

RESEARCH ON THE MEANS TO IMPROVE HUMAN MOBILITY CHANNELS

RESEARCH PAPER 2

Vocational Education and Training (VET) in Egypt and Key EU Destination Countries

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ABSTRACT: The second research paper explores the Vocational Education and Training (VET) policies in place in both Egypt and key European destination countries. The paper reviews the structure and objectives of the VET system in Egypt and potential destination countries for Egyptian youth (Germany, Italy and the United Kingdom). It also assesses the alignment between VET programmes and the labour markets into which graduates should enter, identifying supply-demand mismatches related to skills and knowledge. This assessment suggests that in all of the focus countries, VET programmes may not be sufficiently coordinated with the demands of specific local/regional labour markets to support smooth school-to-work transitions for graduates of VET programmes. Nevertheless, the structure of VET education in countries of destination may create opportunities for graduates of VET in Egypt to use their skills and competencies in EU labour markets.

Abbreviations and Acronyms

APEL	Accreditation of Prior Experiential Learning
BIBB	Bundesinstitut für Berufsbildung
BMBF	Bundesministerium für Bildung und Forschung
DfE	Department for Education
ETI	Education and Training Inspectorate
FE	Further Education
ILO	International Labour Organization
KMK	Kultusministerkonferenz
MIUR	Ministry of Education, University and Research
MLPS	Ministry of Labour and Social Policies
MoETE	Ministry of Education and Technical Education
NARIC	UK National Recognition Information Centre
Ofsted	Office for Standards in Education, Children's Services and Skills
QAA	Quality Assurance Agency
RPL	Recognition of Prior Learning
TVET	Technical and Vocational Education and Training
VET	Vocational Education and Training

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Executive Summary

This paper explores the relationship between vocational education and training (VET) systems and the skills portability of Egyptian youth, focusing on Egypt and on three potential migrant destination countries: Germany, Italy and the United Kingdom. Vocational education and training is distinguishable from other forms of education in that it 1) generally goes beyond mandatory or general education; 2) generally emphasises the development of practical skills, competencies, knowledge, understanding and attitudes related to specific occupations or jobs, and; 3) typically bridges the gap between theoretical knowledge and practical application in a specific job. How different countries supply VET varies, and VET systems may emphasise a combination of classroom-based learning and work-place learning (e.g., on-the-job training, apprenticeships) (International Centre for Technical and Vocational Education and Training, 2014). Vocational education and training systems may respond to the needs of the labour market, which entails not only preparing students for specific sectors and functions but also for the general skills and competencies that are portable across jobs.

The alignment between VET systems and labour markets can be challenging, especially in the context of international mobility of workers. Typically, VET systems are calibrated to *local* labour market needs, raising questions about how portable the education, training and credentials are of individuals trained in one country but who seek work in another. This paper explores how the design of VET systems in Egypt, Germany, Italy and the United Kingdom may support or challenge the skills mobility of Egyptian youth seeking to work in key destination countries of the European Union. It is the second paper in the project *Research on the Means to Improve Human Mobility Channels*. Based on review of previous literature, policy documents and descriptive statistics, the following key messages emerge about the studied VET systems and their ties to the potential labour market opportunities of Egyptian youth in select European destinations:

EGYPT

Egypt has the largest educational system in the MENA region, with approximately 20 million students enrolled in pre-tertiary education alone in 2018-2019 (European Training Foundation, 2019a). The youth population in Egypt is substantial, which creates demand and strain on existing educational structures. Due to lingering perceptions that the TVET system is of poor quality and low status, there are some indications that students try to be tracked into general secondary education and university rather than vocational education and training tracks. Nevertheless, the TVET sector remains an important component of the educational system.

One of the major challenges facing Egypt's TVET sector is the **lack of unified vision on the sector** and a consequent **absence of coherent governance**. Programmes offered within the TVET sector can be offered by different stakeholders and may be designed, implemented and monitored by different bodies. For example, in 2009/2010 around 68 institutions in Egypt offered post-secondary VET programmes, which offered 108 distinct technical programmes covering 22 training disciplines (Álvarez-Galván, 2015). Reform of the TVET sector has been an important policy priority, yet the movement towards coherent governance and standards frameworks within the sector remains challenging. In 2019 more than 20 ministries and institutions were involved in TVET, and there were some indications of competition among key ministries to take leadership of the sector. Important institutions such as the MoETE, the Ministry of Trade and Industry, and the Ministry of Manpower have all developed individual strategies or policies that relate to TVET (European Training Foundation, 2019a). The number of approaches to TVET have supported continued fragmentation of the sector that can undermine the quality of TVET programmes.

