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KOF Swiss Economic Institute

**The KOF Education System Factbook:
The Netherlands**

Edition 1, May 2017

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Abbreviations

AOC	Agricultural Training Centre
BOL	School-Based Upper Secondary Vocational Education
BBL	Work-Based Upper Secondary Vocational Education
CVC	Curriculum Value Chain
CVET	Continuing Vocational Education and Training
DUO	Official Educational Funding Institution
ECTS	European Credit Transfer System
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GII	Global Innovation Index
HAVO	Dutch General Secondary Education (HBO Preparation)
HBO	Dutch Higher Professional Education
ICT	Information and Communication Technology
ISCED	International Standard Classification of Education
KBB	Centres of Expertise on VET and the Labour Market
KOF	Swiss Economic Institute
MBO	Dutch Upper Secondary Vocational Education
NVAO	Accreditation Organisation of the Netherlands & Flanders
OECD	Organisation for Economic Co-operation and Development
PET	Professional Education and Training
PRO	Special Practical Education
ROC	Regional Training Centre
SBB	Foundation for Cooperation on VET and the Labour Market
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education and Training
VMBO	Dutch Lower Secondary Vocational Education
VPET	Vocational Professional Education and Training
VWO	Dutch General Secondary Education (University Preparation)
WEB	Act on Adult and Vocational Education
WEF	World Economic Forum

WHW	Act on Higher Education and Scientific Research
WO	Dutch Academic Education
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: The Netherlands, we describe the Netherlands' 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 the Netherlands' economy, labor market, and political system. The second part is dedicated to the description of the formal education system. The third section explains Netherlands' vocational education system. The last section offers a perspective on Netherlands' recent education reforms and challenges to be faced in the future.

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

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1. The Dutch Economy and its Political System

One of the main purposes of an education system is to provide the future workforce with the skills needed by the labor market. The structure of a country's economy and its labor market are important factors in determining the current and future demand for skills. We will briefly describe these Dutch particularities in the first part of this Factbook. In addition, this part provides an overview of the Dutch political system with an emphasis on education politics.

1.1 The Dutch Economy

The Dutch Economy is a market-based economy that has one of the highest gross domestic products (GDP) per capita in the world (US\$ 44,570¹, versus US\$ 51,075 of the US or US\$ 36,545 OECD average, all numbers refer to 2014) (OECD, 2015b). From 1985 to 2014, the Dutch economy grew an average of 2.2 percent each year, as opposed to the OECD average of 2.4 percent.

The Netherlands is strongly dependent on foreign trade, as it currently holds the seventh largest trade surplus in the world² (CBS, 2015a). Accordingly, the economic sub index of the KOF Index of Globalization³ classifies the Netherlands as the fifth most globalized economy in the world (KOF, 2015a). As a result of being highly embedded in global trade, the Dutch economy was hit hard during the world economic crisis. In the period of 2009-2013, its GDP shrank by 0.5 percent. 2014 marked a turning point with GDP growth rates of one percent per annum (OECD, 2015b). The Dutch government reacted to the crisis by issuing capital injections to keep the banks functioning and by stimulating the economy through higher spending. This increased the general gross debt to GDP ratio from 42.5 percent in 2007 to 68.6 percent in 2013. However, the Netherlands still have a below- average debt to GDP ratio of the Euro Area (82.9 percent) (IMF, 2015).

As is typical for a highly-developed country, the structure of the economy is heavily skewed towards the tertiary sector. The tertiary sector accounts for roughly 83 percent of total employment as well as 77 percent of overall value added in 2014 (Table 1). Both values lie above the EU28 average.

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

² In absolute terms.

³The KOF Index of Globalisation measures the economic, social and political dimensions of globalisation.

Table 1: Value added and employment by sector, 2014

Sector	The Netherlands: Value added (%)	EU-28: Value added (%)	The Netherlands: Employment (%)	EU-28: Employment (%)
Primary sector	1.8	1.6	2.2	5.0
Agriculture, hunting and forestry, fishing	1.8	1.6	2.2	5.0
Secondary sector	21.2	24.3	14.9	22.0
Manufacturing, mining and quarrying and other industrial activities	16.7	18.9	9.6	15.6
of which: Manufacturing	12.1	15.3	8.8	14.0
Construction	4.5	5.4	5.3	6.3
Tertiary sector	76.9	74.1	82.9	73.1
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	24.9	23.8	27.6	27.5
Financial intermediation; real estate, renting & business activities	27.1	27.4	23.3	15.9
Public administration, defense, education, health, and other service activities	24.9	22.9	32	29.7

Source: (Eurostat, 2015a) (Eurostat, 2015b)

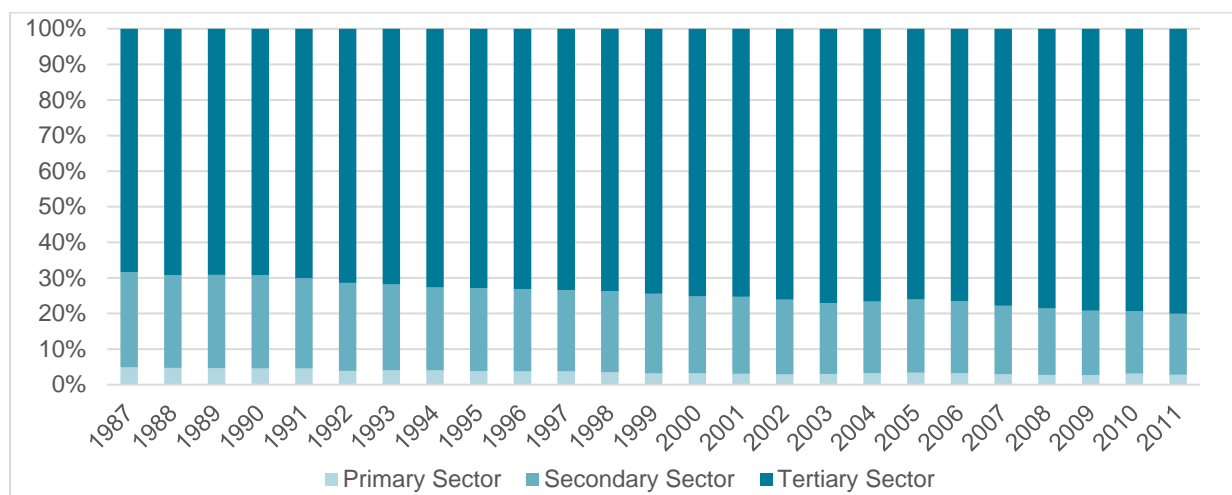
The secondary sector is less important, in terms of both employment and value added. In 2014, the secondary sector employed almost 15 percent of the Dutch working population, generating 21.2 percent of total value added. This was less than the EU28 average.

The primary sector accounted for only 1.8 percent of overall value added and 2.2 percent of total employment in 2014. Compared to the EU-28 data, the Dutch primary sector was more productive: though there were relatively few individuals employed, they achieved a relatively high value added.

Figure 1 shows the development of each sector's employment share from 1987-2011. In this period, the tertiary sector became increasingly important, while the primary as well as the secondary sector lost ground to the steadily growing service sector.

In the WEF Global Competitive Index (GCI) rankings 2014-2015 (World Bank, 2014), the Netherlands are classified as a highly competitive market economy (8th rank out of 144 countries). The GCI states that the education and training system is a main pillar of Dutch success, while also praising the excellent infrastructure and the open market structure of the Netherlands. However, the report also notes that labor market rigidities, stemming from the wage determination process as well as hiring and firing regulations, weaken the global competitiveness of the Dutch economy.

Figure 1: Employment by sector (as % of total employment), 1987-2011



Source: Own illustration; Data: (World Bank, 2015).

Regarding the innovativeness of the economy, the Global Innovation Index (GII) ranks the Netherlands at fourth out of 141 countries (Cornell University, INSEAD, and WIPO, 2015). The GIi regards the low number of tertiary graduates in science and engineering as well as regulatory barriers for starting a business as the main factors restraining the full innovative potential of the economy.

1.2 The Labor Market

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

1.2.1 Overview of the Dutch Labor Market

Generally, the Dutch labor market is performing well with low unemployment and stable wages. However, the market is often characterized as rigid due to its regulatory framework. According to the 2013 OECD Indicators of Employment Protection, the Netherlands is among the more regulated economies (rank 15 out of 43 countries)⁴ (OECD, 2015c). While temporary employment contracts are relatively moderately regulated, the protection of permanent contracts against individual and collective dismissals is stricter than in most OECD countries.

Table 2 shows the labor force participation and unemployment rates for the Netherlands along with the OECD average for 2015. In 2015, the Dutch labor force participation rate (15-64 years) was above the OECD average. The labor market integration of young workers (15-24 years) in the Netherlands was good relative to the OECD average: 68.5 percent of the Dutch young workers were either actively searching for a job or in employment, while this holds for only 47.1

⁴ The Netherlands rank on the 15th position when averaging all four index dimensions.

percent of the young in other OECD countries on average. In 2015, the overall unemployment rate (15-64 years) and those of adults (aged 25-64) was the same in the Netherlands and the OECD average. The Dutch youth employment was below the OECD average.

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

	Labor force participation		Unemployment rate	
	The Netherlands	OECD average	The Netherlands	OECD average
Total (15-64 years)	79.6	71.3	6.9	7.0
Youth (15-24 years)	68.5	47.1	11.3	14.0
Adults (25-64 years)	82.2	76.9	6.1	6.0

Source: (OECD, 2017b).

Like almost all highly developed countries, the Netherlands face a major challenge in the ageing of its population and working force. Accordingly, the potential labor force started to decrease in 2011 (OECD, 2012, pp. 30-31). In contrast to the potential labor force, the actual labor force is expected to grow until 2020 because of an increased level of labor force participation (as e.g. through an increase in the labor market integration of women). In order to stop the labor force from shrinking and keep the pension system working in a sustainable manner, the Dutch government aims to raise the state pension age to 66 in 2018 and 67 in 2021 (MoSAE, 2015).

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

	Labor force participation		Unemployment rate	
	The Netherlands	OECD average	The Netherlands	OECD average
Less than upper secondary education	65.4	63.6	10.1	12.8
Upper secondary level education	83.9	79.9	7.1	7.7
Tertiary education	91.2	87.7	3.9	5.1

Source: OECD (OECD, 2016).

Table 3 yields a similar picture as Table 2 with the Dutch labor market outperforming the average OECD rates. The OECD as well as the Dutch labor market have a clear correlation between participation/employment rates and educational level: the higher the education level, the lower the risk of being unemployed.

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 indicators¹⁰ that are grouped into four categories.

Dimensions of the KOF YLMI	
Activity state	<ul style="list-style-type: none"> - Unemployment rate - Relaxed unemployment rate⁵ - Neither in employment nor in education or training rate (NEET rate)
Working conditions	Rate of adolescents: <ul style="list-style-type: none"> - with a temporary contract - in involuntary part-time work - in jobs with atypical working hours - in work at risk of poverty⁶Vulnerable unemployment rate⁷
Education	<ul style="list-style-type: none"> - Rate of adolescents in formal education and training - Skills mismatch rate
Transition smoothness	<ul style="list-style-type: none"> - Relative unemployment ratio⁸ - Long-term unemployment rate⁹
Source: Renold et al. (2014).	

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 labor market. The fourth category, *transition smoothness*, connects the other three categories by capturing the school-to-work transition phase of the youth. Each country obtains a score of 1 to 7 on each particular indicator of the KOF YLMI. A higher score reflects a more 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

⁵ It is calculated as the number of unemployed and discouraged workers as a share of the entire labour force. Discouraged workers have given up the search for work (not actively seeking), although they have no job and are currently available for work (also: "involuntary inactive").

⁶ Those who cannot make a decent living out their earnings, being at risk of poverty as a percentage of the working population.

⁷ Share of the employed population working on their own account or those working in their family business and thus contributing to the entire family income. Both are less likely to have formal work arrangements and are therefore less protected by labour laws and more exposed to economic risk.

⁸ Is defined as the youth unemployment rate (15-24 years) as a share of the adult unemployment rate (25+). If the youth cohort is affected in the same way than the adult group with respect to unemployment, then the relative unemployment ratio will be equal to one. If the youth are relatively more affected, then the ratio will be bigger than one.

⁹ Those unemployed for more than one year (52 weeks) in the total number of unemployed (according to the ILO definition).

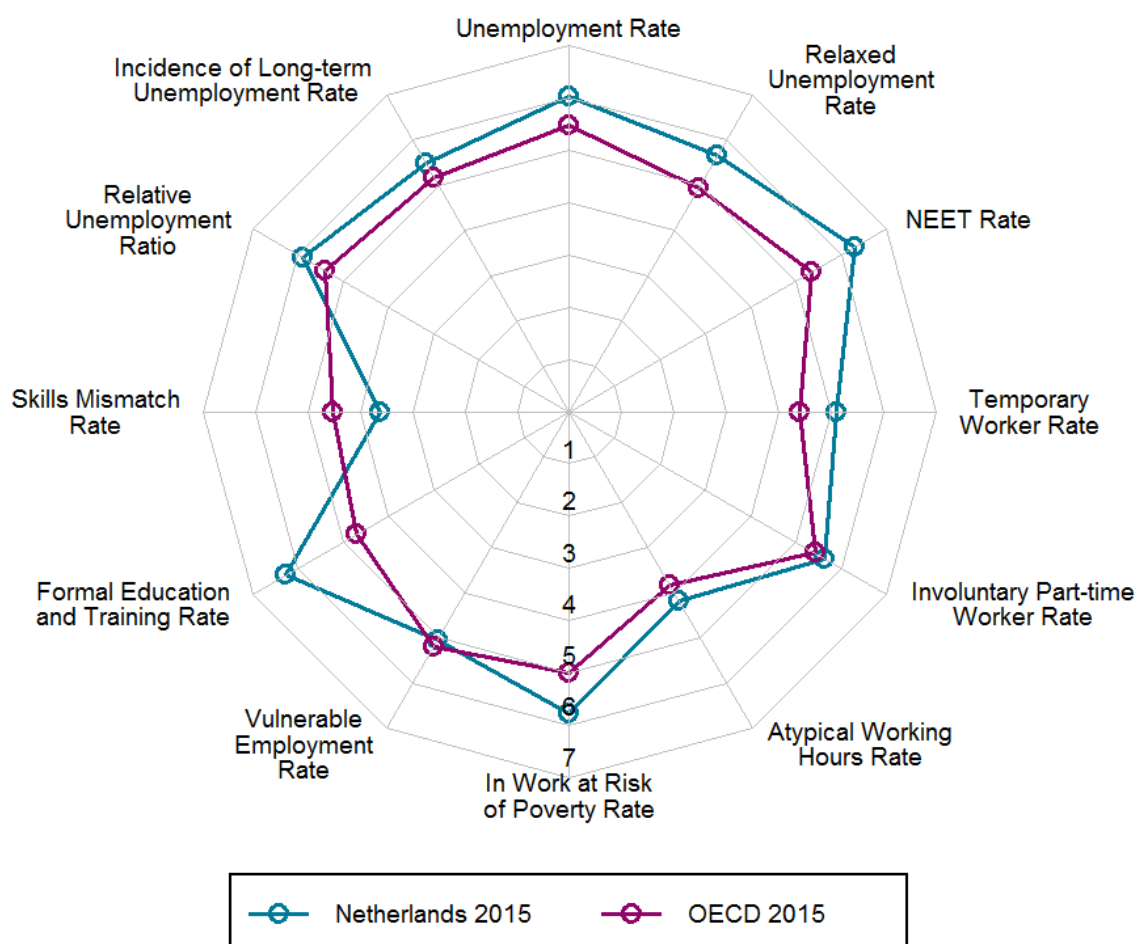
¹⁰ The data for these indicators are collected from different international institutions and cover up to 178 countries for the time period between 1991 and 2012.

comparisons across certain countries or groups of countries problematic and sometimes even impossible.

