework curricula (OECD, 2010).

The BMWFW constitutes the Federal Advisory Board on Apprenticeship (Bundes-Berufsbildungsbeirat, BBAB) – a social partnership body. The Minister of Science, Research and Economy must appoint six representatives each of the Chamber of Commerce and the Chamber of Labour, as well as two vocational school teacher representatives in an advisory capacity. The Advisory Board on Apprenticeship submits proposals for implementation or modification of regulations on the VET system by the BMWFW (§ 31 BAG).

Provincial Institutions

The provinces have competencies in legislation and implementation in certain affairs of the school-based VPET (Art. 10 Abs. 1 Z8, Z11 and Art. 14 B-VG), for example those of the Educator Employment Act, the affairs of federal school authorities (such as regional education authorities (Landschulräte, LSR)) and the external organization of public schools (structure, organizational form, construction, maintenance, etc.).

The regional education authorities (Landschulrat, LSR) are responsible for the school supervision. The LSRs also have advisory roles in the process of curriculum development for the school-based education by the BMB (§ 6 SchOG). The provinces appoint the members (Kollegium) of the LSR and the provincial governor is simultaneously the president of the LSR. The voting members of the LSR appointed by the provinces consists of parents of students and teachers. Additionally, group members with advisory capacity are representatives of churches and religious communities as well as representatives of statutory representative bodies, such as the Chamber of Commerce or the Chamber of Labour. Further members with advisory capacity include the LSR director, the regional school inspector and a representative of the school doctor (§ 6 und 8 Bundes-Schulaufsichtsgesetz).

The provincial Chambers of Commerce must implement an apprenticeship office and appoint its director. The apprenticeship office primarily supervises in-company training and legal compliance. The apprenticeship office is also responsible for training alliance support of appropriate companies or organizations, support of initial and further training of in-company trainers and general support of apprentices and trainers in various matters (§ 19 BAG).

Municipal Institutions

Individual schools on the municipal level have great freedom in the implementation of the curriculum developed by the BMB. They are allowed to make autonomous curriculum

decisions in a pre-set framework, as long as the educational task of the various types of schools, such as the school form and disciplines, is not concerned (SchOG).

Social Partners

Through the strong engagement of the Economic Chamber (Wirtschaftskammer Österreich, WKÖ) and the Chamber of Labour (Arbeiterkammer, AK), social partners play a central role in the Austrian VPET system (Trampusch, 2009; Musset, Bloem, & Fazekas, 2013). The four major interest groups (Wirtschaftskammer Österreich, Österreichischer Gewerkschaftsbund, Bundesamt zur Korruptionsprävention und Korruptionsbekämpfung und Landwirtschafts-kammer Österreich) are lobbies anchored deeply within the political system (WKÖ, 2016). Their commitment is strong, even in comparison to countries with a tradition of high involvement of social partners. Their responsibility and rights are to review and introduce legislative proposals, adapt existing apprenticeships or introduce new apprenticeships when needed, participate in numerous commissions, advisory boards and committees, and to send representatives to public self-governing bodies (WKÖ, 2016). As mentioned above, representatives of the social partners are members of the Federal Advisory Board on Apprenticeship (BBAB) and the Regional Education Boards (LSR).

Education and training providers

Approximately 65 percent of all VET schools are public and directly provided by the state, province or municipality (Statistik Austria, 2015b). While the school based training for apprenticeships is mostly provided by public instutions, the provision is rather mixed for BHS/BMS. For example, quasi-public or private institutions such as the AK or the WKÖ act as VET providers (Statistik Austria, 2015c). Churches in general are one of the largest providers of private VET (Statistik Austria, 2015c). The Roman Catholic Church is one of the largest private providers of school based VET and accounts for around 12 percent of all intermediate and higher VET schools/ colleges (Statistik Austria, 2015b). However, although private schools are built, maintained and run by private providers, they are mainly funded through public sources (Herzog-Punzenberger, Bruneforth, & Lassnigg, 2012).

b) Professional Education and Training

Federal Institutions Similar to the VET system, the responsibilities for the Austrian PET system is shared among different state authorities. The responsibility for PET courses at the colleges is shared between provinces and the BMUKK (ibid). The BMUKK creates the curriculum for colleges and sets important cornerstones of their organization (e.g. admission requirements, training times, qualifications; ibid.).

The offices in charge of the master craftsperson examination are located at the regional economic chambers of commerce. The legal basis is the Trade, Commerce and Industry Regulation Act (*Gewerbeordnung*), which sets the rules for the selection of examiners (Schneeberger, Schmid, & Petanovitsch, 2011).

Social Partners

As in the VET system, the social partners of the PET system have a high influence through local and political intentions (Luomi-Messerer, et al., 2009). The same social partners as in VET (Wirtschaftskammer Österreich, Österreichischer Gewerkschaftsbund, Bundesamt zur Korruptionsprävention und Korruptionsbekämpfung and Landwirtschaftskammer Österreich) review and introduce legislative proposals, participate in numerous commissions, advisory boards and committees and send representatives to the public self-governing PET bodies (WKÖ, 2016).

Education and training providers

The social partners not only act as advisory bodies, but also participate directly by as training providers for college courses (Musset, Bloem, & Fazekas, 2013).

3.4 Educational Finance of the VPET System

In 2014, 5.7 percent of GDP per capita was spent on education. 1.5 percent of GDP per capita was spent on tertiary education and 4.2 percent on elementary, compulsory and post-secondary non-tertiary education (Statistik Austria, 2015c). In general, most of the funding for the entire VPET system comes from public sources.