Concerns about quality of Egypt's TVET sector has been linked to **inflexibility of training curriculum** and a consequent **skills mismatch** between the skills emphasised in education/training and the demand for skills on the labour market. Currently different institutions offering TVET programmes may establish their own lists of skills to be developed in TVET programmes. Such lists may not be updated frequently enough to match the needs of the labour market, and individual programmes may not have the capacity to conduct their own labour market assessments. Outdated skills lists may lead to the training of students who lack both the soft and technical skills that will support their eventual employability (European Training Foundation, 2019a). The **mismatch between skills/education and employment** may be particularly significant in some sectors. A large share of employees have been found to be under-educated for the work they should perform in occupations related to skilled agriculture and fishery (37.6% of employees under-educated), plant and machine operation and assembly (29.6% of employees under-educated), and sales and services (26.6% of employees under-educated) (European Training Foundation, 2019c). The under-education of workers in occupations typically linked to vocational education suggests that the TVET sector is not training sufficient numbers of workers or is not targeting the right types of skills in existing programmes.

The TVET system in Egypt may also not fully support the transition of youth from school to work given the **absence of work-based learning opportunities**. Work-based learning allows students to directly practice and further improve the skills and capabilities they learn in the classroom. Different models of work-based learning are currently offered within Egypt's TVET sector. One well-known model (the formerly-called MKI scheme) links students of TVET programmes to apprenticeships with companies in the field of study. Another model, the 'factory in school', supports students to work on a production line within the school, directly producing goods that can be sold on the market. The various work-based learning opportunities in Egypt cover a very small share of students enrolled in TVET (International Labour Organisation, 2017; European Training Foundation, 2017). There are indications that students receive insufficient opportunities to practice what they learn, which also translate into lower exposure of students to potential employers. The weaknesses of the TVET sector

are generally all addressed in the **TVET Egypt programme**. The programme targets different elements of the TVET sector for reform. The TVET Egypt programme aims to support better institutional coherence and cooperation, a clearer national governance framework for TVET, and greater financial sustainability for the sector. It also focuses on expanding programming in specific priority sectors. These sectors include (among others) tourism, agriculture, food processing, building and construction, logistics, industrial engineering, and commerce and trade. As the TVET Egypt programme has a long-term vision for reform and no evaluations are yet available on the objectives it has met so far, it is unclear how effective the programme will be in supporting greater youth labour market activation.

GERMANY

The German economy is the largest in the EU, and the success of the economy is an educated and highly skilled workforce, for which the German VET system is a crucial component (European Centre for the Development of Vocational Training, 2020). On average, one in two graduates from secondary school goes on to follow a vocational path, and a majority do so in the form of an apprenticeship. The German vocational training and education system involves a range of actors, including the state, federal states (*Laender*), companies and social partners (European Centre for the Development of Vocational Training, 2017). For youth the system provides a relatively easy transition into the labour market and as a result low levels of youth unemployment (Hippach-Schneider & Huismann, 2018).

The German vocational education and training system is known for its apprenticeship-based system, also known as the **German dual training system**, which combines theory and training embedded within real work environments. The main legal framework guiding the system is the German Vocational Training Act of 1969, which was last amended in 2005. The Act stipulates that vocational training should build those skills, knowledge and qualifications that are needed to start working in a recognised training occupation. In addition, the Act governs further training later in career trajectories as well as retraining for other occupations. (Federal Ministry of Education and Research, 2005). The governance of the VET system in Germany is very coherent, with clear responsibilities delegated to state bodies (including at the federal state level), the private sector and social partners.

Training occupations are highly regulated in Germany and there are currently around 330 in the dual system alone. The dual system offers apprenticeships in every sector of the German economy (Hippach-Schneider & Huismann, 2018). As such, **there are no clear priority sectors for VET in Germany given the integration of VET system into the economy as a whole**. Despite the lack of clear priority sectors for which VET is relevant, partners in the design and implementation of the VET system frequently support revision of existing occupations and introduce new occupational standards when necessary, adapting the training system to the needs of the labour market on a rolling basis (Hippach-Schneider & Huismann, 2018).