1.2.3 The KOF Youth Labor Market Index (KOF YLMI) for the Netherlands

In the case of the Netherlands, data availability for the KOF YLMI is not an issue. In 2015, the Netherlands' youth labor market scores above OECD averages for almost every indicator, as shown by Figure 2. One exception lies in the education dimension with the skills mismatch rate being higher in the Netherlands than in the OECD countries on average. The same pattern applies for the vulnerable employment rate, though less drastic. Apart from these two indicators, the Dutch youth labor market outperforms the OECD.

Figure 2: YLM Scoreboard: The Netherlands versus OECD average, 2015

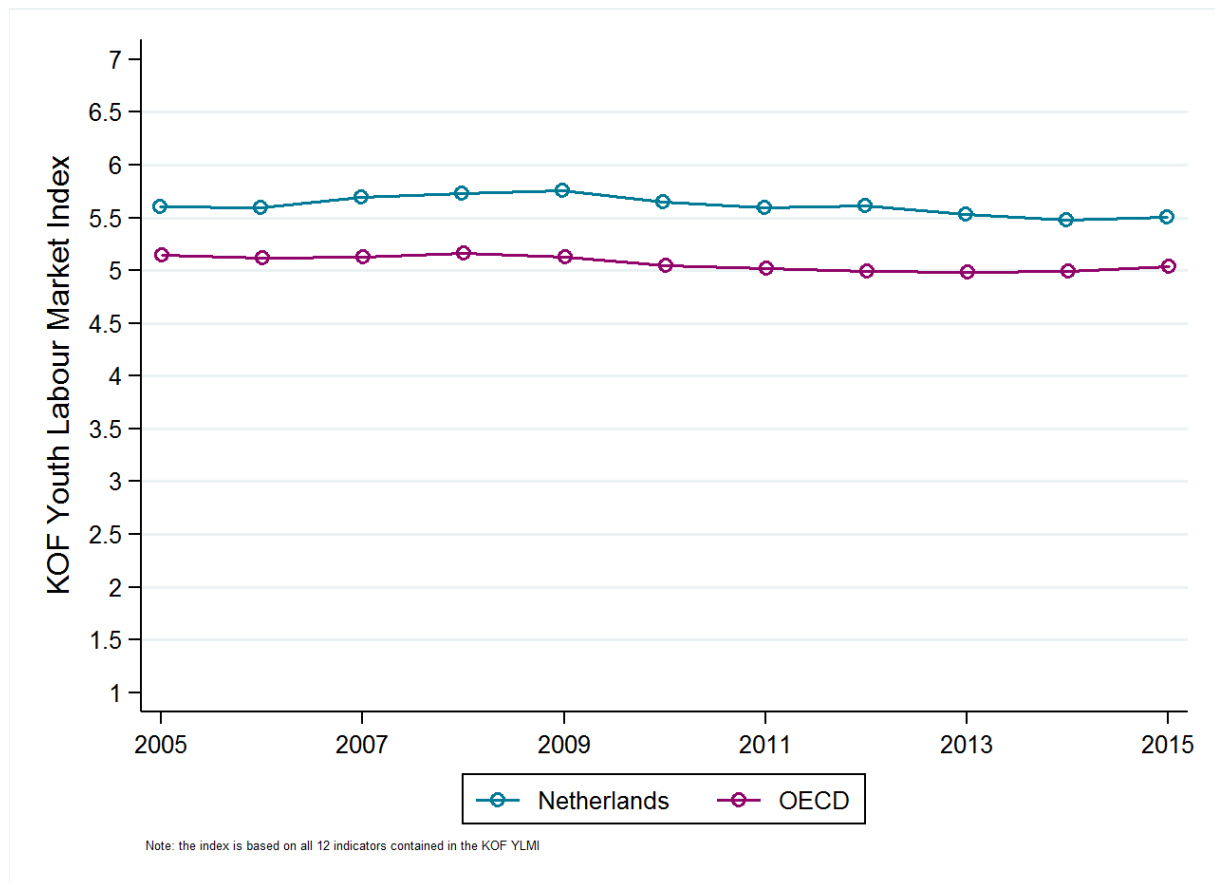


Source: (KOF, forthcoming).

Figure 3 below, illustrates the evolution of the aggregated KOF YLMI for the Netherlands and the OECD average from 2005 to 2015. For this period, all twelve indicators are available for

both countries, making a cross-country comparison feasible. It shows that the Dutch youth labor market has permanently excelled the OECD average in recent years.

Figure 3: YLM-Index: The Netherlands vs OECD, 2005-2015



Source: (KOF, 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 in attaining understanding of the education system in a broader sense. In the first part, we explain the Dutch political system. In the second part, we discuss how politics and political goals connect to the education system.

1.3.1 Overview of the Dutch Political System

The Netherlands is a constitutional monarchy (NIMD, 2008), meaning that a constitution limits and defines the monarch's powers. A major amendment to the constitution in 1848 resulted in the founding of a democratic parliament. Since 1870, the parliament represents the highest ranked political institution in the Netherlands, with the monarch taking on a subordinate political role.

Elections take place through a proportional representation system without the existence of electoral hurdles. Three different levels of governance are subject to elections (national, provincial and municipal level). The national parliament consists of two chambers: citizens directly elect the members one chamber, and members of provincial councils elect the members of the other.

Ministers and the monarch constitute the framework of the government, but as mentioned before, the monarch has no tangible power over political processes. The prime minister chairs the council of ministers, which makes decisions on behalf of the entire government.

The Dutch democracy is considered to be well functioning. In the Economist's Democracy Index 2014, the Netherlands rank among the ten best working democracies with an overall score of 8.92 out of 10 (Economist, 2015). The Corruption Perceptions Index 2014 lists the Netherlands as the 8th in the world, in terms of being free of corruption, with a score of 83 out of 100 (Transparency International, 2014). Furthermore, the Worldwide Governance Indicators 2014 rank the Netherlands among the top decile of national governments, in all considered dimensions (World Bank, 2014).

1.3.2 Politics and Goals of the Education System

The Dutch school system is grounded by the principle "freedom of education", as defined by the Constitution in 1917 (OECD, 2014a, pp. 20-21). According to this principle, anyone can establish a school with its own educational principles, as long as they meet the requirements for the corresponding educational sector. Because parents have a free choice of school placement, state funding follows the student, independent of whether they choose to attend a public or a private institution. This lays the ground for a relatively intense competition between schools. Also, stemming from the principle "freedom of education" is an extraordinarily high degree of school autonomy¹¹. The Ministry of Education, Culture and Science oversees the Dutch education system and sets goals for each sector, while limiting its operational interferences¹².

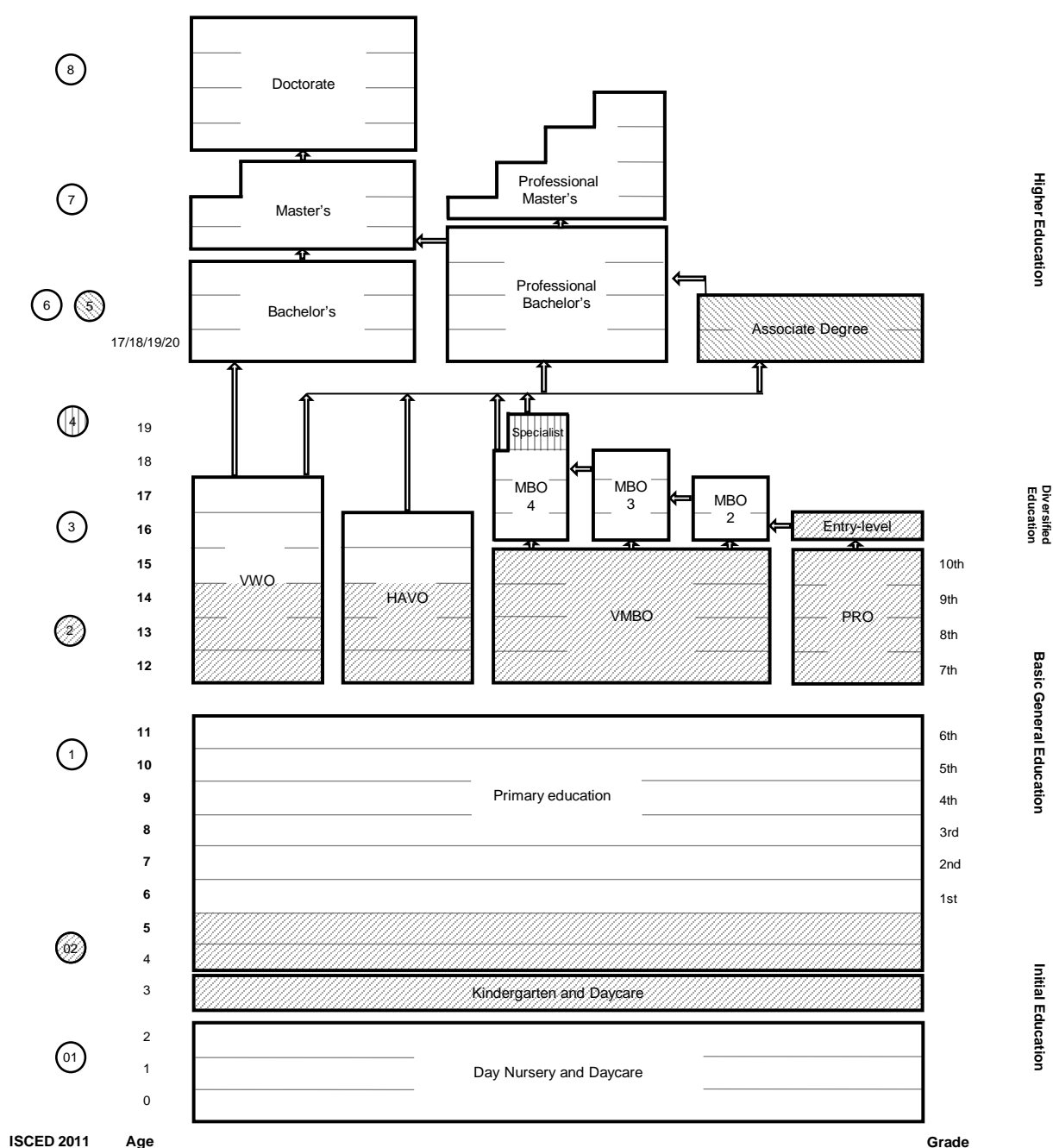
¹¹ In lower secondary education, for example, the central government only makes 14 percent of the decisions (OECD average: 59 percent) (OECD, 2014a, pp. 20-21).

¹² However, it does interfere when there is evidence of lacking quality and financial mismanagement. More information is provided in chapter 3.

2. Formal System of Education

The Dutch education system is divided into three levels: primary, secondary, and tertiary level (Van Leeuwen, Thijs, & Zandbergen, 2008). Primary education takes 8-9 years, secondary education 4-6 years (depending on school type) and tertiary education 2-6 years (depending on specialization and degree) (EP-Nuffic, 2015, p. 5). An illustration of the Dutch education system with its various education paths can be found below in Figure 4.

Figure 4: The Dutch education system



Source: Own illustration.

Compulsory education begins at age five. From the age of sixteen on, schooling is compulsory on a “part-time” basis, meaning that adolescents have to attend any type of schooling for a minimum of two days a week until the age of eighteen, which marks the end of their compulsory education.

Table 4 shows the percentage of a total of 3'757'300 people enrolled at any level of the Dutch education system in 2013. Secondary education is divided into the four sections: *Transition years 1+2*, *VMBO*, *HAVO* and *VVWO*. In 2013, the transition years 1 and 2 amounted for the biggest share of students.

Table 4: Enrolment rates at different education levels, 2013

Education level	Enrollment rate
Total in 2013: 3'757'300	in %
Primary education overall	42.4
Secondary education overall	25.9
<i>Transition years 1+2</i>	9.3
<i>VMBO</i>	4.1
<i>HAVO</i>	4.2
<i>VVWO</i>	4.3
<i>Other (PRO, LWO, VMBO green)</i>	4.0
Adult general secondary education overall	0.4
Vocational education overall	13.2
Professional higher education overall	11.7
Academic higher education overall	6.6

Source: (MoECS, 2014a).

2.1 Pre-Primary Education

The Netherlands does not provide official pre-primary educational provision for children younger than four years old. Outside the formal education system, children can attend pre-primary education institutions until they reach an age of four or five years. The governing authority for the policy area of childcare provisions lies in the national Ministry of Education, Culture and Science. A range of childcare facilities is available before official entry into the school system. Pre-primary education can be subdivided into the categories described below (Van Leeuwen, Thijs, & Zandbergen, 2008, p. 6):

Playgroups are accessible for all children between two and four years and constitute the most established and familiar type of pre-primary education. Children typically attend these

playgroups two days a week for around two to three hours at a time. The purpose of the playgroup (as its name implies) is for children to play together and thus inspire and vitalize their development. The Dutch Ministry of Education has not defined specific educational objectives for playgroups. The funding of playgroups is largely subsidized by regional government, whereas income-related membership fees are charged in many cases.

Pre-schools pursue the same purpose as playgroups, but focus more on education. Such stimulation programs are primarily aimed at children from underprivileged backgrounds, whose parents have low levels of school education. The principal goal is to prevent and mitigate educational deficits, mainly in terms of language development.