3.4.1 Educational finance of the VET system

A large part of the expenditure at the upper secondary education level is attributed to the VET system, mostly because about 75 percent[10] of all upper secondary students attend a VET program (OECD, 2015f). Not only public but also private VET institutions are primarily funded by public sources (Herzog-Punzenberger, Bruneforth, & Lassnigg, 2012). Private expenditure on VET mainly concerns the dual VET system, in which host companies pay for apprenticeship training (ibid.). School-based VET expenditures are mainly ascribed to part-time vocational schools. Bruneforth, Lassnigg, & Vogtenhuber (2016) calculated that the public expenditures for upper secondary VET amounted to 11,400 euros per student for the year 2012, while only 9,300 euros per student were spent on general education. BMS and BHS account for approximately 11,015 euros per student, while the part-time vocational schools account for 4,300 euros per student.

[10] Trischer-Archan (2014) lists a value of 80 percent for the 10th grade.

The cost of one apprenticeship position for a host company lies between 17,164 and 26,528 euros per year (Schlögl & Mayerl, 2016). The apprenticeship salary makes up the largest part of the apprenticeship expenditures (ibid.) The actual amount of the salary is mostly regulated by the collective agreement of the company or sector (Cedefop, 2012). In general, companies in Austria accumulate a net cost for training apprentices, i.e., the costs are higher than the productivity of apprentices (Schlögl & Mayerl, 2016). In the first year, the net income is -2,609 euros, in the second year -3,132 euros and in the third year -4,518 euros. It appears counterintuitive that the net costs increase with each year of training, but this is because apprentices are mostly engaged in non-value-adding-intensive tasks. Therefore, their productivity does not increase at the same pace as their wages do.

The answer to why Austrian companies still train apprentices lies in the public training remuneration, provided by for the host companies by the state. Those training remunerations move the beforehand net cost to a net benefit, thus making apprenticeship profitable. In addition, the investment and screening motive plays a crucial role for many companies. The recruiting of apprentices, who evolve into qualified employees, fulfilling high quality standards, is an important reason to offer apprenticeships. (Schlögl & Mayerl, 2016)

In general, a wide range of subsidization schemes for apprenticeships were set up since the mid-1990s (OECD, 2010). These include tax reliefs for training companies (e.g. wage tax exemptions) and subsidization of training alliances, financial incentive schemes to foster the creation of more apprenticeship positions. In 2008, the former system of subsidization of apprenticeship places, where companies received an annual training premium of 1000 euros per apprentice and a bonus for each additional apprentice (400 euro per month in the first, 200 euro per month in the second and 100 euro in the third year) (so-called “Blum Bonus”[11]), was replaced by a new system. According to the new system, the subsidies for apprentices increased each year up to the third year. If an apprentice did not finish his apprenticeship after three years, companies receive only half of the subsidy of the third year. The exact wages for apprentices are determined by the social partners (OECD, 2010). In 2012, about €159 million was spent for this kind of subsidy (Tamesberger, Leitgöb, & Bacher, 2014).

Besides the basic subsidization, there are several other incentive programs for companies. One example includes the payment of a quality bonus of 3000 euros per apprentice. This bonus is paid to companies whose apprentices successfully pass a quality test after having completed the first half of their apprenticeship. If the apprentice does not pass the test, the company can still earn 1500 euros if it can prove that it provided sufficient instruction and

[11] Named after the Government Commissioner for Apprenticeship, Egon Blum.

training in order to prepare the apprentice for the test. In addition, the Apprenticeship Office of the Regional Economic Chamber has to evaluate the training documentation of the company and the right to comment on it. (OECD, 2010)

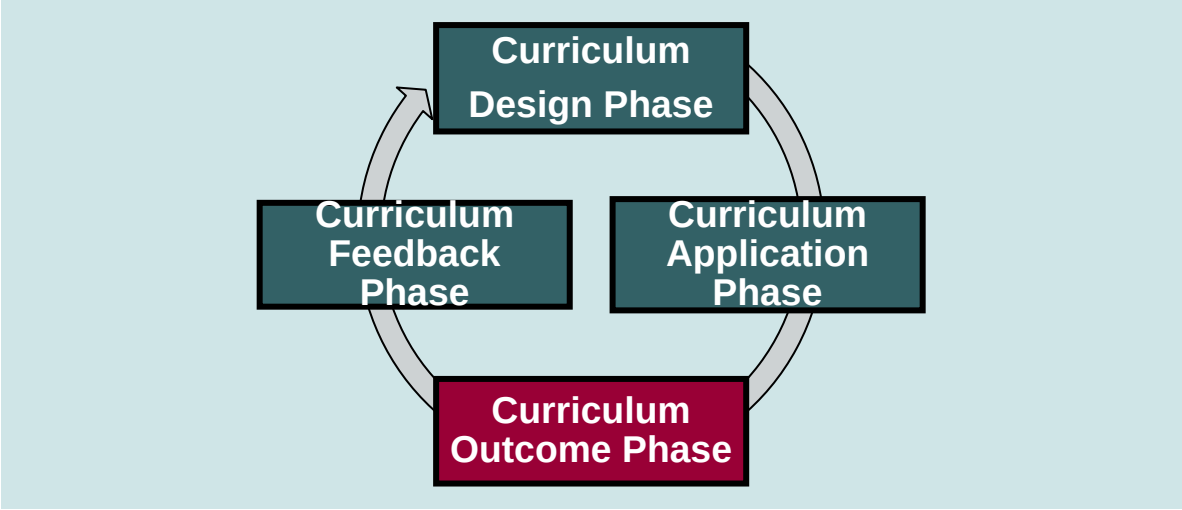
3.4.2 Educational finance of the PET system

PET offered in PET colleges is financed through public resources (Schneeberger, Schmid, & Petanovitsch, 2011).