Despite the strong link between the economy and training offerings, **matching of supply and demand for vocational training positions remains a challenge**, with the extent of mismatches varying across regions. Such mismatches may reflect misaligned timing between the start of training positions or education cycles, unequal supply and demand for specific training occupations, or mismatching expectations between the types of businesses offering training positions (e.g., SMEs, large companies) and the types of businesses desired of youth (Bundesministerium Für Bildung und Forschung, 2019). The VET system is also not fully successful in matching supply with the knowledge and ability demands of the labour market. An OECD (2017b) report indicates that **the supply of knowledge is mismatched to the demand in knowledge areas such as computers and electronics; clerical work; customer and personal service, and; engineering, mechanical, and technology tasks**, all of which experienced critical shortages. **Critical ability shortages were identified in areas such as verbal, reasoning and quantitative abilities**, all of which relate to the ability of workers to acquire and work with information to support decision making and problem solving. In contrast, there were surpluses of workers who offered physical abilities such as endurance and physical strength. The areas of critical shortage and critical surplus likely reflect the transition in the German economy away from manual tasks and toward automation-assisted tasks and services (OECD, 2017b).

ITALY

The VET system in Italy is large, with over 55% of all students enrolled in upper secondary education in 2016 participating in some form of VET (Eurostat, 2019). The VET system includes educational programmes at the upper secondary and post-secondary non-tertiary levels. Programmes may span three to five years. Whereas three-year VET programmes lead to a vocational qualification, four-year programmes lead to a technician professional diploma, and five-year programmes combine both VET curriculum with general education and lead to professional education diplomas (European Centre for the Development of Vocational Training, 2017b).

The VET system in Italy is offered through multilevel cooperation and coordination. Common rules and frameworks for the broader education and training system are set at the national level. Following national guidelines, the regions and autonomous provinces are responsible for implementing VET programmes, including some work-based learning schemes (European Centre for the Development of Vocational Training, 2017b). Despite the strong involvement of the regions and provinces in the design of education, **some parts of the VET system are not responsive to local employment contexts and do not necessarily reflect local needs in the curriculum**. The regions of Italy vary widely in socio-economic characteristics, labour opportunities and infrastructure, yet the areas of study offered in professional institutes (those offering 5-year, VET/general education professional education diplomas) were previously standardised. Previously professional institutes could only offer six areas of study, and the courses offered were not calibrated to the priorities of the region. The Italian government has begun reforming the structure so that professional institutes can offer more

study areas that are responsive to priority sectors of the region. In contrast, the regional VET programmes – the three- and four-year VET programmes at upper-secondary level – have always reflected the needs of the regions and local areas in their design (OECD, 2017a).

Some VET programmes in Italy combine classroom- and work-based learning, generally through apprenticeships, but **the Italian VET system is not considered dual track because the learning is primarily classroom-based**. In 2016 just over 30% of enterprises in Italy hired VET students in some form of work placement (Eurostat, 2019). Reform movements have been pursued to promote greater engagement between students and employers. For example, the “Good School” (*Buona Scuola*) reform introduced in 2015 enforced work-based learning in both general and vocational education, with students in technical and professional schools expected to fulfil 400 hours of work-based learning. Unlike the German dual-track VET system, the Good School reform does not *per se* entail apprenticeships but instead encourages students to have some form of work-based training, without prescribing the format that should be used (Pastore, 2019).

The priority areas for VET programmes vary by region. A 2014 assessment of the Italian TVET system (European Centre for the Development of Vocational Training, 2014) identified several focus areas for VET trainings, including in: trade and industry (e.g., clothing production, footwear production, chemical production, agro-food processing); skilled trades (e.g. woodworking, artwork, pleasure craft building and maintenance); professional services (e.g., motor vehicle repair, tourism and hospitality, catering, wellness, retail, commercial sales, hairdressing and cosmetology, waiting and bar services), and; agriculture. Despite the focus of regional VET programmes on meeting the demands of the local economy, the **supply of VET graduates does not fully match labour market demand**. The 2017 OECD Survey of Adult Skills indicated that 12% of Italian workers had higher skills than needed for their current functions, and 8% were under-skilled, meaning that they were not assessed as meeting minimum skill proficiency requirements to perform their current jobs satisfactorily. The skill mismatch varied widely by region, with greater shares of workers considered under-skilled in the South and greater shares of workers considered over-skilled in the North (Garda, 2017). Across the country certain work areas or knowledge domains also had critical or mild surpluses or shortages of employees. In 2017 the **supply of and demand for knowledge was mismatched in areas such as computers and electronics; clerical work, and; engineering, mechanical, and technology, all of which experienced critical shortages in knowledgeable staff**. The only area of critical *surplus* of workers was in the building and construction area, but there were milder surpluses in the supply of workers in areas such as transportation and food production. **In terms of abilities, critical shortages were identified in areas such as verbal abilities and quantitative abilities**, and surpluses were identified related to endurance and physical strength (OECD, 2017a).