Day nurseries take care of infants from the age of six weeks to the age of four years. The aim of day nurseries is to look after the children while their parents are at work.

2.2 Primary Education

Primary Education in the Netherlands addresses children between the ages 4-12, and is compulsory from the age of five on (EP-Nuffic, 2015, p. 6). Primary education is divided into mainstream primary education (BAO), special primary education (SBAO) and special education (SO) (MoECS, 2014a, p. 40). Special education institutions educate and guide children with learning and behavioral difficulties. In 2013, 95.5 percent of all students in primary education were enrolled in the regular BAO program (MoECS, 2014a, p. 45).

Primary education institutions include public and denominational schools, both of which are publicly financed (Van Leeuwen, Thijs, & Zandbergen, 2008, pp. 6-7). There are also a small number of private schools not funded by the government. Public schools do not explicitly follow ideologies, e.g. confessional ideologies, and are open to all children. They are generally run by local authorities, school boards, foundations or by someone appointed by the city council. Approximately one third of children attend a public primary school. Contrastingly, denominational schools are administered as associations or foundations, of which parents can become constituents. Most denominational schools are either Roman Catholic or Protestant. Some Jewish, Islamic and Hindu schools also exist.

2.3 Secondary Education

Students normally move from primary to secondary schools at age twelve (Van Leeuwen, Thijs, & Zandbergen, 2008, pp. 7-8). Secondary education encompasses six different paths: HAVO, VWO, VMBO, MBO 2-4, Entry-Level (MBO 1) and PRO. The clear majority of students enter HAVO, VWO or VMBO. HAVO and VWO prepare students for higher professional education

(HBO) and university studies (WO), whereas VMBO represents lower secondary vocational education, which prepares the student for upper secondary vocational education (MBO 2-4).

2.3.1 VWO – Pre-university Education / HAVO – General Secondary Education

Both VWO and HAVO prepare students for subsequent tertiary education. *Voorbereidend wetenschappelijk onderwijs* (VWO) prepares students for a scientific education (WO), also known as pre-university, whereas HAVO aims to build the educational bridge towards higher professional education (HBO), and is otherwise known as general secondary education (RDC, 2015). VWO takes six and HAVO five years to complete (MoECS, 2015a). Approximately 44 percent of students move onto either HAVO or VWO after primary education (MoECS, 2014a, p. 8). Entrance requirements for both school types are determined by the respective secondary schools, based for instance on the advice of the individual student's primary school, the student's Cito¹³ test score or a school's own entrance tests. In the first three years of HAVO and VWO, all students follow a general curriculum. For the last two years of HAVO and the last three years of VWO, students can choose one subject specialization among the following subject combinations: science and technology, science and health, economics and society or culture and society (MoECS, 2015a). In addition to their subject specializations, all HAVO and VWO students must attend classes in physical education and culture/arts. VWO students must also take mathematics.

2.3.2 VMBO – Pre-vocational Secondary Education

Voorbereidend middelbaar beroepsonderwijs (VMBO) lasts four years and offers theoretical and practical courses with a vocational focus (MoECS, 2015b). Approximately 49 percent of all students in a cohort transfer to VMBO after finishing primary education (MoECS, 2014a, p. 8). Students follow a general curriculum in their first two years of VMBO. For the remaining two years, students choose between four pathways, which differ with respect to the balance of theoretical and practical learning. Two of these pathways focus more on theoretical learning, which allows graduates to transfer to HAVO (pre-university education) upon completion. All pathways grant admission to the senior secondary vocational education program (MBO) (EP-Nuffic, 2015, p. 7). Students receive a VMBO diploma if they pass the national examination at the end of the program. However, this diploma does not constitute an entry ticket to the labor market, as students are supposed to continue to upper secondary education¹⁴. Further

¹³ Approximately 85 percent of all Dutch primary schools use the Cito test at the end of the primary stage. It is designed to measure primary school leavers' educational achievements. Therefore, the Cito test score is used as an indicator of which secondary school to attend (Van der Lubbe, 2007, p. 2).

¹⁴ Compulsory education lasts until the age of 18.

information concerning VMBO is provided in chapter 3.1, which focuses exclusively on vocational education in the Netherlands.

2.3.3 Entry-level Education

The entry-level program is designed for students (and adults) who have not obtained a lower secondary vocational education diploma (i.e. VMBO) (Cedefop, 2014a, p. 24). With no admission requirements, it serves as a door for those who would otherwise not have any qualification. Graduates of the one-year entry-level program may continue to upper secondary vocational education (MBO 2).

2.3.4 MBO – Upper Secondary Vocational Education

Middelbaar beroepsonderwijs (MBO) corresponds to upper secondary vocational education and usually lasts two to four years, depending on the program taken (Cedefop, 2014a, pp. 24-25). MBO 2 represents basic vocational education and takes two years to complete. MBO 3 lasts three years and corresponds to professional vocational education. MBO 4 prepares students for jobs with a relatively high level of responsibility and takes either three or four years. More information may be found in chapter 3.1.2.

MBO 1 is no longer offered; it was replaced in 2014 with the entry-level program described in the last subchapter.

2.3.5 PRO – Practical Education

Praktijk Onderwijs (PRO) is aimed at students for whom mainstream methods of secondary teaching are not appropriate. It takes four years and prepares students to enter the labor market directly (RDC, 2015). They may also continue studying at entry-level at the upper secondary level. More information is provided in chapter 3.1.

2.4 Postsecondary / Higher Education

Higher professional education (*Hoger Beroepsonderwijs* [HBO]) and university education (*Wetenschappelijk Onderwijs* [WO]) constitute the higher education sector in the Netherlands. The respective institutions are either universities or HBO institutes (Van Leeuwen, Thijs, & Zandbergen, 2008, p. 8). Altogether, the Netherlands has 18 publicly funded universities (MoECS, 2014a, p. 88). As usual, universities focus on research-oriented education. About twelve percent of all children in a cohort eventually receive a WO diploma (MoECS, 2014a, p. 8).

Besides universities, there are 42 publicly financed universities of applied sciences, also called HBO institutes. Universities of applied sciences are more practically oriented and prepare

students for selected career entry positions. These training program concentrate on the practical implementation of theoretical concepts. Chapter 3.2 addresses higher professional education in more detail. Approximately 42 percent of a cohort of pupils transfer to HBO, 64 percent of which come from HAVO/VWO and 36 percent from MBO 4 (MoECS, 2014a, p. 8.). However, 38 percent of those entering HBO leave without diploma.

In addition to official HBO institutions and universities, there are several certified independent and non-public institutions for international or theological education, and the University for Humanist Studies and the Nijenrode University for business studies. International education colleges include the Institute of Social Science (ISS), International Institute for Geo-Information Science and Earth Observation (ITC), Institute for Urban Housing and Development Studies (HIS) and the Institute for Water Education (IHE).

The Netherlands has been among the first countries in Europe that introduced the three tier educational system (bachelor's, master's and PhD degrees) called Bologna. The aim of the Bologna system is to create and increase structural uniformity, transparency and quality assurance in a single European higher education area (EHEA).

2.5 Continuing Education (Adult education)

Adult education programs have a more flexible schedule (e.g. evening hours) and fewer classes than regular secondary education, so that working adults have sufficient time for preparation and learning (Van Leeuwen, Thijs, & Zandbergen, 2008, pp. 51-52). Adult education encompasses adult basic education and adult general secondary education (VAVO) (MoECS, 2015c). The latter is considered to be a "second chance" education track (VMBO-theoretical program, HAVO and VWO). The target groups of the VAVO are (HC, 2015):

- Students between 16 and 17 years, that cannot manage to complete the regular program and are ready for a track focused more on self-study
- Students that have not passed the secondary final exam
- (Employed) Adults with a low educational background

VAVO is especially important for individuals under the age of 27 who have not graduated with a basic qualification certificate (MBO level 2) and are unemployed, since in this case they are not granted any unemployment benefits (Van Leeuwen, Thijs, & Zandbergen, 2008, p. 52).

On the other hand, adult basic education focuses on acquiring basic language, ICT and mathematic skills. This may serve as a bridge towards better integration and/or enable participants to engage in secondary education studies.

2.6 Teacher Education

In order to become a teacher in primary education, aspirants must complete a four-year teacher-training program at an HBO institution (MIE, 2015). As a special rule, holders of a VWO diploma may finish the program in three years, while holders of a higher education diploma may finish in two years. To become a teacher in secondary education, aspirants must hold either a first or second level qualification certificate, which can be obtained through various pathways offered by both universities and HBO institutions. Special rules apply for upper secondary vocational education. Teacher training for secondary education is thoroughly outlined in the next chapter. No such regulation exists for higher education; universities and HBO institutions can freely choose whom to engage, as long as they possess the relevant skills.

3. The System of Vocational and Professional Education and Training

The Dutch vocational education and training (VET) system at the upper secondary level as well as the professional education and training system (PET) at the tertiary level are described in more detail in this section of the Factbook. In the following, the term Vocational Professional Education and Training (VPET) is used when referring to both systems (VET and PET).

The first and second parts characterize the VET and the PET structure. In a third step, we outline the broad legislative framework and identify the key educational actors. The educational finance system is depicted in the fourth part. The fifth part looks at the Dutch curriculum development process. Finally, we describe VET teacher education in the sixth part.

3.1 Vocational Education and Training (VET, Secondary Education Level)

This section looks at the Dutch VET system and its various paths in detail. It begins with a discussion of lower secondary programs and works its way up towards upper secondary education.

3.1.1 Lower Secondary Vocational Education

VMBO (see Figure 4) and PRO, the practical-oriented track for students with learning difficulties, which both form the lower secondary pre-vocational program.

As most students do not have pronounced learning difficulties, the school-based pre-vocational program (VMBO) makes up for the vast majority of lower secondary VET education students (MoECS, 2014a). Students can continue on to the normal upper secondary VET system as soon as they have successfully completed the VMBO program. Final examinations for all

VMBO tracks consist of national as well as individual school exams (MoECS, 2015e). National exams take place at the end of the final year and test all students with the same type of education with identical exam questions across the entire country. For each subject within a learning pathway, the Ministry of Education, Culture and Science compiles one written national exam. School exams, on the other hand, are organized and compiled by the individual schools. Examination dates can be set independently. There are usually at least two exams per subject, either oral, practical or written.

In the first two years of VMBO, classes follow a general curriculum without any industry-specific courses. Although the program is called “pre-vocational”, the educational content is general and differs only slightly from the first two years of the HAVO and VWO tracks. This allows students to move easily between lower secondary programs if desired (NCEE, 2009). At the beginning of the third year, they must choose one out of four possible occupational sector specializations: care and welfare, engineering and technology, business, and agriculture (MoECS, 2015b). Besides picking a specialization cluster, students also have to choose among four different learning pathways, which mainly determine prospective transfer options as well as the balance between theoretical and practical education content (Cedefop, 2014a, pp. 21-22). These four pathways are described in more detail:

Theoretical program (TL)

Students who graduate from the theoretical program can transfer to MBO 3 and 4, which are the highest levels of upper secondary VET and make up the third and fourth years, respectively. Students also have the option to transfer to the fourth year of HAVO, which opens the door for higher professional education (HBO). The theoretical program content is rather abstract and general, especially compared to the basic vocational and the middle management vocational program. About 36 percent of all third year VMBO students follow the theoretical program (MoECS, 2014a, p. 56).

Combined theoretical and vocational program (GL)

As is the case for the theoretical pathway (TL), students who graduate from the combined program have access to MBO 3 and 4, as well as HAVO. The combined theoretical and vocational program, GL, differs only slightly from the TL in terms of content. One theoretical course (out of the six) is exchanged for one course that focuses on a vocational subject. The theoretical courses are the exact same as in the TL. About 16 percent of all third year VMBO students follow the combined program (MoECS, 2014a, p. 56).

Middle management vocational program (KL)

The middle management track aims at students willing to focus on practical education. Subjects remain largely in the chosen sector (in contrast to the more general classes in TL and GL) and focus on applicable, rather non-theoretical knowledge. Graduates have access to MBO 3 and 4 to continue their vocational education. About 28 percent of all third year VMBO students follow the middle management program (MoECS, 2014a, p. 56).

Basic vocational program (BL)

The basic vocational program is the least theoretical and is geared towards students willing to work with their hands. It is also the most specific learning path, with general education taking a relatively small share. Students within BL with learning difficulties may follow a dual track that combines learning with working. BL graduates have access to MBO 2. About 21 percent of all third year VMBO students follow the basic vocational program (MoECS, 2014a, p. 56).

Besides these four pathways, two other vocational pathways at the lower secondary education level are designed for students who are at risk of dropping out of the education system.

The learning support program (LWOO) and practical oriented education (PRO)

The LWOO program is aimed at all VMBO students who do not have major learning difficulties but are still in danger of dropping out if not supported. Mainstream VMBO schools provide LWOO programs (MoECS, 2014a, p. 12). The second lower secondary vocational program, PRO, is a labor-oriented program for students who are not able to receive a diploma in general secondary education. Therein, the focus is on elementary vocational training and the students do not have to take formal exams (MoECS, 2011, p. 14). PRO is not just a lower secondary track, as it is aimed at students from 12 to about 18 years. PRO graduates may enter upper secondary VET programs, however at entry-level only¹⁵ (Cedefop, 2014a, p. 22). In 2013, only 3.3 percent of all male participants and 2.4 percent of all female participants in third year lower secondary VET were enrolled in PRO (MoECS, 2014a, p. 13).

3.1.2 Upper Secondary Vocational Education

This chapter outlines the entry-level education program and *Middelbaar beroepsonderwijs 2-4* (MBO 2-4) in detail. MBO takes up to four years, depending on the program (MoECS, 2015d). Graduates of MBO 2-4 fulfil the Netherlands' basic qualification requirement¹⁶ and are officially

¹⁵ As illustrated in Figure 4.

¹⁶ Basic qualification in the Netherlands stands for: i) a politically desired minimum of education; ii) the possibility of receiving unemployment benefits.

prepared for the labor market. All MBO programs can be taken as either school-based or work-based, both of which lead to the same qualification certificate¹⁷ (UKCES, 2013, pp. 10-11):

School-based training (BOL)

In this pathway, students usually spend one day in a firm doing work-based training and four days in school. The share of the total time spent in the firm may vary between 20 and 60 percent as it depends on the type of course, the school's pedagogical approach and its level. It is possible for students to receive either student grants for their study and/or payment for their time spent at work, although the latter is freely determined by each individual employer. In 2013, 73 percent of students were enrolled in the BOL pathway (Cedefop, 2014b, p. 24).