3.5 Curriculum Development

The curriculum is a central element to a well-functioning VPET system, as it defines the framework and the (quality) standards of the education system. The development of a curriculum can be divided 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 6: Curriculum Value Chain (CVC)



Source: Bolli, et al. (2016)

In the curriculum design phase, VET curriculum content and qualification standards are decided upon by relevant actors. The discussion in the subchapter below focuses on the degree and the amount of stakeholder participation in curriculum design in Austria. 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 subchapter in this Factbook focuses on those learning environments. Specifically, it addresses where learning takes place and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and analyzed 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 to the curriculum building process. In order to ensure that the skills taught in the VPET programs correspond to the needs of the labor market, experts from companies should be involved in defining the qualification standards and learning contents of the curricula.

The BMB has a legal mandate to determine the framework of the different curricula for the entire school system concerning all general and vocational education institutes. The provincial education authorities, such as the regional education boards (Landesschulräte), are to be consulted before enacting such regulations. Individual schools can adopt autonomous curriculum decisions as long as the educational task of the various types of schools, such as the school forms and disciplines, is still provided (SchOG).

Based on the School Organisation Act (Schulgorganisationsgesetz-SchOG) the BMUKK is responsible for the contents, purposes and curricula of the VET schools (Cedefop, 2012). The act also applies to most of the post-secondary (non-tertiary) VET programs, such as the colleges, add-on courses, preparatory courses, part-time industrial master colleges, building craftsperson schools, and master craftsperson courses (Tritscher-Archan & Nowak, 2011). An important feature of the Austrian education system is the establishment of national educational standards (Bildungsstandards) for compulsory and VET schools. The educational standards in vocational training have been in place since 2004 and are a key initiative of the BMUKK that applies to all VET schools (BMBF, 2016f). These educational standards define core competencies that ensure study skills and enable students to participate actively in the world of work (BMBF, 2016g). A group of teachers develop and draft the curricula. (BMUKK, 2008).

The social partners can comment on drafts of curricula and other school-based regulations on the national level (Tritscher-Archan & Nowak, 2011). District and regional education boards (Landesschulräte), which are the federal school authorities in provinces, enact general instructions and examine draft laws and regulations (BMUKK, 2008).

While the responsibility for school-based VET is in the hands of the BMUKK, the Ministry of Science, Research and Economics (BMWFW) regulates company-based VET. Among other tasks, the BMWFW elaborates the Vocational Training Act (Berufsausbildungsgesetz) and implements the training regulations (Ausbildungsordnung), containing the curriculum for the individual apprenticeship occupations (Tritscher-Archan & Nowak, 2011).

For the PET sector, curricula design is regulated differently. The BMUKK carries out the curriculum design for PET institutions such as the colleges (BMUKK/BMWF, 2011). The social partners have a statutory right to review the curricula of VET schools and colleges (Schneeberger, Schmid, & Petanovitsch, 2011).

3.5.2 Curriculum Application Phase

The process of implementing curriculum in the learning environment is important to achieving the intended learning outcome. The execution of national legislations at the state level and the supervision of schools lies in the hands of the regional education boards (Musset, Bloem, & Fazekas, 2013). The regional education boards are often influenced by local and political interests (Lassnigg, 2011; Leitner, 2006). At the municipal level, primary and secondary schools are allowed to autonomously change the number of lessons of individual subjects or to develop their own priorities and to take into account (regional) needs of the economy (Tritscher-Archan, 2014). The BMUKK sets up guidelines about proportion of theory versus practice in general education and VET (Tritscher-Archan & Nowak, 2010). Table 5 summarizes the guidelines for the different VET programmes.

Table 7: VET at upper secondary education level

VET program	ISCED	GE – VET	Theory – Practice	Duration of program
PVS	3C	40% GE 60% VET	60% Theory 40% Practice	1 year
BMS	3B	40% GE 60% VET	90% Theory 10% Practice	3 to 4 year
BHS	4A 5B Kolleg	40% GE 60% VET	90% Theory 10% Practice	5 years
Schools for general healthcare and nursing school	4B	80% GE 20% VET	50% Theory 50% Practice	3 years
Apprenticeship (dual system)	3B	90% GE 10% VET	20% Theory 80% Practice	2 to 4 years

Note: GE = General Education, VET = Vocational Education and Training

Source: own table based on Tritscher-Archan & Nowak (2010)

At colleges, the responsibility for PET courses is shared between provinces and the BMUKK. Beyond the tasks of the BMUKK, which creates the curricula and sets important cornerstones of the program organization, the colleges are free in how they apply the curricula.
Regarding the master craftsperson examination, the responsibility to acquire the skills that are necessary to pass the examination is, from a legal perspective, in the hand of the students. In practice, the schools offering this pathway have to act within the rules and aims laid down in public law curricula (Schneeberger, Schmid, & Petanovitsch, 2011).

3.5.3 Curriculum Feedback Phase

The curriculum feedback phase addresses the question of if and how educational outcomes are analyzed. Based on the feedback, the curriculum can be re-worked and improved.

The VET Quality Initiative (QIBB) is an initiative of the technical, vocational, and adult education section under the BMB. The QIBB anchors a systematic quality management in the Austrian vocational education system by securing the quality of teaching and the quality of administrative services to the levels of vocational school, provincials and federal government (BMBF, 2015e). Since the PET sector consists to a large extent of public schools, the same mechanisms apply as for the VET sector (Schneeberger, Schmid, & Petanovitsch, 2011).