THE UNITED KINGDOM

The UK's VET system is a key component of the country's economy and its origins date back to the 12th century. The system is continually adjusted to changes in the national economy and to keep up with developments in the global economy (Department for International Trade, 2018). The British Council (2017) states that the system aims to prepare people for the labour market by equipping them with skills. These skills are generally specific to an industry, trade and/or occupation and enable those with VET training to be fully active in the labour market (British Council, 2017). **Vocational education and training is offered at secondary and tertiary level in two forms: school-based programmes and apprenticeships.** The school-based programmes combine general academic studies with VET elements. The one- to four-year programmes may be either broad VET programmes or programmes for specific occupations, and they may take place in schools and a workplace. The apprenticeship system is growing as demand in different sectors of the labour market and competition for positions are increasing (Abusland, 2018). Apprenticeships generally are based on a work contract and include components of technical and occupation-specific qualifications as well as core, transferable skills like literacy, numeracy and ICT (British Council, 2017).

The **governance of the VET system is complex given the decision-making autonomy** granted by the UK Government to the Devolved Administrations in Scotland, Wales and Northern Ireland. Each country has a different central body responsible for VET policies, and each country have their own inspection and review bodies. These bodies hold responsibility for inspecting schools and further education colleges as well as assessing the effectiveness of the outcomes for learners, the quality of teaching, learning and assessment, and of leadership and management. VET in the UK is provided in different kinds of institutions, including secondary schools, school sixth forms, sixth form colleges, FE colleges, higher education institutions, private providers and employers. This variety of providers make the control described above even more important. The VET qualifications are developed and awarded by independent awarding organisations that also issue the certificates. These organisations either offer a wide range of different qualifications, often general academic and vocational, or specialise on one specific area. This usually depends on the size of the organisation (European Centre for the Development of Vocational Training, 2017c).

Reviews and assessment lead to constant improvements in the VET system to ensure it matches the demands of the labour market. While improvements are important, they also come with the risk that employers are not aware of the value and relevance of different qualifications (Abusland, 2018; Wolf, 2011). **A recent reform has resulted in the introduction of T Levels**, new two-year courses starting in September 2020. The T Levels take the form of a dual system, meaning that they will provide a mixture of training in the classroom and at a workplace. Such programmes will be offered in a wide range of 25 areas, for example accountancy, digital business services, hair, beauty and aesthetics, health, management and administration, and science. The ratio of classroom learning is what makes the T Levels different from apprenticeships, where around 80% of training is provided on the job (Department for Education, 2019).

The UK does not have a large number of regulated occupations, and as such **the further development of the VET system is not based on priority sectors or occupations**. Programmes exist for a wide variety of occupations, and equally employers have demands for VET skills in all sectors of the economy (Abusland, 2018; Cerna, 2013). These demands are not consistently met, with 40% of workers considered not fully qualified for the occupation that they are engaged in. A forecasting estimation indicates that **underqualification will remain a significant challenge in the UK** and that the issue of an under-skilled labour force will increase by 2030 (Industrial Strategy Council, 2019). Certain work areas or knowledge domains show critical or mild surpluses or shortages of employees. The 2017 OECD evaluation indicates that **the supply of knowledge is critically mismatched to the demand in knowledge areas such as computers and electronics and clerical work**. There are milder shortages in a wide range of other sectors, including communications and media, telecommunication, and building and construction. Mild surpluses are observed in the supply of workers in areas such as sales and marketing, transportation, food production and mechanical work. In terms of abilities, **critical shortages were identified in areas such as verbal abilities, reasoning, and quantitative abilities**. These are skills that are necessary to be able to acquire and work with verbal or mathematical information to support decision making and problem solving. In contrast, more workers than demanded offered physical abilities such as endurance and physical strength (OECD, 2017b).

Conclusions and Recommendations

The focus countries differ in important ways in terms of how the VET system is structured and prepares students to transition into the labour market. One of the important differences in this regard relates to the role of work-based learning in each VET system. Germany stands apart for having a truly dual training (dual-track) system in which students in VET programmes are exposed to potential employers through apprenticeship schemes. The VET systems of Egypt and Italy provide insufficient opportunities for students to deepen their skills through work-based learning. While the recent reforms in the UK aim to increase work-based learning, it is unclear in how far the new reform will support youth transitions into the labour market.