Work-based training (BBL)

When in work-based training (BBL), students typically spend one day in school and four days for work-place training in a firm. Students must have an employment contract with a firm in order to take this track. Due to the contracts, students are subject to minimum wage regulation and have the status of an apprentice. Students are expected to apply for an apprenticeship contract on their own by consulting either websites or using their private network (Cedefop, 2014b, p. 5). While BOL students may change their employer several times over the duration of their course, BBL students must stay with one firm (Cedefop, 2014b, p. 3).

Students can switch between both the BBL and the BOL because they have the same educational status systems (UKCES, 2013, p. 11). In times of economic recession, fewer employers are willing to offer apprenticeships, which in turn leads to a rise of BOL students. Because students can switch between the two programs during their training, the system is flexible in the short as well as long-term.

Another advantage of the two-vessel system is that each serves different target groups (Cedefop, 2014b, p. 4). While the BBL mostly offers courses in the technical sector (at level 2), most students of MBO 4 (i.e. the most theoretical) are in the school-based BOL track. Furthermore, BBL students tend to be older (see Table 5), as it also serves as a platform for continuing education.

Table 5 not only shows the relative importance of the school-based track with 73 percent of all students enrolled, but also the relevance of BBL to adult vocational education: more than 50 percent of BBL students are older than 22 years.

¹⁷ Graduate diplomas do not even mention the track (Cedefop, 2014b).

Table 5: Enrolment figures by age and track, 2013-2014

Enrollment rates (in %)						
Age	<23	23-27	27-30	>30	All	
					Absolute	in %
BOL	93.7	3.6	0.90	1.8	382'551	73
BBL	48.5	11.6	5.5	34.4	143'424	27

Source (Own calculations): (Cedefop, 2014b, p. 4)

As mentioned above, both BBL and BOL are available for all four MBO programs. The following list provides detailed information for each individual MBO program (Cedefop, 2014a, pp. 24-25):

Entry-level education (Former MBO 1)

In 2014, the entry-level education program replaced MBO 1. The access to the new program is limited to PRO students and lower-secondary school leavers without diplomas. It aims to both qualify students to enter MBO 2 and, for youth who are incapable of proceeding to MBO 2, to allow them to participate in the labor market successfully. It takes one year to complete. About one percent of all children in a cohort eventually exit the education system with an entry-level diploma (MoECS, 2014a, p. 8).

MBO 2

MBO 2 students receive “basic vocational education” and are therefore prepared for executive tasks. The program lasts two years and represents the official basic qualification benchmark for the labor market. The minimum access requirement is a VMBO BL or an entry-level education diploma. Graduates of the MBO 2 program can transfer afterwards to MBO 3. About six percent of all children in a cohort eventually receive an MBO 2 diploma (MoECS, 2014a, p. 8).

MBO 3

MBO 3 students receive “professional training” for three years. Holders of such a diploma are prepared to work independently with the ability of guiding others. The minimum access requirement is a VMBO KL/GL/TL or an MBO 2 diploma. Graduates of the MBO 3 program can transfer afterwards to MBO 4. About four percent of all children in a cohort eventually receive an MBO 2 diploma (MoECS, 2014a, p. 8)

MBO 4

MBO 4 can be subdivided into “middle management VET” (ISCED 3) and “specialist training” (ISCED 4).

- Middle management VET lasts three years and qualifies students to work independently while holding organizational responsibilities. Access requirements are the same as for the MBO 3 program. Graduates may transfer to higher education (HBO) or to specialist training.
- Although specialist training is part of MBO 4, it is classified as non-tertiary post-secondary vocational education (ISCED 4). It usually takes one year and aims to qualify students to bear responsibility in a specialized field. Graduates may transfer to higher education (HBO).

Altogether, about twelve percent of all children in a cohort eventually hold an MBO 4 diploma.

The Dutch system is very permeable. VET students in upper secondary education may still move on to tertiary education through MBO 4. Former MBO 4 students are initially less successful in HBO than students who transfer from HAVO, as the dropout rate is almost twice as high for the post-MBO group. However, compared to the post-HAVO group, MBO graduates who pass their first year successfully receive diplomas quicker and more frequently (MoECS, 2015f, p. 13).

At the firm level, a number of criteria exist that companies need to fulfil in order to have the right to supervise and train students (Cedefop, 2014b, p. 15). As both BBL and BOL students spend a significant amount of time at work, regulation applies for both tracks. Tutors must document their pedagogical competencies with corresponding documents (i.e. diplomas, certificates) and must be qualified with (at least) the education level they teach. Further criteria are the availability of sufficient diverse training opportunities within the firm (in relation to the students' curriculum) and the willingness of the tutor to work with the MBO institution. If a firm satisfies all requirements it may be accredited and offer work placements on a certain website (stagemarkt.nl). Accreditation is given by the SBB¹⁸ and must be renewed every four years.

Labor market opportunities measured in terms of post-graduate unemployment are best for high-level MBO programs. Furthermore, BBL programs generally perform better than BOL, as is shown by Table 6 below:

¹⁸ See chapter 3.3.2 for a detailed description of the SBB.

Table 6: Unemployment 1.5 years after obtaining qualifications, 2012

	BOL 1	BOL 2	BOL 3	BOL 4	BBL 1	BBL 2	BBL 3	BBL 4
	in %							
Unemployment	30	19	15	11	5	4	2	2

Source: (MoECS, 2014a, p. 77)

To sum up, the Netherlands has a highly diversified upper secondary VET system that offers tailored solutions to different target groups. It is well organized and ranges at the upper end of the international VET quality scale. Moreover, VET is not a dead end for those that may want to transfer to tertiary education at a later stage.

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

3.2.1 Higher Professional Education (HBO)

This section outlines higher professional education (*Hoger beroepsonderwijs* [HBO]), which is provided by universities of applied sciences. These institutions offer higher professional study programs leading to an Associate, Bachelor's and, in some cases, Master's degree. Admission requirements for higher professional education are satisfied with either an MBO 4 or an upper secondary general education diploma (HAVO/VWO). However, some HBO Bachelor programs have additional admission requirements, which relate to the student's previous subject specialization (Cedefop, 2014a, p. 27). In the Netherlands, higher professional education aims to prepare students for professions that require both practical and theoretical skills. Therefore, most programs encompass a temporary work placement (Cedefop, 2014a, p. 28). More than 500 programs provide dual education, i.e. studying based on an educational labor contract (CT, 2015).

Associate degree

The Associate degree (ISCED 5) is a two-year (120 ECTS) short-cycle higher professional education program. Due to a high demand from the business community for employees with education higher than MBO 4 and lower than a Bachelor's qualification, the associate degree was established in 2013 after a successful pilot phase (AD, 2015). The Associate degree is a fully separated program with its own structure and final exams. It is of special appeal to those with a VET background from upper secondary education that do not want to engage in another four years of study for a Bachelor's degree. Upon completion of such a degree, students may be allowed to continue to a regular Bachelor's program. However, an automatic transition from associate to the bachelor's degree programs is not in place, as the latter is subject to admission (Cedefop, 2014a, p. 27).

Generally, associate degrees are designed to be full-time programs. However, it is sometimes possible to follow it part-time, depending on school and specialization (AD, 2015). Associate degrees are offered in over 150 disciplines, ranging from economics, agronomy, art, education, technology, social services to health.

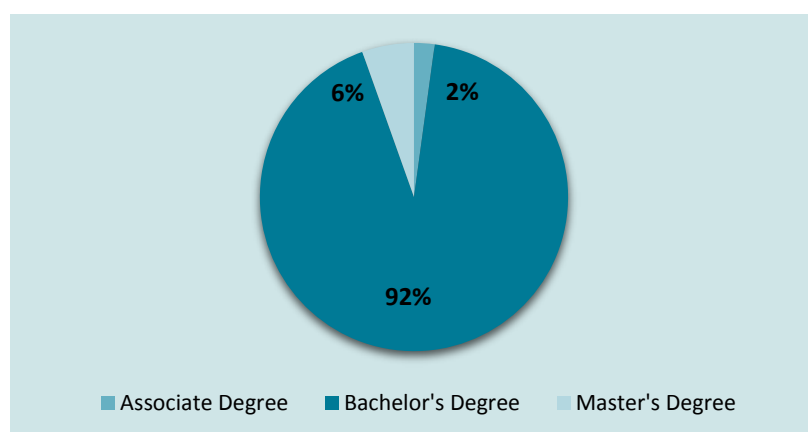
Bachelor's degree

Higher professional Bachelor degrees (ISCED 6) represent the focal point of HBO education. Bachelor degree programs are designed as four-year programs (240 ECTS) that enable participants to engage in management labor market positions. In general, students have to pass the first year (*propedeuse*) to receive the propaedeutic diploma (60 ECTS), which is mandatory for the remaining three years of the Bachelor's (SiH, 2015a). The propaedeutic diploma is neither a separate nor a recognized degree; its function is to give a basic oversight of the program's content and to sort out underqualified students. The *propedeuse* is followed by the main phase of three years (180 ECTS). HBO Bachelor graduates may, after completing additional university courses, start a Master's at a research university.

Master's degree

Master degrees (ISCED 7) further specialize students in a particular profession. In order to enroll in a Master's program, students have to be employed in a specific profession, depending on the respective program. Therefore, the Master's degree is designed as a part-time program (SiH, 2015b). Program length is subject to considerable variance, since the minimum duration is one year (60 ECTS) and the maximum four years (240 ECTS).

Figure 5: Higher professional education (HBO) graduates by program, 2014



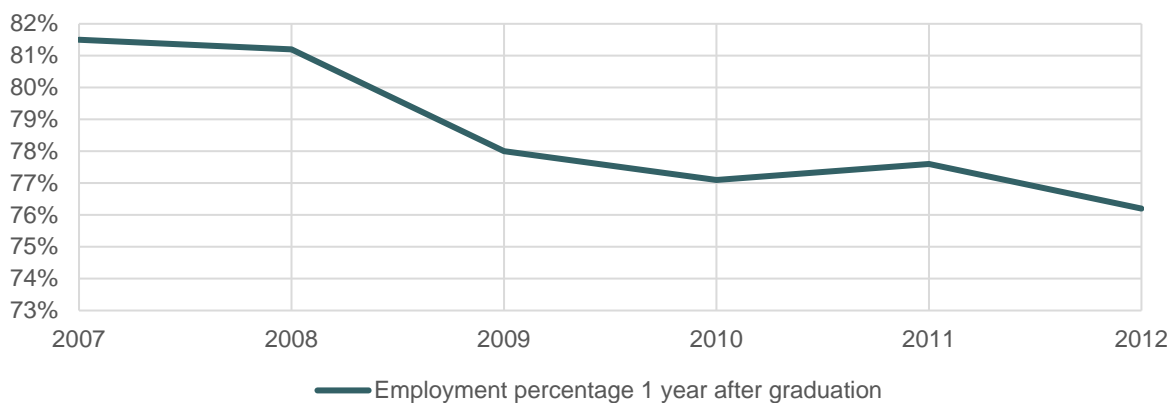
For the year 2014, Figure 5 illustrates higher professional education graduates by program. It shows that most students (92%) in HBO institutions enroll in Bachelor program.

Source (Own calculations): (MoECS, 2015h)

Each program in higher professional education is overviewed by the Accreditation Organization of the Netherlands & Flanders (NVAO, 2015). More information on quality assurance and monitoring in HBO can be found in chapter 3.5.3 Curriculum Feedback Phase.

Labor market opportunities for full-time HBO graduates (measured in terms of employment one year after study completion) have deteriorated over time, as is shown by Figure 6. The horizontal axis depicts the year of graduation.

Figure 6: Employment percentage 1 year after graduation



Source (Own illustration): (OIC, 2015b)

Labor market opportunities differ significantly between subjects. Approximately 85 percent of healthcare graduates had a full-time job after one year (OIC, 2015b). In contrast, only 61 percent of graduates in language and culture found a full-time job.

3.2.2 Other Forms of PET

Continuing vocational education and training (CVET) aims to satisfy educational needs of individuals who have already completed official vocational education and training. In contrast to HBO, no formal institutional framework exists for the CVET system (Panteia, 2014, p. 33). By far the largest share of CVET is private, non-government funded training for employees (corporate training). Therefore, key actors in the process of formulating aims and general arrangements for CVET training are social partners, not the government. Many employment sectors enable their employees to engage in CVET over the respective sectoral collective labor agreement with the establishment of training funds¹⁹. These funds are financed by employers and employees, as part of the collective labor agreement (Cedefop, 2014a, pp. 41-42).

¹⁹ 140 sectoral labor market and training funds exist, as almost every sector has its own fund (Panteia, 2014).

According to Eurostat, 39 percent of all employees have participated in at least one CVET course in 2010 (Eurostat, 2015c).

3.3 Regulatory and Institutional Framework of the VPET System

3.3.1 Central Elements of VPET Legislation

The Dutch education system at the upper secondary and post-secondary level is regulated by two separate acts of Parliament. Both acts determine the general direction of the education policy and form the statutory basis for the VPET system. The principal statute for the VET system is the Act on Adult and Vocational Education, whereas the Act on Higher Education and Scientific Research regulates the PET system. Both form the basis for various secondary statutes. A comprehensive list of these statutes can be found in the Appendix. On top of that, the appendix outlines the main features of the Netherlands' legislation on the VPET system, focusing in particular on the administrative responsibilities, stakeholder involvement, program content, financing and redistribution instruments, as well as teachers' education.

In general, educational legislation in the Netherlands provides a broad framework that determines key elements such as:

- Access and accessibility to and within the education system
- Design of the education system
- Determination of design procedures for examination, qualification and curricula
- Financing
- General aims and objectives of the VPET system

3.3.2 Key Actors

a) Vocational Education and Training

Various agents contribute to the Dutch VET System. All relevant actors are briefly described in the following list²⁰.

Government

The Ministry of Education, Culture and Science is in charge of overseeing the entire Dutch VET system, except for agricultural education. Its Minister and his/her Secretary are responsible for the strategic direction of the VET system. They are assisted by the Director-General of Higher and Vocational Education, Science and Emancipation, who leads the Directorate for Secondary Vocational Education. The executive arm of the ministry, called DUO

²⁰ Institutions' competencies and goals are largely based on the Dutch legislative framework described in the appendix. If this is not the case, the respective source is cited as usual. For detailed information about what legal document forms the basis for which institution also see the appendix.

(*Dienst Uitvoering Onderwijs*)²¹, is responsible for the funding of the VET system. Directly subordinated to the Secretary General is the Education Inspectorate (*Inspectie van het Onderwijs*), which is responsible for quality assurance and financial compliance²².