The QIBB ensures that the BMB-defined vocational and general skills are taught properly at the vocational education institutions. To ensure the quality of education at the different institutions, the QIBB engages various tools such as questionnaires, statistics, reports and interviews. At the provincial level, the school inspectorate ensures inter-school coordination and the implementation of QIBB measures. At the level of the respective educational institutions, the schools take individual responsibility for the implementation of the QIBB measures. The QIBB analyses the entire system of vocational training in the eye and carries out top-down reforms starting at the BMB. Simultaneously, it can also provide concrete quality-improvement measures for individual schools. (QIBB, 2016)

The Federal Institute for Educational Research, Innovation and Development (BIFIE), also subordinate to the BMB, supervises quality assurance of the entire Austrian school system (BIFIE, 2016b). While the QIBB is concerned with the proper implementation and monitoring of existing quality assurance measures, the BIFIE is responsible for the correct implementation of the new educational standards in compulsory subjects (for example by performing the Pisa studies). The BIFIE adheres to the legal mandate to carry out the development, implementation and evaluation of standardized, competency-based matriculation and diploma examinations at secondary schools. In addition, the BIFIE presents the BMB with new possibilities for improvements in everyday school life based on collaborations with education researchers. The BIFIE designs innovative school projects and supports their implementation in schools, e.g. through specific teacher training or the development of teaching materials. (BIFIE, 2016a)

In the dual system, the quality of VET is ensured not only by the QIBB's regular performance review of part-time vocational schools (QIBB, 2016), but also by the apprenticeship examination (LAP). In the LAP, an external commission of social partners' representatives examines the performance of apprentices regarding Austria-wide standards (Tritscher-Archan & Nowak, 2010).

3.6 Supplying Personnel for the VPET System (Teacher Education)

Depending on the school attainment level of prospective teachers and their desire to pursue an academic career or be a lateral entrant, different qualification requirements are needed. According to Tritscher-Archan & Nowak (2011), a teacher might teach at the upper secondary level at full-time VET schools and part-time vocational schools (part of apprenticeship training), as well as at post-secondary VET institutions and on the tertiary level. In contrast, the persons responsible for company-based apprenticeship training are VET trainers. Until now, teachers in the compulsory schooling system (primary, lower secondary, pre-vocational and special needs school) were trained at university colleges of teacher education, while prospective teachers of academic, VET schools and colleges (AHS, BMS, BHS) were trained at universities (UNESCO, 2012). However, the teacher-training program is currently in transition. For the near future, three areas of study are offered: teacher training for primary schools, teacher training for secondary level general education and teacher training for VET at the secondary level (BMBF, 2016c). The new program is offered in cooperation with university colleges of teacher education and universities. By law, the new program must begin in 2016 (ibid.). The new program for secondary level general education includes a single teacher training program (Lehramtstudium) for NMS, AHS and the general subjects of VET schools (BMS, BHS), and will be established soon (ibid.).

The admission criteria for prospective teachers in occupation-related practice at vocational schools differ from the criteria for compulsory teachers and teacher in occupation-related theory. The former requires a general university entrance qualification or master craftsman examination, special job-related conditions and several years of professional experience within the teaching subject (Mathies & Welte, 2014). The latter requires a subject-specific university degree in addition to the provision of professional practice for two to four years, depending on the business sector.

To successfully complete their studies, students must write a master's thesis and pass the diploma exam. To acquire pedagogical skills, students attend part-time pedagogical courses at a university college of teacher education (Tritscher-Archan & Nowak, 2011).

The appendix B contains a summary of all institutions, requirements and features of teacher education for all VPET.

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

4.1 Major reforms

The major reforms in the Austrian VPET system since 1990 are as follows:

- The establishment of the UAS sector by the UAS Studies Act in 1992 was the end of the traditional monopoly of the federal government in founding and funding tertiary institutions (UNESCO, 2012). Due to the establishment of the UAS and their offer of specific programs for people in employment (considering their time resources with evening and weekend provision), a variety of people received access to PET, which otherwise would not have been possible (Tritscher-Archan & Nowak, 2011). The UAS account for 11 percent of all students (Wissenschaftsrat, 2012), and is seen as a success story. In 1994, its founding year, 693 students were enrolled at UAS's. 20 years later, this number has increased to over 45'000 students (Statistik Austria, 2016c).

- In 1993, the basis for enhancing school autonomy at vocational schools had been established by the 14th SchOG amendment. At the BMS / BHS as well as the part-time vocational schools, the autonomy of curriculum implementation (introduction of new subjects, choice of training priorities, use of remedial and optional subjects) are used in different ways. They are mainly used for profiling of schools and their locations. The initial fear, that the curricula would deviate too far from each other, could not be confirmed. (Gruber, 2001)

- The steady decline in number of apprentices in the early 1990s put pressure on reforms, leading in 1997 to the introduction of the (optional) higher educational entrance examination for apprentices. This examination paved the way for apprenticeship graduates to achieve higher education, thereby revitalizing the dual system. (Gruber, 2004)

- In 2002, the new Universities Act provided the legal framework for the implementation of the three-cycle degree structure according to the Bologna-Declaration. The new Universities Act and its amendments allowed for the transformation of all study programs into the bachelor's and master's degree structure (UNESCO, 2012).

- In 2005, the federal act on the organization of university colleges of teacher education and their study programs led to a reorganization of the education of vocational school teachers and teachers of certain subject at BMS and BHS. Until 2007, teacher qualifications were acquired at post-secondary institutions without tertiary degrees. These vocational teacher training colleges were transformed into university colleges of teacher education. (Tritscher-Archan & Nowak, 2011)

- Company and supra-company apprenticeship subsidization should help to improve the quality of VET and raise the number of VET positions. Since 2008, the workplace-related apprenticeship training subsidization system underwent some reforms. Before 2008, the apprenticeship offices of the economic chambers, along with the participation of employee

representatives, were responsible the company-related apprenticeship subsidies. Within the new subsidy system, implemented in 2008, subsidies consist of a basic subsidy and a series of additional quality and employment-related subsidies. This should create an incentive to offer additional apprenticeship positions and help to increase the quality of apprenticeship training. (Tritscher-Archan, 2010)