The Ministry of Economic Affairs, Agriculture and Innovation is only responsible for agricultural VET courses. This should guarantee that agricultural VET courses are embedded in the integrated sector policy pursued by the Ministry (MoECS, 2014a, p. 140).

Representation and advisory bodies

The Foundation for Cooperation on VET and the Labor Market (*Samenwerking Beroepsonderwijs Bedrijfsleven* [SBB]), is the central representative body of a wide range of stakeholders. Established in January 2012 (UKCES, 2013, p. 4), the board of directors and the management consists of members representing all relevant social partners that are involved in the VET system (SBB, 2015a):

- MBO Raad (Association of all vocational and adult education institutions)
- AOB (Largest teachers' union in the Netherlands)
- NERTO (Umbrella organization for private education institutions)
- Major lobbying organizations and employer associations
- Major labor unions

The idea of the SBB is to offer a single point of advice to the Minister. Hence, the Minister is able to receive policy recommendations that are not only on behalf of one stakeholder, but from all social partners together. Additionally, it aims to identify the needs of the fast-changing labour market, so that the VET system equips the students with an appropriate set of skills. The SBB was given a broad mandate to accomplish this goal: The Minister is advised by the SBB theme advisory committees on topics like macro efficiency, practical occupation training and the qualification and examination structure (ILO, 2014, p. 36). It is also responsible for the accreditation of companies that want to train and supervise students in the VET system (SBB, 2016). The SBB's competency regarding curriculum design is more broadly outlined in the respective chapter below.

Another advisory body for the government is the Education Council (*Onderwijsraad*). It advises the government on the broad outlines of policy and legislation in the field of education in general. The council is an independent governmental body that can advise the minister upon his request but also without prompting.

²¹ More information on funding is provided in chapter 3.4 Educational Finance.

²² More information concerning the Inspectorate and quality assurance in general is provided in chapter 3.5.3 Curriculum Feedback Phase.

Education and training providers

In the VET system (and often in adult education), training is delivered by multisectoral Regional Education and Training Centers (*Regionaal Opleidingencentrum* [ROC]). Due to the 1996 WEB Act, several hundreds of vocational training institutions merged into 43 ROCs. This downscaling process led to a massive increase of students per institution (e.g. the ROC Amsterdam with over 35'000 students). The average ROC has approximately 10'000 upper secondary vocational education students and 2'500 adult education students (UKCES, 2013, p. 7). Accordingly, ROCs are not only publicly funded but also active on the private continuing VET market.

VET for agricultural subjects is provided by 11 Agricultural Education and Training Centers (*Agrarische Opleidingscentrum* [AOC]). The Ministry of Economic Affairs founded these centres separately. In 2013, AOCs had 11'000 students enrolled, which amounted to only 5.7 percent of overall upper secondary vocational education (MoECS, 2014a, p. 143).

The representative body of ROCs and AOCs is the Association for Vocational and Adult Education (*MBO Raad*). The aim of this umbrella organization is to advise the government and other stakeholders on educational policy issues and promote the collective interests of the vocational education sector (UKCES, 2013, p. 7). As mentioned above, the MBO Raad is also represented within the SBB.

b) Professional Education and Training

Government

The Ministry of Education, Culture and Science is in charge of overseeing the Dutch PET system, except for agricultural education. The Director-General of Higher and Vocational Education, Science and Emancipation leads the Directorate for Higher Education and Student Funding. The Ministry is responsible for funding all universities of applied sciences except in the agricultural fields. As is the case for the VET system, the Ministry of Economic Affairs, Agriculture and Innovation is in charge of higher agricultural education and its funding.

Each program in higher professional education is overviewed by the Accreditation Organization of the Netherlands and Flanders (NVAO, 2015). The NVAO is an independent, binational organization established by a treaty between the Dutch and the Flemish governments to provide objective assessments of the quality of higher education in the

respective countries. Therefore, it is in charge of assessing institutional as well as program quality standards for both existing and opening institutions/programs in both countries²³.

Representation and advisory bodies

Because Dutch higher professional education providers are by law more autonomous than the ROCs, there is no central representation body like the SBB. Therefore, no regulation applies concerning the mandatory representation of employers/employees in the decision-making process of how to design higher professional education.

Universities of applied sciences are represented by the Netherlands Association of Universities of Applied Sciences (*Vereniging Hogescholen*), which maintains contact to the media and the relevant ministries. Historically, the association was a main driver in the initial development of higher professional education in the Netherlands.

Furthermore, the above outlined Education Council is not only advising the government on the VET system, but also on higher professional education. For more details about the single legislative sources, refer to the appendix.

Education and training providers

The universities of applied sciences provide most of the professional education and training. The Netherlands has 43 such institutions offering 200 programs in a wide range of disciplines (MoECS, 2015g). In 2014, there were approximately 445'000 students enrolled in HBO (OIC, 2015a). The average number of students per institution increased from 5'430 in 2000 to over 12'000 students in 2013 (MoECS, 2014a, p. 86). Universities of applied sciences offer so-called associate, Bachelor's and sometimes Master's degrees²⁴. The course structure follows the European Credit Transfer System (ECTS). The degree of freedom for HBO institutions is greater than for ROCs, for example with respect to curriculum design²⁵.

3.4 Educational Finance of the VPET System

The Ministry of Education, Science and Culture is responsible for almost all central government expenditure on education (Cedefop, 2014a, p. 38). More exactly, DUO (*Dienst Uitvoering Onderwijs*), which is an agency within the ministry, is in charge of forwarding government funds to official VPET providers. DUO either channels the funds directly to the respective schooling institutions or indirectly to municipality governments. The latter is the case for secondary school

²³ More information on quality assurance and monitoring of existing HBO programs and institutions can be found in chapter 3.5.3 Curriculum Feedback Phase.

²⁴ More information on the particular course content can be found in chapter 3.2.1 Higher Professional Education (HBO).

²⁵ More information on curriculum design competencies can be found in chapter 3.5.1 Curriculum Design Phase.

accommodations. Another way to collect funds besides government education expenditures are tuition fees paid by students themselves.

3.4.1 Educational Finance of Lower Secondary Vocational Education

Lower secondary vocational education institutions receive a block grant funding (Cedefop, 2014a, p. 38). As a result, schools have major say in deciding how to spend resources. The size of the block grant fund depends on how many students and what kind of students are enrolled (schools get more for high-risk students). On top of that, each school receives a fix amount.

3.4.2 Educational Finance of Upper Secondary Vocational Education

In upper secondary vocational education, there are several sources of funding for ROCs. As in lower secondary vocational education, the government equips schools with the necessary resources through block grant funding (ECBO, 2014, p. 24). Accordingly, MBO schools may decide freely on how to spend the money in order to provide the required services. The volume of block grant funding per school depends on a school's student endowment and on the number of diplomas awarded per year. In 2013, lump sum government transfers amounted to €3.5 billion (CBS, 2015b). Furthermore, "cascade" funding was introduced in 2014 (ECBO, 2014, p. 24). It ties government funding to the length of students' school stays, thereby aiming to create incentive structures that point towards more efficient (and shorter) study cycles. In addition to lump sum transfers, MBO institutions may receive extra budgeting if certain quality agreements are met²⁶ (MoECS, 2015i).

On top of government funding, ROCs receive tuition fees paid by students (ECBO, 2014, p. 25). Course fees per school year are €1,065 in the BOL pathway, €221 for BBL MBO 1-2, and €536 for BBL MBO 3-4. Students younger than 18 can apply for tuition allowance (MoECS, 2014a, p. 66), while BOL students older than 18 can apply for student grants (ECBO, 2014, p. 25). Another source of income for ROCs lies in firm contract commitments, i.e. performing educational activities for specific companies (Cedefop, 2014a, p. 39).

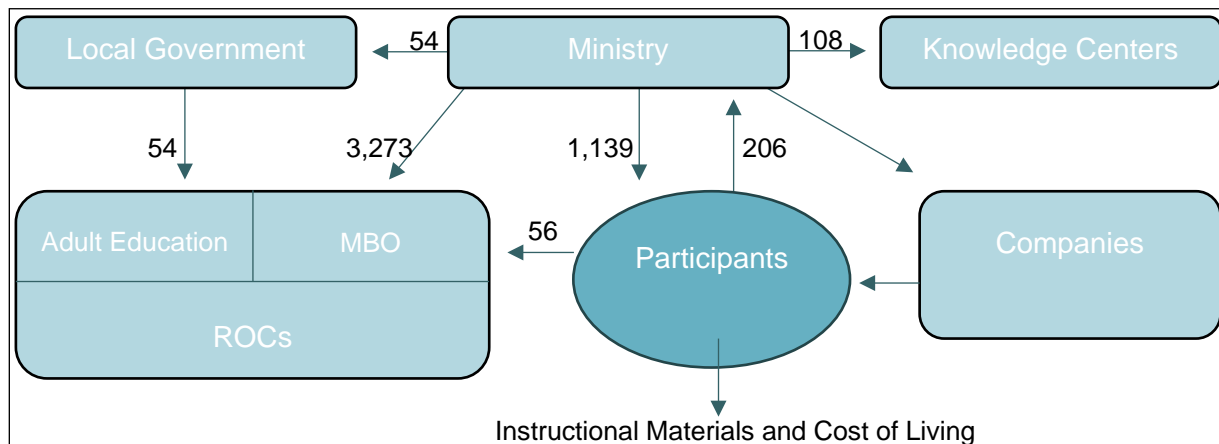
For firms, a system of subsidies is in place (Cedefop, 2014a, p. 39). In order to obtain the subsidy, companies have to offer learning places in the BBL pathway (or in technical dual-track HBO) and then apply for funding²⁷. Regarding private training costs, companies spent an

²⁶ For example, professional development of teachers may lead to extra budget.

²⁷ The Dutch government wants to give subsidies only in sectors where market failures prevail (ECBO, 2014, p. 25).

€1.9 billion on practical work skill education for MBO students in 2013 (CBS, 2015b). The flow of funds in upper secondary education in 2013 are illustrated in Figure 7.

Figure 7: Flow of funds in upper secondary education, 2013 (figures in €1 million)

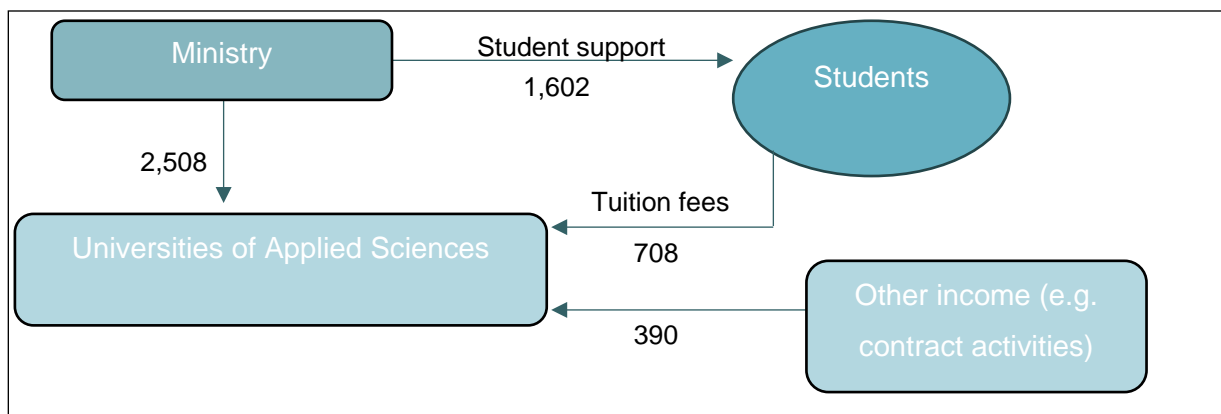


Source (Own illustration): (MoECS, 2014a, p. 66).

3.4.3 Educational Finance of Higher Professional Education (HBO)

As is the case for secondary education, universities of applied sciences receive block grant funding from the Ministry of Education, Culture and Science (MoECS, 2015j). To qualify for government funding, HBO institutions first need to go through an accreditation process led by the Dutch-Flemish Accreditation Organization (NVAO). About 80 percent of the respective government budget is divided among universities of applied sciences in proportion to the number of students enrolled and the amount of issued degrees (MoECS, 2014a, p. 78). In addition, the block grant fund comprises a design and development component and a performance component. On top of government funding are students' tuition fees and research/teaching contract agreements with third parties. In contrast to upper secondary educational finance, the local governments do not work as intermediaries. The flow of funds in higher professional education is illustrated below for 2013.

Figure 8: Flow of funds in higher professional education, 2013 (figures in €1 million)

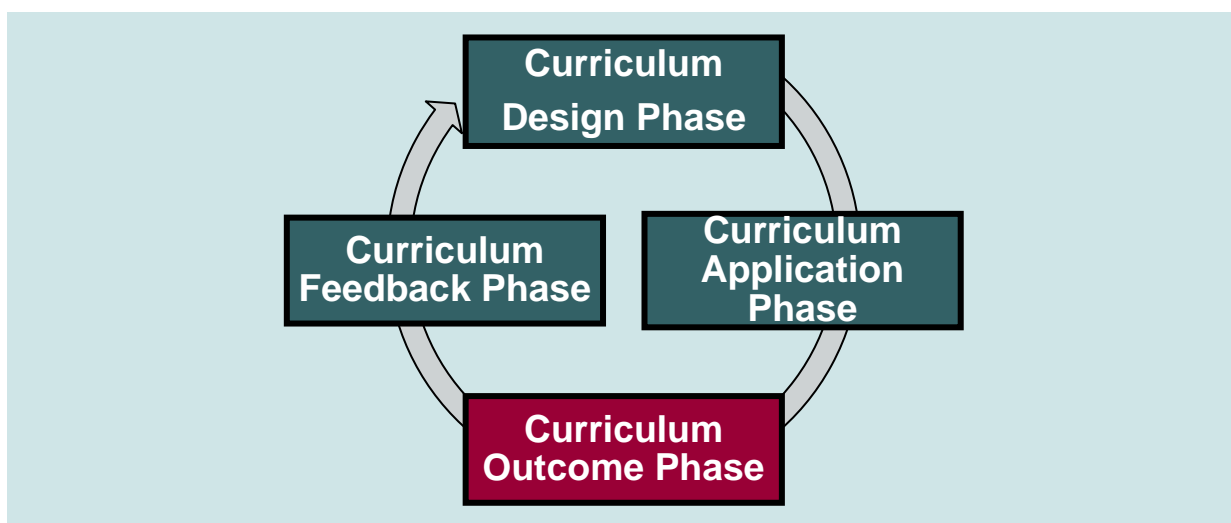


Source (Own illustration): (MoECS, 2014a, p. 78)

3.5 Curriculum Development

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

Figure 9: Curriculum Value Chain (CVC)



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

In the curriculum design phase, VET curriculum content and qualification standards are decided upon by the relevant actors. Therefore, the discussion in the respective subchapter below focuses on the degree and the amount of stakeholder participation concerning curriculum design in the Netherlands. The curriculum application phase revolves around the implementation of the curriculum. Because learning environments differ heavily across countries—especially with respect to the prevalence of workplace learning—the curriculum application phase subchapter in this Factbook focuses those learning environments. Specifically, it addresses where learning takes place and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and 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 for the whole curriculum 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.