4.2 Major challenges

The major challenges for the Austria VET system are as follows:

- The postsecondary PET system consists of many institutions which are subject to different and uncoordinated governance systems. This diversity has many strengths, allowing innovation and entrepreneurial approaches, but it can also be a major challenge. To adequately manage this diversity and to co-ordinate different stakeholders in the VPET system without damaging its vibrant diversity is a difficult balancing act. (Musset, Bloem, & Fazekas, 2013)
- Major challenges for the Austrian education system are falling birth rates and immigration. Between 1970 and 2010 the number of children in regular primary school age decreased by 37 percent (Statistik Austria, 2015b). Additionally, the high number of schoolchildren with an immigrant background challenges the education system. Today, in Vienna, more than half of all students speak another language at home than German (ibid.). Children with an immigration background tend to fall behind local children in terms of school performance and achieved degrees (ibid.). Ensuring equal opportunities in the context of rising numbers of immigrant children remains a challenge.
- The economy demands young people with a high skill level. Nevertheless, PET is mainly driven by students' preferences and therefore does not always fully reflects the needs of the economy. To strengthen employers' needs alongside student demand and to bring the needs of the students and the business under one roof is a challenging task. (Musset, Bloem, & Fazekas, 2013)
- In the near future, the Austrian society will shift even further towards a technology and occupation-oriented information society. Learning things via memorization is becoming less important and competence-based learning is playing an increasingly major role. In order to keep up with the rapidly changing technology and environment, the VET school sector must stay flexible and provide training opportunities that correspond to this future. (BMBF, 2015f)

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Appendix A: Regulatory Framework on Vocational Education and Training in Austria

Dimension	Explanation	Regulatory framework in the Netherlands	
I. Overall governance		**Upper-secondary level**	**Post-secondary level**
1. Principal statute	Reference and year of publication	- Federal Act on Vocational Training of apprentices, (Berufsausbildungsgesetz, BAG), 1969	n/a
2. Secondary statutes	Reference and year of publication	- Federal Act laying down the Principles governing Part-time schools for apprentices of Agriculture and Forestry (Bundesgesetz betreffend die Grundsätze für land- und forstwirtschaftliche Berufsschulen), 1975 - Federal Agricultural and Forestry Schools Act (Land- und forstwirtschaftliches Bundesschulgesetz), 1966 - Health Care and Nursing Act (Gesundheits- und Krankenpflegegesetz, GuKG), 1997 - Higher Education Act (Hochschulgesetz, HG), 2005 - School Education Act (Schulunterrichtsgesetz, SchUG), 1986	- Adult Education Promotion Act (Erwachsenenbildungsförderungsgesetz, EW-FB), 1973 - Federal Act laying down the Principles governing Specialised Schools of Agriculture and Forestry (Bundesgesetz betreffend die Grundsätze für land-und forstwirtschaftliche Fachschulen), 1975 - Federal Berufsreifeprüfung Act (Bundesgesetz über Berufsreifeprüfung), 1997 - School Organisation Act (Schulorganisationsgesetz, SchOG), 1962 - School Education Act for Employed Persons (Schulunterrichtsgesetz für Berufstätige, Kollegs und Vorbereitungslehrgänge, SchUG-BKV), 1997

		- School Organisation Act (Schulorganisationsgesetz, SchOG), 1962 - Trade Regulation Code (Gewerbeordnung, GewO), 1994 - Vocational Training (Agriculture and Forestry) Act (Land- und Forstwirtschaftliches Berufsausbildungsgesetz), 1969 - Youth Training Provision Act (Jugendausbildungssicherungsgesetz, JASG), 1998 - Federal School Authority Act (Bundes-Schulaufsichtsgesetz, SchAG), 1962 - Teachers of the Provinces Employment Act (Landeslehrer-Dienstrechtsgesetz, LDG), 1984 - School Provider Act (Schulerhaltungsgesetz), 1998	
3. Responsible ministry		- Federal Ministry of Education (BMB) - Federal Ministry of Science, research and Economy (BMWFW) - Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) - Federal Ministry of Health and Woman's Issues (BMGF)	- Federal Ministry for Education (BMB) - Federal Ministry of Science, research and Economy (BMWFW) - Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) - Federal Ministry of Health and Woman's Issues (BMGF)

4. National organisation			
a) Administration	Who is responsible for the nation-wide administration of VET/ PET?	- Federal Advisory Board on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB)	n/a
b) Representation, advice	Are there institutions representing groups such as - the “social partners”, comprising the employees’ as well as the employers’ side, - vocational teachers, who submit expert opinions regarding VET/ PET to the competent bodies or exercise statutory powers?	- Federal Advisory Board on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB) Composed of representatives of employers and employees organizations and representatives of vocational schools with advisory capacity (§31 BAG). - Institute for Education Research and Economy (Institut für Bildungsforschung und Wirtschaft, IBW) Composed of Specialists in the area of VET. - Funding Committee (Förderausschuss) Composed of representatives of employers and employees organizations and representatives of the Federal Ministry of Science, research and Economy (BMWFW) (§31b BAG). - Institute for Vocational Promotion (Berufsförderungsinstitut, BFI) It is an organization for training and development of the Austrian trade association and chamber of employees.	- Federal Advisory Board on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB) Composed of representatives of employers and employees organizations and representatives of vocational schools with advisory capacity (§31 BAG). - Institute for Education Research and Economy (Institut für Bildungsforschung und Wirtschaft, IBW) Composed of Specialists in the area of VET. - Institute for Economic Development (Wirtschaftsförderungsinstitut, WIFI) It is an organization for the promotion of adult education of the Austrian chamber of commerce - Institute for Vocational Promotion (Berufsförderungsinstitut, BFI) It is an organization for training and development of the Austrian trade association and chamber of employees.