In the Netherlands, companies and educational institutions work together closely to design an upper secondary vocational education curriculum that fits the need of the labor market. For this reason, cooperation between these actors was institutionalized in 2012 with the founding of the SBB. As mentioned in chapter 3.3.2, the main task of the SBB is to provide a platform to harmonize the interaction of different stakeholders. Since 2015, the SBB has full competencies to develop the so-called qualification files. The Ministry of Education, Culture and Science eventually must approve the files. Qualification files are at the core of the Dutch curriculum design process, as they set national education standards related to all different job profiles²⁸. Within the SBB, eight different sector chambers exist which are responsible for working out files in the respective field (Cedefop, 2014a, p. 34). Each file describes the required competencies, skills, and knowledge for a specific job in detail so that students can be taught and examined accordingly (ECBO, 2012). Schools are free to decide which way they consider the best to reach these educational targets. Each issued MBO diploma is tied to the respective qualification file. The structure has recently undergone a reform process with the total number of files decreasing from 613 in 2013 to 487 in 2015 (H-MBO, 2015). The aim of the reform was to increase the flexibility, transparency, innovation and efficiency of the qualification files. All files may now be revised four times a year in order to keep them up to date with labor market developments. In addition to the disposing of redundant files, file content was reduced and stated more precisely and a completely new file structure was implemented so that the reform's target can be met.

Each qualification file (and therefore, each diploma) is now structured into the following three parts (H-MBO, 2015):

- **Basic Part**

The basic part of the qualification file comprises two parts itself (H-MBO, 2015). One of which is occupation-specific with subjects directly related to the trained profession and its competency requirements. The second part consists of general subjects such as Dutch, mathematics, social studies as well as English (only for MBO 4). All students following the same qualification file share the same basic part, which amounts to approximately 50 percent of the whole course program.

²⁸ All qualification files are available on <http://kwalificaties.s-bb.nl/>.

- **Profile Part**

Since the basic part is held general by design, the profile part's function is to tailor an individual qualification file with respect to the level of training that students receive (example below) (H-MBO, 2015). Therefore, the profile section consists of vocational education courses. It amounts to approximately 35 percent of the whole course program and is mentioned on the final diploma.

- **Elective Part**

The implementation of the new elective part was the main innovation of the reform (H-MBO, 2015). It aims at pushing the innovation and flexibility of the system by giving educational and corporate stakeholders another platform to influence the curriculum design according to their needs. Accordingly, special regional labor market characteristics can be targeted through a designated course structure. Furthermore, its content can be revised more quickly (e.g. due to current happenings) since the elective part is separated from the basic and the profile sections. The elective part also allows students to differentiate their own skills and competencies according to their desire and interest. It amounts to approximately 15 percent of the whole course program and is mandatory for all students.

The following table provides an example of use for the new qualification file structure.

Table 7: Qualification file structure: An example of use

Basis Part	Profile Part	Elective Part
Hair Care	Hairdresser (Level 2)	<ul style="list-style-type: none"> - Nail styling - Afro Hairdressing - Entrepreneurship - German
	Advanced Hairdresser (Level 3)	
	Salon Manager (Level 4)	

Source: (MoECS, 2014b, pp. 6-7)

In summary, the Dutch VET curriculum is designed by a harmonization platform that incorporates various relevant stakeholders. A systematic qualification file structure comes into play once actors decide upon the appropriate curriculum for a certain profession.

In contrast to upper secondary vocational education (VET), higher professional education and training (PET) does not follow the qualification file system. Here, the curriculum design is within the individual responsibility of the universities of applied sciences. As a result, HBO programs even related to the same occupation-profile may have significant differences across institutions

in terms of curriculum content (Cedefop, 2014a, p. 28). However, universities of applied sciences are not entirely free when determining curriculum content, as each program has to be accepted by the accreditation organization NVAO²⁹.

3.5.2 Curriculum Application Phase

The way in which a curriculum is implemented—especially with respect to learning environments—is important to achieve the intended outcome. In the Netherlands, upper secondary vocational education curricula target both, school and workplace learning. In fact, only a small proportion of a typical qualification file is dealing with school learning. A major part of the file is devoted to process-skill matrices with a thorough description of each required work-process. The table below shows an excerpt from the qualification file of prospective interior designers.

Figure 10: Typical process-skill matrix for a Dutch qualification file

Proces-competentie-matrix Interieuradviseur

Kerntaak 1 Adviseert, ontwerpt en verkoopt		Competenties																			
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
		Beïnvloeden en activiteiten	Aansturen	Begeleiden	Aandacht en begrip tonen	Samenwerken en overleggen	Ethisch en integer handelen	Relaties bouwen en netwerken	Overtuigen en beïnvloeden	Presenteren	Formuleren en rapporteren	Valdeskundigheid toepassen	Materialen en middelen inzetten	Analyseren	Onderzoeken	Creëren en innoveren	Leren	Planen en organiseren	Op de behoeften en verwachtingen van de "Klant" richten	Kwaliteit leveren	Instructies en procedures opvolgen
Werkprocessen																					
1.1	Inventariseert klantwensen en adviseert over de inrichting				X				X	X		X				X			X		
1.2	Maakt een ontwerp en advies voor de inrichting				X							X				X			X		
1.3	Besprekt het ontwerp en advies met de klant								X	X									X		
1.4	Maakt het ontwerp en advies definitief en stelt de offerte op				X							X							X		
1.5	Handelt de verkoop af en maakt vervolgspraken																		X	X	

Source: (SBB, 2015b, p. 2)

In such a matrix, a set of competencies (horizontal axis) is coupled with job-related work-processes (vertical axis). Much of the document is dedicated to identify and define the relevant work-processes for a certain profession, which shows that the curriculum focuses on the workplace-learning environment and not exclusively on school learning, as is often the case in other countries.

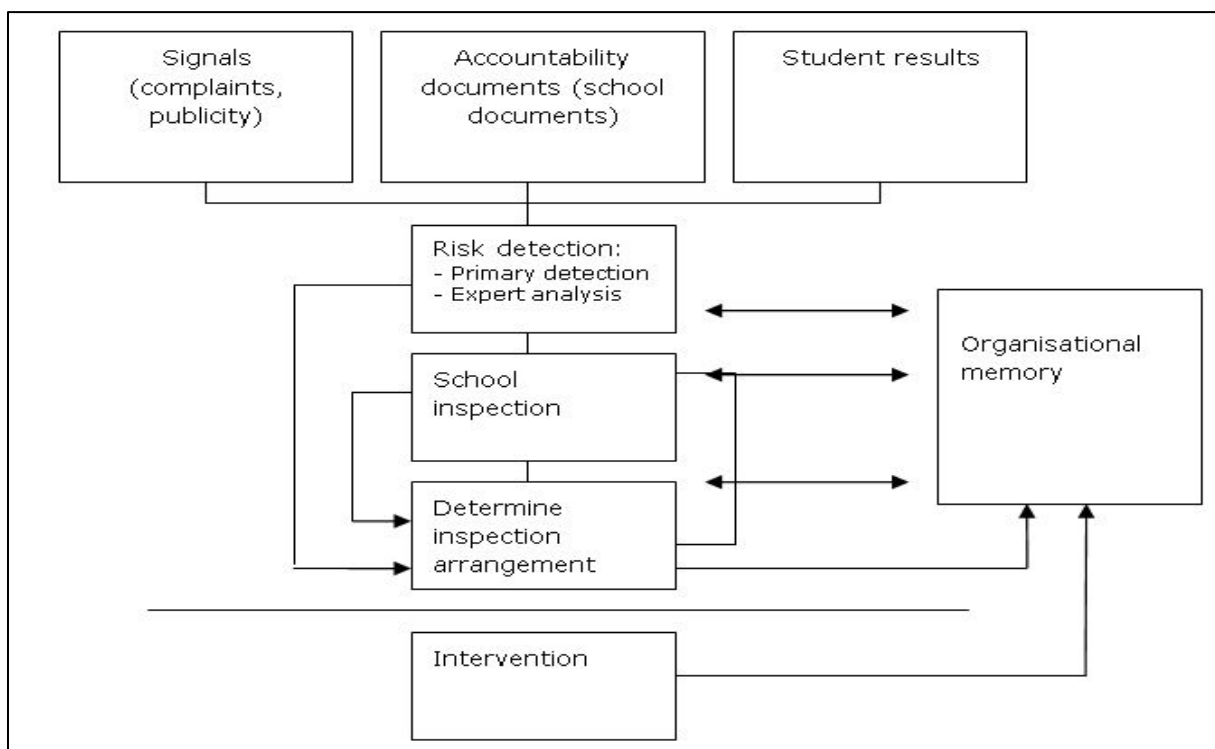
²⁹ Detailed information on the accreditation process is found in chapter 3.5.3 Curriculum Feedback Phase.

Regarding the school-based learning environment, ROCs have high flexibility of how to apply the designed curriculum as long as they fulfil the goals set by legislation and qualification files (UKCES, 2013, p. 7). The subchapter below deals with the respective monitoring and quality assurance issues.

3.5.3 Curriculum Feedback Phase

The curriculum feedback phase deals with the question, whether and how educational outcomes are analyzed. Based on this, the curriculum could be re-worked and improved. In the Netherlands, the responsibility for the quality assurance of vocational education at the upper secondary level remains in the hand of the national Inspectorate of Education, which monitors the ROCs (UKCES, 2013, p. 14). The Inspectorate visits each school once in three years to analyze their quality (MoECS, 2015k). On top of that, a yearly evaluation framework may lead to inspection outside of regular cycles. This process is shown in the diagram below.

Figure 11: VET Inspection Process



Source: (MoECS, 2015k)

The upper boxes represent different dimensions of measurable curriculum outcome. This information is used to assess the risk of bad education quality. The model used by the Inspectorate yields three possible outcomes, analogous to a traffic light. Only schools that have passed the quality check (green) are not subject to further analysis and are granted another year of authorization. Institutions with red or orange lights undergo expert analysis, which

means that an inspector assesses the “organizational memory” of the Inspectorate as well as publicly accessible information. Based on that, the Inspectorate decides whether a school inspection is necessary. If desk-research leads to the conclusion that nothing is wrong and that signals were automatically issuing a false alarm, the case is settled. Otherwise, the inspector audits the ROC on-sight and writes a final report of the identified quality shortcomings. During the intervention phase, the school must address the outlined weaknesses under the monitoring of the Inspectorate.

On top of Inspectorate quality assurance, all ROC institutions have to organize and employ an internal auditing system (De Ridder, 2015, pp. 8-9). This is a legal requirement for all educational VET schooling institutions. Regarding the examination structure, ROCs are independently compiling both school and workplace assessment. However, the law specifies that companies that offer workplace training must be involved in the process and that the national Inspectorate of Education supervises the quality of examination in terms of content, level and procedures (Cedefop, 2014a, p. 35).

Finally, the Research Centre for Education and Labour Market (ROA) is responsible for gathering sectoral labor market data. Such forecasts are used by the ROCs to adjust their course offerings and capacity so that future school and labor market linkage is guaranteed (UKCES, 2013, p. 12). Some ROCs also conduct market research internally to forecast the future demand on the regional level (Cedefop, 2014a, p. 34).

In short, the Dutch VET system is characterized by a variety of actors that assess curriculum outcome. Insights are gained from the ROA, the Inspectorate and the internal auditing system and are fed-back into the curriculum design phase.

In higher professional education and training, the NVAO is responsible for official program accreditation and evaluation. Assessment takes place either at the program or at the institutional level. The following list describes the structure and content of the NVAO accreditation system (NVAO, 2014):

- ***Institutional quality assurance assessment***

The usual assessment procedure focuses only on individual programs (as described below). However, it is possible for institutions to request the NVAO to perform a thorough audit of itself. Should this audit reveal that the institution's quality standards are excellent, it is placed in a special accreditation regime. Under this regime, regular program assessment is shortened because audits are limited to the “essence of educational quality” (NVAO, 2014, p. 6). A positive institutional quality assurance assessment is supposed to prove the trustworthiness

of the institution, which in turn leads to the institution spending less time on regular program assessments. When doing an institutional assessment, the NVAO scrutinizes the effectiveness of an institution's internal quality assurance system by looking at the following five dimensions:

1. Vision: Is a quality vision and culture implemented?
2. Policy: Does the institution pursue an appropriate policy to realize its vision?
3. Output: Are educational outcomes gathered and evaluated within/outside the institution?
4. Improvement: Does the institution use the gathered information to improve its policies?
5. Structure: Does the institution have clearly defined tasks and competencies regarding quality assurance that encompass both students and staff?

The assessment process includes not only an evaluation of formal procedures but also at least two site visits. Once the process is concluded, the NVAO pronounces its general statement based on the review of the above stated five standards. In case it is conditionally positive, the audit panel states the relevant conditions and the timeframe within which the required standards need to be satisfied. A positive decision is valid for six years.

- *Limited program assessment*

Institutions that have obtained a positive institutional assessment judgement are subject to the limited program assessment. The assessment process focuses on content and quality of individual programs. For this, four standards have been defined:

1. Learning outcomes: Are appropriate learning outcomes defined?
2. Teaching-learning environment: Does the learning environment allow students to achieve the defined learning outcomes?
3. Assessment: Is the examination system valid, reliable and transparent?
4. Achieved learning outcomes: Are the defined learning outcomes achieved?

As is the case for the institutional assessment procedure, the limited program assessment also incorporates a site visit of one day per program. This may be reduced in the event of a collective assessment of comparable programs in a single institution. Based on the final auditing report, the NVAO decides whether to accredit the program or not. If it does so, accreditation is valid for six years.

- *Extensive program assessment*

The extensive program assessment is used for institutions that have not obtained a positive institutional assessment judgement. The evaluation framework comprises of seven clusters with eleven standards in total.