c) Mandatory representation of:	Do the three groups listed below have a say in the VET/ PET system, i.e. legally specified controlling and voting rights?		
- Employers		Yes. See I.4.	Yes. See I.4.
- Trade unions		Yes. See I.4.	Yes. See I.4.
- Vocational teachers		Yes. See I.4.	Yes. See I.4.
5. Number of training programs (VET/ PET)	Is there a number of officially recognized VET/ PET occupations/ programs?	Dual System: Yes. The Federal Ministry of Science, research and Economy (BMWFW) stipulates the list of VET occupations (Lehrberufsliste) by the means of regulations (§7 Abs. 1, BAG). In 2016 there are 198 officially recognized VET occupations (IBW, 2016).	No not in general. But there are in 2016: Industrial master colleges (Werkmeisterschulen): - 18 PET occupation programs Master craftsperson school (Meisterschulen): - 8 PET occupation programs Building craftsperson schools (Bauhandwerkerschulen): - 3 PET occupation programs (Gesamte Rechtsvorschrift für Lehrpläne der Meisterschulen, der Werkmeisterschulen und der Bauhandwerkerschulen) Schools for people in employment (Schulen für Berufstätige): Diverse range of occupation programs, Important public institutions are: - Upper level technical and trade institute - Commercial academy - Upper level institute for commercial professions - Training institution for early childhood education

			- Training institution for social education (SchOG) Post-secondary VET course (Kollegs): - Diverse range of occupation programs.
6. Minimal skill level for admission to VET/PET	A secondary level school-leaving certificate for example	Dual System: No minimal skill level is legally specified.	Industrial master colleges (Werkmeisterschulen): - Completed apprenticeship in a technical industrial field is necessary. Building craftsperson schools (Bauhandwerkerschulen): - Completed apprenticeship in the construction field is necessary. Master craftsperson schools (Meisterschulen): - Minimum age is 18 and regularly a completed apprenticeship or professional experience is necessary. (CEDEFOP, 2006) Schools for People in Employment (Schulen für Berufstätige): In general, the requirements for admission are: - Completed vocational education or professional experience - Minimum age of 17 reached by the end of the year of the admission. (Further details to admission skills in SchOG)

7. Training duration (years)	Is there a minimum training (VET/PET) program duration?	Yes. Generally: 3 years Minimum: 2 years Maximum: 4 years (§6 Abs. 1, BAG)	Industrial master colleges: 2 years Master craftsperson schools: 1-2 years Schools for People in Employment: Usually 4 years (2 years in training institution for social education) Post-secondary courses (Kolleges): 2 years (CEDEFOP, 2006)
8. Is there a special sort of training contract for VET/ PET students? Does it guarantee the quality of the VET/ PET programmes, i.e. does it prevent misuse of the contracts for atypical employment relations? And if, what is the regulation guaranteeing this?	One form of misuse of training contracts could be when firms employ workers under a training contract which might be subject to lower hiring and firing regulations, tax exemptions, etc. To guarantee the quality of the VET/ PET training, a minimal skill level could be required.	Yes (§12 BAG). The training contract can be concluded between an apprentice (Lehrling, §1 BAG) and an authorized apprenticeship trainer (Lehrberechtigter, §2 BAG) for a training occupation of the VET occupations list (Lehrberufsliste, §7 BAG). Training contracts don't contain direct regulation guaranteeing quality of the VET programs. However, training occupations of the "Lehrberufsliste" are subjected to training regulations (Ausbildungsvorschriften, §8 BAG) which guarantee the quality. The training regulation include: - Occupational profile - Max. ratio of apprentices to skilled workers - Max. ratio of apprentices to vocational teacher	n/a

II. Regulation of school-based education			
1. Education and Training Providers	Is the competence and capacity of education and training providers legally specified?	Yes. School providers are the Provinces of Austria for vocational schools. (§ 2 Abs. 2 Schulerhaltungsgesetz)	No. There is a plurality of adult educational school providers. Next to public Institutions are the Institutions of the social partners or religious communities as well as private Institutions. (CEDEFOP, 2006)
2. Mandatory (part-time) educational segment			
a) In general	Is there a mandatory classroom segment for apprentices in addition to the work-based training (dual system)?	Yes. The attendance of vocational schools for apprentices is mandatory (§9 Abs. 5, BAG).	100 % school-based training.
3. Shares of the different instruction segments			
a) In general	Is the share of the different instruction segments legally specified?	Yes. The competent Federal Ministry stipulates curriculums by decrees. The Boards of Education of the provinces of Austria (Landesschulräte) have an advisory role in this process, as well as the responsibility for the development of the curriculums in the provided framework by provisions. The curriculums comprise general educational contents and objectives, as well as total numbers of hours of the teaching subjects. There is the possibility for a certain school autonomy in curriculum development within defined limits (§6 SchOG). The curriculums for the school-based education are published in BGBl. (Bundesgesetzblatt) II Nr. 211/2016.	Yes. The competent Federal Ministry stipulates curriculums by decrees. The Boards of Education of the provinces of (Landesschulräte) have an advisory role in this process, as well as the responsibility for the development of the curriculums in the provided framework by provisions. The curriculums comprise general educational contents and objectives, as well as total numbers of hours of the teaching subjects. There is the possibility for a certain school autonomy in curriculum development within defined limits (§6 SchOG). The curriculums for industrial master colleges, building crafts person schools and master crafts person schools are published in BGBl. (Bundesgesetzblatt) II Nr. 256/2008.