1. Intended learning outcomes: Are appropriate learning outcomes defined?
2. Curriculum: Are curriculum orientation, content and structure in line with the defined learning outcomes?
3. Staff: Is the staff sufficiently qualified to teach the curriculum?
4. Services/facilities: Are student services (e.g. tutoring) and the infrastructure appropriate?
5. Quality assurance: Does the institution regularly evaluate its outcomes with respect to the defined learning outcomes?
6. Assessment: Is the examination system valid, reliable and transparent?
7. Achieved learning outcomes: Are the defined learning outcomes achieved?

The site visit for the extensive program assessment takes one day, except in the event of a collective assessment of comparable programs, for which the duration may be reduced. Based on the final auditing report, the NVAO decides whether to accredit the program or not. A positive decision is valid for six years.

In conclusion, the NVAO and its auditing panels systematically assess curriculum outcome in HBO in a comprehensive, multidimensional framework. Insights from this process must be fed-back into the curriculum design phase, because otherwise, programs may lose the necessary accreditation.

3.6 Supplying Personnel for the VPET System (Teacher Education)

The educational level of teachers in the VPET system varies across sectors. In upper secondary vocational education, three quarters obtained a degree from higher professional education. A small share of 13 percent hold an academic degree. Higher professional education teachers are mainly university graduates (60 percent) (MoECS, 2012, p. 17). MBO teachers differ from other secondary school teachers by having a lot of practical work experience (ILO, 2014, p. 28). More than fifty percent of new recruits had over ten years, one third more than twenty years of professional experience.

Teachers in upper secondary education must either hold a first- or a second-level teaching qualification diploma (ILO, 2014, p. 28). First-level teachers are allowed to teach at all levels of secondary education, including secondary vocational education. In contrast, second-level teachers are only licensed to teach courses at lower levels of secondary education. The following table briefly summarizes how both qualifications can be attained (MoECS, 2015l) (MoECS, 2015m).

Table 8: First- and Second-Level Teaching Qualification

Second-Level Qualification Diploma	<ul style="list-style-type: none"> - Upon completion of either HAVO, VWO or MBO 4 and the passing an entry examination, it is possible to enroll in the HBO teacher-training program. Like most Bachelor programs, it takes four years to complete on a full-time basis. On top of that, some HBO institutions also offer it part-time or dual (with a constant work-placement in the education sector). The curriculum consists of didactic courses, knowledge subjects, an internship and elective courses. - Holders of a non-educational university or HBO Bachelor/Master can follow a shortened version (one year) of the program outlined above, in which almost only didactic skills are taught.
First-Level Qualification Diploma	<ul style="list-style-type: none"> - Upon completion of the second-level qualification diploma, it is possible to attend an educational Master program to receive the first-level qualification diploma. A university diploma in the subject taught is required for most courses in upper secondary education, however, some courses can also be taught with an HBO Master. The content of the Master varies by institution.

Source (Own table): (MoECS, 2015l) (MoECS, 2015m)

Apart from standard teacher training programs, numerous (new) routes can be followed by potential teaching aspirants (MoECS, 2012, pp. 43-45) (MoECS, 2015n):

- Educational Minor

Launched in 2009, it allows Bachelor's students at universities to receive a limited second-level teaching qualification³⁰. The Educational Minor program aims to increase the share of academically qualified teachers by giving students the possibility to teach without prior teaching experience.

³⁰ Limited to year 1-3 of upper general secondary education, pre-university education and pre-vocational secondary education (theoretical learning pathway).

- Teach First

Teach First is a two-year training program aimed at outstanding academics holding a Master's degree. Participants teach three to four days a week at a secondary school to earn their first-level qualification. On top of teaching education, participants also take part in a leadership program in the business community³¹.

- Lateral Entry

For people with a higher education diploma and a strong background in a certain profession (at least three years with a completed vocational education diploma), it is possible to start teaching related vocational subjects without prior didactic experience. However, an eligibility assessment needs to be passed first and a teaching qualification diploma must be obtained within a set time limit of two years.

Approximately ten percent of teaching is held by teaching assistants (ILO, 2014, p. 28). However, their focus is to help licensed teachers with less complex tasks like preparing coursework and taking over organizational duties. Teaching assistants are educated at MBO level 4.

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

4.1 Major Reforms between 1990 and 2015

- The current legislative framework was established in the 90s with the introduction of the Higher Education and Research Act in 1993 (for PET) and the Adult and Vocational Education Act in 1996 (for VET).
- The Adult and Vocational Education Act first initiated the institutionalization of cooperation between various stakeholders. This led to the existence of Centres of Expertise on VET and the Labour Market (*Kenniscentra Beroepsonderwijs Bedrijfsleven* [KBB]). KBBs were organized in a decentral and sectoral manner and had the responsibility to develop the qualification file structure (ECBO, 2014, p. 9). However, all tasks were transferred to the centralized SBB in 2015.
- Regarding student numbers, both universities of applied sciences and ROCs have gone through a process of down-scaling their number, largely due to efficiency reasons. In 1996, several hundreds of vocational training institutions were merged into 43 ROCs.

³¹ For more information on Teach First see http://www.eerstdeklas.nl/algemeen/about_the_project

Accordingly, student enrolment per institution ballooned with the ROC Amsterdam peaking the list (35'000 students) (UKCES, 2013, p. 7).

- In 2011, the White Paper “Focus on Craftsmanship” was published to improve upper secondary VET (ECBO, 2014). The central point of the White Paper is that vocational education should be more efficient. It led to the introduction of a new funding model³², which aims to change incentive structures towards shorter studying times. Furthermore, qualification files were extensively reformed, as outlined in chapter 3.5.1. Closely associated with this process is the establishment of a centralized representation body, the SBB, which intends to realize economies of scale in contrast to the decentralized KBBs.

4.2 Future Challenges

- One of the key characteristics of the Dutch upper secondary education system is its work-based learning approach, which features low youth unemployment and good labor market outcomes. In the last years however, this system has come under pressure because of the popularity of academic education and the world economic crisis. It is assumed that the latter leads to an ongoing reduction of available work placements (OECD, 2014b, p. 9).
- Research on the Dutch labor market suggests that work supply is undergoing a process of dichotomization. This means that more high- and low-level jobs are created at the cost of the middle-range. At the same time, the job market increasingly demands employees to hold more formal education qualifications. This development excludes people with no formal qualifications and those who cannot climb the educational ladder from the job market (ECBO, 2014, p. 13).

³² „Cascade“ funding, for more information see chapter 3.4.2 Educational Finance of Upper Secondary Vocational Education.

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Appendix

Regulatory Framework on Vocational Education and Training in the Netherlands

Dimension	Explanation	Regulatory framework in the Netherlands	
<i>I. Overall governance</i>		Upper-secondary level	Post-secondary level
1. Principal statute	Reference and year of publication	- Act on Adult and Vocational Education (1995) -	- Act on Higher Education and Scientific Research (1992)
2. Secondary statutes	Reference and year of publication	(See the comprehensive list at the bottom.)	- Assessment Framework for the Higher Education Accreditation System of the Netherlands - Statutes of the Netherlands Association of Universities of Applied Sciences
3. Responsible ministry		- Ministry of Education, Culture and Science (hereafter: the Ministry) - Ministry of Economic Affairs, Agriculture and Innovation (as regards education and research in the fields of agriculture, environment and nutrition) (See article 1.1.1 lit. a of the Act on Adult and Vocational Education)	- Ministry of Education, Culture and Science - Ministry of Economic Affairs, Agriculture and Innovation (as regards education and research in the fields of agriculture, environment and nutrition) (See article 1.1.1 lit. a of the Act on Adult and Vocational Education and article 1.1 lit. a of the Act on Higher Education and Scientific Research.)
4. National organization			
Administration	Who is responsible for the nation-wide administration of VET/ PET?	The Ministry's policies are prepared and implemented by the Secretary General who is assisted by several Director Generals.	See general remarks on the left. The list below shows relevant bodies that are subordinated to the Director General for Higher and Vocational Education, Science and Emancipation:

		<p>The Director General for Higher and Vocational Education, Science and Emancipation oversees (secondary) vocational education, higher education, education funding as well as research and science policy. Relevant subordinated bodies are:</p> <ul style="list-style-type: none"> - The Direction VET (Directie MBO [Middelbaar Beroepsonderwijs]) is responsible for the development of vocational policies and measures against early school leaving. - The Education Execution Office's (DUO [Dienst Uitvoering Onderwijs]) task is the funding of the educational institutions, the conferring of student grants, the collection of tuition fees and the recognition of diplomas. <p>The Education Inspectorate (Inspectie van het onderwijs), which directly reports to the Secretary General, is charged with controlling teaching and exam quality as well as monitoring legal and financial compliance and the effectiveness of policy implementation.</p> <p>(See the Ministerial Organisation and Mandate Decision.)</p>	<ul style="list-style-type: none"> - The Direction Higher Education and Education Funding (Directie HO&S [Hoger Onderwijs & Studiefinanciering]) conducts the policies regarding the higher education system. - The Direction Research and Science (Directie Onderzoek en Wetenschapsbeleid) is responsible for publicly funded research and science issues. <p>(See the Ministerial Organisation and Mandate Decision)</p>
a) Representation, advice	<p>Are there institutions representing groups such as</p> <ul style="list-style-type: none"> - the “social partners”, comprising the employees’ 	<ul style="list-style-type: none"> - The Foundation for Cooperation on VET and the Labour Market (Samenwerkingsorganisatie Beroepsonderwijs Bedrijfsleven [SBB]), a publicly subsidised legal entity, is by 	<p>See remarks on the left.</p> <p>The Netherlands Association of Universities of Applied Sciences (Vereiniging Hogescholen), recently</p>

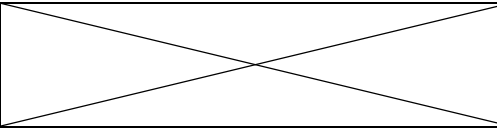
	<p>as well as the employers' side,</p> <ul style="list-style-type: none"> - vocational teachers, who submit expert opinions regarding VET/ PET to the competent bodies or exercise statutory powers? 	<p>law charged with monitoring labour market developments and social needs, developing and enhancing training programs, evaluating training companies and advising the Ministry on vocational education and training matters (see article 1.5.1 para. 1 of the Act on Adult and Vocational Education). It is administered by a board composed of representatives of both employers' and employees' associations, striking a balance between industry and education institutions (see article 9.2.1 para. 2 and 4 of the Act on Adult and Vocational Education).</p> <ul style="list-style-type: none"> - The Social and Economic Council (Sociaal-Economische Raad) including representatives of trade unions and employers' associations and independent members advises government and parliament on educational matters (see article 41 of the Act on the Social and Economic Council). - The Education Council (Onderwijsraad) is an independent governmental advisory body which advises the Ministry, Parliament and local authorities, both upon request and on an ad-hoc basis, on policy issues or legislation projects (see article 2 of the Act on the Education Council). - The Netherlands Association of Vocational Education and Training Colleges (MBO Raad [Middelbaar 	<p>going by the name of HBO Council (HBO Raad [Hoger Beroepsonderwijs Raad]) promotes the interests of all government-funded Universities of Applied Sciences and acts as an employers' organization on their behalf (see article 3 of the Statutes of the Netherlands Association of Universities of Applied Sciences).</p>
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		<p>Beroepsonderwijs Raad]) represents the interests of all government-funded colleges for secondary vocational education and training and acts as an employers' organization.</p> <p>- Vocational teacher's interests are represented by several sector-specific or more diverse teachers' unions, such as the General Education Union (Algemene Onderwijsbond), the Christian Teachers Union (CNV Onderwijs), the Dutch Trade Union Federation (Federatie Nederlandse Vakbeweging) and the Federation of Intermediate and Senior Employees in Government, Education, Companies and Institutions (Centrale van Middelbare en Hogere Functionarissen bij Overheid, Onderwijs, Bedrijven en Instellingen).</p>	
b) 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		See above.	See above.
- Trade unions		See above.	See above.
- Vocational teachers		See above.	See above.
5. Number of training programs (VET/ PET)	Is there a legally specified number of officially recognized VET/ PET occupations/ programs?	<p>No, the number of vocational programs is not fixed by law.</p> <p>However, for some 175 occupations the Ministry laid down a "qualification file" formally describing the professional</p>	<p>No, the number of vocational programs is not fixed by law.</p> <p>In particular, private providers of vocational degrees on postsecondary level are flexible enough to set up new</p>

		competences needed and, thus, setting requirements towards content and examining of vocational education and training programs (see the 2015 Regulation establishing Qualification Files together with the Regulation establishing Model Qualification File 2015-2016).	programs according to market needs (Fazekas & Litjens, 2014).
6. Minimal skill level for admission to VET/ PET programs?	This requirement of a minimal skill level guarantees the quality of the training, i.e. not any kind of on-the-job training can be termed as VET or PET in the formal sense.	Depending on the entry level (MBO 2 to 4), admission to vocational education and training requires the completion of specific entry level courses, the completion of pre-vocational secondary education or the completion of the first three years of upper secondary general education or pre-university education (see article 8.2.1 of the Act on Adult and Vocational Education).	<p>In general, admission to a bachelor program at a university of applied sciences requires a certificate of pre-university education, a certificate of higher general secondary education, a certificate of a middle-management or specialist training course or a certificate of vocational training at upper-secondary level (see article 7.24 of the Act on Higher Education and Scientific Research).</p> <p>Enrolment to a master's program is, in principle, possible only for holders of a bachelor's degree from a university or a university of applied sciences (see article 7.30b of the Act on Higher Education and Scientific Research).</p> <p>Additionally, according to the program chosen, the universities of applied sciences can lay down further requirements in terms of professional knowledge or skills (see article 7.6 of the Act on Higher Education and Scientific Research).</p>
7. Training duration (years)	Is there a minimum training (VET/PET) program duration?	<p>Law provides for the following minimum training program duration:</p> <p>- MBO 2: one full academic year*</p>	As a principle, the study load of a Bachelor program is 240 ECTS points and the study load of a master's is 60 ECTS points, with 60 ECTS points

		<ul style="list-style-type: none"> - MBO 3: two full academic years* - MBO 4 (specialist training): one full academic year* - MBO 4 (middle management): three full academic years* <p>* One academic year corresponds to a study load of 1600 clock hours.</p> <p>(See article 7.2.4a of the Act on Adult and Vocational Education).</p>	<p>corresponding to an equivalent of 1680 study hours.</p> <p>(See article 7.4 and article 7.4b of the Act on Higher Education and Scientific Research).</p>
<p>8. Is there a special sort of training contract for VET/ PET students? Does it guarantee the quality of the VET/ PET programs, i.e. does it prevent misuse of the contracts for atypical employment relations? And if, what is the regulation guaranteeing this?</p>	<p>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.</p>	<p>The firm or institution providing the practical training is legally required to conclude an agreement on the rights and obligations of the work placement with the apprentice and the training center responsible for theoretical (see article 7.2.8 para. 2 of the Act on Adult and Vocational Education).</p> <p>Furthermore, work placement companies must be accredited by the Cooperation Organization for Vocational Education, Training and the Labour Market which also reviews the quality of the training offered (see article 7.2.10 of the Act on Adult and Vocational Education).</p> <p>Tax deductions as an incentive for companies to provide workplace training were abolished and replaced by a public subsidy scheme reserved to accredited companies. Moreover, students are entitled to a minimum wage for the work done as part of their vocational education and training (see below).</p>	<p>If a workplace training is provided for by the curriculum, an agreement on the rights and obligations of the assignment has to be concluded by the student, the workplace provider and the university of applied sciences (see article 7.7 para. 5 of the Act on Higher Education and Scientific Research).</p> <p>See also the general remarks on the left.</p>

II. Regulation of school-based education			
1. Education and Training Providers	Is the competence and capacity of education and training providers legally specified?	School-based education and training is provided by regional training centers (Regional Opleidingencentrum [ROC]) which also offer career orientation and vocational guidance (see article 1.1.1 subparagraph b and article 1.3.1 of the Act on Adult and Vocational Education).	On post-secondary level, law only requires vocational education and training programs to involve school-based courses that are provided by universities of applied sciences. In any case, universities of applied sciences have to offer various bachelor's programs; they can offer master's programs where it is appropriate to do so (see article 1.3 of the Act on Higher Education and Research).
2. Mandatory (part-time) educational segment			
a) In general	Is there a mandatory classroom segment for apprentices additional to the work-based training (dual system)?	Yes, see below.	Law does not provide for a mandatory practical training period as integral part of the curricula of post-secondary vocational education and training. Thus, despite the fact that several programs require a work placement, by default the curricula are entirely classroom-based.
b) Non-adults	If not, is there a mandatory classroom segment for those under the age of legal adulthood?		
3. Shares of the different instruction segments			
a) In general	Is the share of the different instruction segments legally specified?	Yes, see below.	