b) Classroom/off-the-job instruction	What is the share of classroom/off-the-job instruction as % of total time spent in VET/ PET training?	20 %. Varies depending on the training occupation. In general, the in-school training is 360 hours per year. The maximal possible share classroom training is 30 % (1.5 days per week). (BGBl. II Nr. 211/2016).	100 %
c) General education	Is the share of general education legally specified? What is the share of general education as % of classroom/off-the-job instruction?	Yes. 25 – 40 %. Varies depending on the training occupation. (BGBl. II Nr. 211/2016).	Yes, the share of general education is specified individually for each programme in its curriculum.
4. Specific mandatory educational contents	Are there legally specified standards regarding the content of the classroom instruction segment?	Yes. In the curriculums of the Federal Ministry the numbers of hours are stipulated by subject for every training occupation. There is as well a certain school autonomy in curriculum development within defined limits (§6 SchOG)	Yes. In the curriculums the numbers of hours are stipulated by subject. There is as well a certain school autonomy in curriculum development within defined limits (§6 SchOG)
5. Mandatory representation in the decision-making process about the content of VET/ PET training. Involvement of:	Are the following three groups involved in the decision-making process about the content of VET/ PET training?		
a) Employers		Yes. Representatives of employers are members with advisory capacity of the boards of education of the provinces of Austria (Landschulräte) (§8 Abs. 2b Schulaufsichtsgesetz Sch-AG, Schulaufsichtsgesetze der Länder). II.3 describes how the “Landschulräte” are involved in the process of curriculum development. Representatives of employers are members of the Federal Advisory Board	Yes. Representatives of employers are members with advisory capacity of the boards of education of the provinces of Austria (Landschulräte) (§8 Abs. 2b Schulaufsichtsgesetz Sch-AG, Schulaufsichtsgesetze der Länder). II.3 describes how the “Landschulräte” are involved in the process of curriculum development.

		on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB). The BBAB submits proposals to enact or amend the decrees stipulated by the Federal Ministry of Science, research and Economy (BMWFW) (§31 Abs. 2 BAG).	
b) Employees		Yes. Representatives of employees are members with advisory capacity of the boards of education of the provinces of Austria (Landschulräte) (§8 Abs. 2b Bundes-Schulaufsichtsgesetz, Schulaufsichtsgesetze der Länder). II.3 describes how the “Landschulräte” are involved in the process of curriculum development. Representatives of employees are members of the Federal Advisory Board on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB). The BBAB submits proposals to enact or amend the decrees stipulated by the Federal Ministry of Science, research and Economy (BMWFW) (§31 Abs. 2 BAG).	Yes. Representatives of employees are members with advisory capacity of the boards of education of the provinces of Austria (Landschulräte) (§8 Abs. 2b Bundes-Schulaufsichtsgesetz, Schulaufsichtsgesetze der Länder). II.3 describes how the “Landschulräte” are involved in the process of curriculum development.
c) Vocational teachers		Yes. Representatives of vocational schools are members of the boards of education of the provinces of Austria (Landschulräte) (§8 Bundes-Schulaufsichtsgesetz). II.3 describes how the “Landschulräte” are involved in the process of curriculum development.	Yes. Representatives of vocational schools are members of the boards of education of the provinces of Austria (Landschulräte) (§8 Bundes-Schulaufsichtsgesetz). II.3 describes how the “Landschulräte” are involved in the process of curriculum development.

		Representatives of vocational teachers are members with advisory capacity of the Federal Advisory Board on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB). The BBAB submits proposals to enact or amend the decrees stipulated by the Federal Ministry of Science, research and Economy (BMWFW) (§31 Abs. 2 BAG).	
6. Is the involvement of firms/employer associations in the process of curriculum development legally defined?	Yes/ No. if yes of whom and to what extent?	Yes, see II.5.	Yes, see II.5.

III. Regulation of work-based training			
1. Work-based training			n/a
a) Compulsory training	Does compulsory work-based training exist?	Yes. (§1 BAG)	
b) Providers	Is the competency and capacity of work-based training providers legally specified?	Yes. (§2 BAG)	
2. Content regulation	Who has the competency to regulate the content of the work-based training segments?	The Federal Ministry of Science, research and Economy (BMWFW) (§8 Abs. 1 BAG).	n/a
3. Required off-the-job instruction *in* the company	Is the share of off-the-job instruction time *in* the company (i.e. the time the student/ apprentice spends in the company, but not in productive work, e.g. on company-owned training facilities) legally specified?	No	n/a
4. Mandatory representation of:	Are the following three groups involved in the decision-making process about the content of work-based training?		n/a
d) Employers		Yes. Representatives of employers are members of the Federal Advisory Board on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB). The BBAB submits proposals to enact or amend the decrees stipulated by the Federal Ministry of Science, research and Economy (BMWFW) (§31 Abs. 2 BAG).	
e) Employees		Yes.	

		Representatives of employees are members of the Federal Advisory Board on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB). The BBAB submits proposals to enact or amend the decrees stipulated by the Federal Ministry of Science, research and Economy (BMWFW) (§31 Abs. 2 BAG).	
f) Vocational teachers		Yes. Representatives of vocational teachers are members with advisory capacity of the Federal Advisory Board on Apprenticeship (Bundes-Berufsausbildungsbeirat, BBAB). The BBAB submits proposals to enact or amend the decrees stipulated by the Federal Ministry of Science, research and Economy (BMWFW) (§31 Abs. 2 BAG).	
5. Statuary powers	Is the aforementioned body (see above, III.1) competent to:		n/a
a) Trainee certification	- hand out training certifications to students/apprentices?	Training certifications are provided by the apprenticeship office (Lehrlingsstellen) (§26 BAG). The apprenticeship offices are part of the chambers of commerce of the provinces of Austria.	
b) Validation of employer sponsorship	- validate employer sponsorship (i.e. verify if possible new training companies meet the necessary standards)?	The apprenticeship office is in charge of supervising the in-company training.	

IV. Financial attributes			
1. Public subsidies	Is there public funding for:		
a) Classroom instruction?		Yes. The provinces of Austria bear the costs for formation and conservation of vocational schools (§2 Schulerhaltungsgesetz). The Federal Government contributes to this costs by bearing half of the personal expenses of vocational schools (§12 Schulerhaltungsgesetz; CEDEFOP, 2006).	General: Adult Education Promotion Act (Erwachsenenbildungsförderungsgesetz, EW-FB), provides the statutory basis for financial support of institution for adult education.
b) Workplace training?		Yes. §19c of the Federal Act on Vocational Training of apprentices, (Berufsausbildungsgesetz, BAG) stipulates the objectives and provision of possible subsidies for the in-company training. The Federal Government bears the expenses for this subsidies (§19b BAG).	n/a
2. Cost redistribution among employers	Is there an instrument of mandatory levy-grant finance to redistribute the costs of on-the-job training among employers?	n/a	n/a
3. Regulation of VET/ PET students' salaries	How are VET/ PET students' salaries/ salary scales determined?	Regulated in collective agreements. If there are no collective agreements regulations of similar vocational occupations are valid (§17 BAG)	n/a

V. Education of VET/ PET teachers			
1. Regulation of VET/ PET teachers' education	Is there regulation on the education of VET/ PET teachers?	Yes. The education of VET/PET teachers at universities of education is regulated in the Higher Education Act (Hochschulgesetz).	n/a
2. Existence of minimal requirements	Does regulation stipulate minimal requirements regarding the education of VET/ PET teachers?	Yes. The requirements are defined in the the Teachers of the provinces Employment Act (§4 und Anlage Landeslehrer-Dienstrechtsgesetz, LDG). The education of VET teachers take place in universities of education. Next to a university degree, professional experience can be necessary.	n/a

References (Appendix A)

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Appendix B

The following figures were taken from Tritscher-Archan & Nowak (2011) and provide a detailed overview of the VPET personnel supply system (teacher education).

VET institution	Teaching staff	Formal qualification	Functions
VET full-time schools – upper secondary level			
VET schools *(berufsbildende mittlere Schulen,BMS) and* VET colleges *(berufsbildende höhere Schulen, BHS)*	Teachers of general education subjects (e.g. mathematics, German)	Teacher training course (incl. pedagogical courses) at a university in the respective subject and one-year teaching practice at a school	-Selection of teaching content on the basis of framework curricula - Selection of teaching method - Cooperation in the development of curricula within the framework of curriculum committees - Evaluation and validation of learning outcomes (LOs) - Adoption of teaching tasks in social and societal fields
	Teachers of occupation related theory (e.g. electrical engineering, mechanical engineering)	Subject-specific university study and professional practice of between two and four years plus part-time pedagogical training at a university college of education (Pädagogische Hochschule, PH)	
	Teachers of occupation related practice (e.g. laboratory, workshops)	Completion of studies at a PH or subject-specific university study with professional practice and part-time pedagogical training at a PH; or master craftsperson qualification, professional practice and part-time pedagogical training at a PH; or HTL qualification, professional practice and part-time pedagogical training at a PH	
Schools for general healthcare and nursing (Schulen für allgemeine Gesundheits- und Krankenpflege, GuK)	Teachers	GuK school and university program “Akademische/r Lehrer/in für Gesundheitsund Krankenpflege und Lehrhebammen” (Graduate teacher for healthcare, nursing and midwifery) plus professional practice	- Selection of teaching content on the basis of framework curricula - Selection of teaching method - Cooperation in the development of curricula within the framework of curriculum committees - Evaluation and validation of LO
Dual vocational training (apprenticeship) – upper secondary level			
Company (company-based part of training)	IVET trainers subjects (e.g. mathematics, German)	IVET trainer exam or 40-hour IVET trainer course plus an expert interview	- Selection of training methods - Planning of the training at the company – Preparation and implementation of training

Part-time vocational school (school-based part of training	Teachers of occupation related theory (e.g. informatics)	Completion of studies at a PH; upper secondary school leaving certificate (Reifeprüfung) plus three-year professional practice and part-time pedagogical training at a PH	- Teaching content on the basis of framework curricula - Selection of teaching method - Cooperation in the development of curricula within the framework of curriculum committees - Evaluation and validation of learning outcomes - Adoption of teaching tasks in social and societal fields
	Teachers of occupation related theory (e.g. informatics)	Completion of studies at a PH; upper secondary school leaving certificate (Reifeprüfung) plus three-year professional practice and part-time pedagogical training at a PH	
	Teachers of occupation related practice (e.g. laboratory assignments)	Completion of studies at a PH; master craftsperson qualification plus part-time pedagogical training at a PH and part-time pedagogical training at a PH	
VET at the post-secondary non-tertiary level			
Post-secondary VET colleges	Teachers	Subject-specific university study or subject-specific postsecondary VET college	- Selection of teaching content on the basis of framework curricula - Selection of teaching method - Cooperation in the development of curricula within the framework of curriculum committees - Evaluation and validation of Los
VET at tertiary level			
Fachhochschule	*Fachhochschule* lecturer	Subject-specific academic education plus specialist professional practice	- Selection of teaching content - Selection of teaching method - Evaluation and validation of learning outcomes
	Fachhochschule professor	Scientific qualification in the specialist field, specialist professional practice	- Selection of teaching content - Selection of teaching method - Evaluation and validation of learning outcomes
University college of education	Teachers	Subject-specific university study or PH and four- to six years teaching practice in the respective school type where teaching at PH is intended	- Selection of teaching content on the basis of framework curricula - Selection of teaching method - Cooperation in the development of curricula within the framework of curriculum committees - Evaluation and validation of learning outcomes