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?	See below.	
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?	<p>The following minimum classroom and work-based training is provided for by law:</p> <ul style="list-style-type: none"> - MBO 2 (one-year program): a minimum of 700 guided teaching hours* and a minimum of 250 hours of practical training - MBO 2 (two-year program): a minimum of 1250 guided teaching hours*, whereof at least 700 hours in the first year, and a minimum of 450 hours of practical training - MBO 3: a minimum of 700 guided teaching hours* and a minimum of 250 hours of practical training - MBO 4 (two-year specialist training): a minimum of 1250 guided teaching hours*, whereof at least 700 hours in the first year, and a minimum of 450 hours of practical training - MBO 4 (three-year specialist training): a minimum of 1800 guided teaching hours*, whereof at least 700 hours in the first year, and a minimum of 900 hours of practical training - MBO 4 (middle management): a minimum of 1800 guided teaching hours, whereof at least 700 hours in the first year, and a minimum of 900 hours of practical training <p>* Guided teaching comprises active instruction by a qualified teacher.</p>	<p>The workload of the Bachelor's and master's program is expressed by a legally specified amount of ECTS points (See article 7.4 and article 7.4b of the Act on Higher Education and Scientific Research).</p> <p>If the curriculum comprises a compulsory work placement, the program usually sets a minimum amount of practical training days (see, e.g., article 3.2 of the Program and Examination Regulations on the Bachelor of International and European Law Degree of The Hague University of Applied Sciences, available in English).</p>

		(See article 7.2.7 para 3 and 6 of the Act on Adult and Vocational Education. See also the Regulation establishing Model Qualification File 2015-2016 for a more comprehensive overview of the program structures at each level).	
4. Specific mandatory educational contents	Are there legally specified standards regarding the content of the classroom instruction segment?	<p>All training programs are structured in the following components according to the relevant "qualification file":</p> <ul style="list-style-type: none"> - A basic part comprising the common subjects of the relevant vocational field - A profile part comprising the specific core tasks and working processes of the vocation - An elective part facilitating skills improvement on an individual basis <p>(See the Regulation establishing Model Qualification File 2015-2016.)</p>	While it is in principle for the universities of applied sciences to determine the content of the programs they offer, all programs must be accredited by the Accreditation Organization of the Netherlands and Flanders (Nederlands-Vlaamse Accreditatieorganisatie [NVAO]) upon a quality assessment with regard to, i.a., content and structure (see article 5a.8 of the Act on Higher Education and Scientific Research together with the Assessment Framework for the Higher Education Accreditation System of the Netherlands).
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		The Ministry adopts the above mentioned "qualification files" upon a proposal of the Cooperation Organisation for Vocational Education, Training and the Labour Market, comprising representatives of employers' and employees' associations (see article 7.2.4 para 2 of the Act on Adult and Vocational Education).	No.
b) Employees		Yes, see above.	No.

c) Vocational teachers		By collective agreement, the vocational teachers are granted a say in defining the educational objectives and in determining the curricula and examination standards of the institutions they are employed at (see Agreement between the Netherlands Association of VET Colleges and the Teachers' Unions, based on article 32 of the Act on Works Councils).	For each program or group of programs the governing body of the universities of applied sciences adopts separate teaching and examination regulations governing, i.a., the educational content of the program (see article 7.13 of the Act on Higher Education and Scientific Research). The adoption of the teaching and examination regulations requires the prior consultation of a representative advisory board (medezeggenschapsraad) equally composed of university staff representatives and student representatives (see article 10.20 together with article 10.17 of the Act on Higher Education and Scientific Research).
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 above.	No.
III. Regulation of work-based training			
1. Work-based training			
a) Compulsory training	Does compulsory work-based training exist?	Yes, see above.	No, see above.
b) Providers	Is the competency and capacity of work-based training providers legally specified?	Work-based training is provided by companies or institutions on the basis of an apprenticeship agreement (see above) containing the skills to achieve as well as the duration and schedule of the specific training sessions (see article 7.2.8 para 2 of the Act on Adult and Vocational Education).	No, see above.

2. Content regulation	Who has the competency to regulate the content of the work-based training segments?	The content of work-based training is outlined in the “qualification files” adopted by the Ministry upon proposal of the Cooperation Organisation for Vocational Education, Training and the Labour Market (see above).	Since practical training is not a legally required part of the post-secondary vocational programs (see above), it is for the universities of applied sciences to arrange for mandatory work placements and to set an appropriate regulatory framework.
3. Required off-the-job instruction <i>in</i> the firm	Is the share of off-the-job instruction time <i>in</i> the firm (i.e. the time the student/ apprentice spends in the firm, but not in productive work, e.g. on firm-owned training facilities) legally specified?	No.	No.
4. Mandatory representation of:	Are the following three groups involved in the decision-making process about the content of work-based training?		
d) Employers		See above.	No.
e) Employees		See above.	No.
f) Vocational teachers		See above.	Being members of the representative advisory board, vocational teachers participate in adopting the teaching and examining regulations and, thus, have a say in determining the content of possible mandatory work-based training (see above).
5. Statuary powers	Is the aforementioned body (see above, III.1) competent to:		
a) Trainee certification	- hand out training certifications to students/apprentices?	No, the issuance of a diploma certifying professional skills lies in the competence of the vocational colleges' examination boards (see articles 7.1.2 para 2 and article 7.4.6 of the Act on Adult and	Upon passing of the final examination, the examination board of the universities of applied sciences issues a transcript of records providing information about the successfully completed modules of the program (see article 7.11 para 4 of the

		Vocational Education together with the Regulation on VET Model Diploma).	Act on Higher Education and Scientific Research).
b) Validation of employer sponsorship	- validate employer sponsorship (i.e. verify if possible new training companies meet the necessary standards)?	It is for the Cooperation Organisation for Vocational Education, Training and the Labour Market to accredit work placement companies (see above).	It is for the universities of applied sciences to regulate the framework conditions of possible mandatory work placements (see above).
IV. Financial attributes			
1. Public subsidies	Is there public funding for:		
a) Classroom instruction?		Yes, most expenditures related to school-based vocational education and training on upper-secondary level is covered by state funding. The subsidies are allocated to the individual institutions according to a method based on the number of students and the number of students successfully completing the programs (see article 2.2.1 et seq. of the Act on Adult and Vocational Education with reference to the State budget).	Yes, the theoretical part of the vocational education and training at the public Universities of Applied Sciences is mainly state-funded (see article 2.5 of the Act on Higher Education and Scientific Research with reference to the State budget).
b) Workplace training?		Yes, on application, companies fulfilling the legal conditions can be granted capped subsidies for providing practical training positions within the curriculum of an apprenticeship program (see article 4 et seq. of the Regulation on Subsidy Schemes for Practical Learning together with the Act on the Provision of Subsidy Programs by the Minister of Education, Culture and Science).	Yes, on application and in defined circumstances, the Ministry can grant capped subsidies to companies that offer practical training opportunities for students as part of their educational (see article 6 et seq. of the Regulation on Subsidy Schemes for Practical Learning together with the Act on the Provision of Subsidy Programs by the Minister of Education, Culture and Science).
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?	No. However, the law provides for employers' and employees' organizations of a certain	See remarks on the left.

		sector or region to establish financing and redistribution facilities (<i>sectorplannen</i>) which are co-funded by the Ministry. These facilities aim, i.a., on promoting vocational education and training (see the Regulation on Co-financing Sector Plans in 2015).	
3. Regulation of VET/ PET students' salaries	How are VET/ PET students' salaries/ salary scales determined?	All employees are entitled to the statutory minimum wage. However, youngsters between the age of 15 and 23 receive only a steadily increasing fraction of the minimum wage according to their age (see article 2 of the Ministerial Decision establishing a Youth Minimum Wage together with article 8 and 14 of the Act on Minimum Wage and Minimum Holiday Allowance).	See remarks on the left.
V. Education of VET/ PET teachers			
1. Regulation of VET/ PET teachers' education	Is there regulation on the education of VET/ PET teachers?	Yes.	No, there is no legislation regarding the education of teachers on post-secondary vocational level.
2. Existence of minimal requirements	Does regulation stipulate minimal requirements regarding the education of VET/ PET teachers?	<p>In a general manner, apart from competences in the subject taught the vocational teachers' profession demands interpersonal, pedagogical and organizational skills (see article 2.11 et seq. of the Decree establishing Competency Requirements for Teachers together with article 4.2.3 of the Act on Adult and Vocational Education).</p> <p>For this purpose, employment as a teacher presupposes</p> <ul style="list-style-type: none"> - either a certificate on having passed examination as a college or university teacher 	Teachers' education on post-secondary vocational level is not standardized by means of minimal requirements, which is why it is for the 43 universities of higher professional education to set their employment criteria.

		<p>(see article 4.2.1 of the Act on Adult and Vocational Education);</p> <ul style="list-style-type: none"> - or an aptitude declaration based on an assessment of the training skills and professional experience (see article 4.2.3 and 4.2.4 of the Act on Adult and Vocational Education). <p>Furthermore, the prospect of additional financial contributions in case of professionalization and promoting excellence creates an incentive for the institutions to give the teachers the opportunity to improve their pedagogical skills (see the Regulation laying down Rules for Increasing the Quality of Secondary Vocational Education).</p>	
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VET-specific Statutory Sources

- Act on Secondary Education (1963 ["Mammoth Act"]), <http://wetten.overheid.nl/BWBR0002399/volledig>
- Act on Adult and Vocational Education (1995), <http://wetten.overheid.nl/BWBR0007625/volledig>
- Ministerial Organisation and Mandate Decision (2008), <http://wetten.overheid.nl/BWBR0023543>
- Regulation establishing Qualification Files (2015), <http://wetten.overheid.nl/BWBR0036352/volledig>
- Regulation establishing Model Qualification File 2015-2016, <http://wetten.overheid.nl/BWBR0036147>
- Regulation on VET Model Diploma (2012), <http://wetten.overheid.nl/BWBR0031616>
- Act on Professions in Education (2004), <http://wetten.overheid.nl/BWBR0016944>
- Decree establishing Competency Requirements for Teachers (2005), <http://wetten.overheid.nl/BWBR0018692/volledig>
- Decree establishing Rules on the Lateral Entry of Teachers in Primary and Secondary Education (2008), <http://wetten.overheid.nl/BWBR0024390/volledig>

- Regulation laying down Rules for Increasing the Quality of Secondary Vocational Education (2014), <http://wetten.overheid.nl/BWBR0035923>
- Act on Education Inspection (2002), <http://wetten.overheid.nl/BWBR0013800>
- Act on the Education Council (1997), <http://wetten.overheid.nl/BWBR0008683>
- Act on the Social and Economic Council (1950), <http://wetten.overheid.nl/BWBR0002058>
- Act on Works Councils, <http://wetten.overheid.nl/BWBR0002747> (English version: <https://www.ser.nl/~media/files/internet/talen/engels/2013/works-councils-act.ashx>)
- Agreement between the Netherlands Association of VET Colleges and the Teachers' Unions (2009), <http://www.mboraad.nl/media/uploads/thema/goed%20bestuur/professioneel%20statuut%20ovk%20getekend.pdf>
- Act on the Provision of Subsidy Programs by the Minister of Education, Culture and Science (1998), <http://wetten.overheid.nl/BWBR0009458>
- Regulation on Subsidy Schemes for Practical Learning (2013), <http://wetten.overheid.nl/BWBR0034144>
- Regulation on Co-financing Sector Plans in 2015 (2015), <http://wetten.overheid.nl/BWBR0035840>
- Scheme on Regional Investment in MBO (2014), <http://wetten.overheid.nl/BWBR0035054/>
- Ministerial Decision establishing a Youth Minimum Wage (1983), <http://wetten.overheid.nl/BWBR0003599>
- Act on Minimum Wage and Minimum Holiday Allowance (1968), <http://wetten.overheid.nl/BWBR0002638>

PET-specific Statutory Sources

- Act on Higher Education and Scientific Research (1992), <http://wetten.overheid.nl/BWBR0005682/volledig>
- Assessment Framework for the Higher Education Accreditation System of the Netherlands (2014), <https://zoek.officielebekendmakingen.nl/stcrt-2014-36791.html> (English version).
- Statutes of the Netherlands Association of Universities of Applied Sciences (2013), <http://www.vereniginghogescholen.nl/vereniging-hogescholen/publicaties/verenigingsafspraken-en-procedures-1/1883-statuten-vereniging-hogescholen-1/file>