Another important dimension of the VET systems in the focus countries relates to the types of skill sets generated in VET programmes and demanded on the labour market. A common thread across the focus countries is that there are a range of skills and competencies expected by employers that are not fully met by graduates. Verbal, quantitative, and reasoning abilities were generally assessed as being of critical shortage among workers in Germany, Italy and the United Kingdom. In contrast, physical skills – related to endurance, physical strength, and balance and coordination – were generally assessed as either being in surplus or in critical surplus in the three focus destination countries. The oversaturation of these skills in the labour market suggests that the jobs for which these skills are most relevant, such as

construction, may not accommodate the supply of workers. Across all three destination countries, there were two sectors or work areas that had critical knowledge shortages: computers and electronics, and clerical work. In Germany, additional areas of critical knowledge shortage were customer and personal services, and sales and marketing. In Italy, work related to engineering, mechanics and technology had experienced critical knowledge shortages (OECD, 2017b). The sectors experiencing critical skills shortages are generally those that require the skills noted above, such as verbal and quantitative skills.

The characteristics of the VET systems in the four focus countries, and the skill-/knowledge supply and demand mismatches within them, suggest opportunities for mobile Egyptians wishing to work in the EU. The acute need for knowledgeable professionals in specific work areas like clerical work, computers and electronics, and customer and personal service (in Germany) or engineering, mechanics and technology (in Italy) suggests potential employment opportunities for Egyptian youth trained in these areas. The work areas that have experienced acute knowledge shortages now are generally those that will continue to grow, even amid transitions to automisation. For Egyptian youth to make the transition from education or training (in Egypt) to employment (in Germany, Italy or the UK), attention should be paid to: 1) increasing quality of training for non-technical skills, including both basic skills (numeracy/literacy) and professional skills (e.g., verbal skills, quantitative skills); 2) expanding experiential or work-based learning opportunities; 3) better aligning VET curriculum with the needs of specific migrant destination countries, which may require greater correspondence between VET governance structures and bodies responsible for execution of labour migration policies; 4) understanding critical knowledge, skill, and ability shortages in key European destinations by sector, and; 5) evaluation of how existing certificate/diploma validation frameworks support the employment or further training of graduates of Egyptian VET programmes.

I. Introduction

For many countries, vocational education and training (VET) is an integral part of education, labour and economic development strategies. While the design and execution of VET systems and policies differ across countries, there are some common components that distinguish VET from other types of education and training aimed at increasing the human capital stocks of a population. First, VET is normally education or training that goes beyond mandatory or general education. Second, VET generally emphasises the development of practical skills, competencies, knowledge, understanding and attitudes related to specific occupations or jobs. As such, an important third component is that VET typically bridges the gap between theoretical knowledge and practical application in a specific job, which may entail that education may be delivered through a combination of formal education (e.g., as part of secondary/tertiary education) and workplace learning (e.g., on-the-job training, apprenticeships) (International Centre for Technical and Vocational Education and Training, 2014).

The objective of VET is generally to support individuals with the skills and competencies needed to be competitive in the labour market, which suggests that VET systems should be calibrated to the needs of the labour market. These needs relate not only to the specific sectors and occupations that are demanded at a particular moment in time but also relate to needed levels of expertise or competency – quality of workers. As education and training cycles typically require months or even years, there is also a need for VET systems to be forward-looking. In this sense, VET programmes should be aligned not only with current labour-market needs but also anticipated needs.

The alignment between VET systems and labour markets can be challenging, especially in the context of international mobility of workers. Typically, VET systems are calibrated to *local* labour market needs, raising questions about how portable the education, training and credentials are of individuals trained in one country but who seek work in another. This paper explores the relationship between VET systems and policies and the skills portability of Egyptian youth. As the second paper in the project *Research on the Means to Improve Human Mobility*

Channels, this paper focuses specifically on how the VET systems in Egypt, Germany, Italy and the United Kingdom may support or challenge the skills mobility of Egyptian youth seeking to work in key destination countries of the European Union. The paper seeks to answer the following question: Given the structure of national VET systems, what potential challenges or opportunities may Egyptian migrant youth with VET credentials face when trying to enter the labour market in major destination countries?

To answer this question, this paper explores the structures and design of the VET systems in Egypt and three European destination countries, the sectors that are prioritised in national VET strategies, and the way VET systems support the school-to-work transition. The paper also explores how credentials earned in foreign VET systems are recognised within specific policy frameworks . Following section one (this introduction), section two describes the methodology used to inform this paper. Section three presents an overview of the Egyptian VET system, while section four provides abbreviated country case studies of the VET systems of Germany, Italy and the United Kingdom. In all four cases, an overview of the structure and governance of the VET system, the size of the system, the sectors of focus and strategic objectives for the VET system, and the relationship between the VET systems and youth activation policies and interventions is provided. Section five concludes with reflections on challenges and opportunities mobile Egyptian youth with VET credentials may face when seeking employment in key European Union destination countries.

II. Methodology

This research paper has been informed by a review of existing grey and academic literature. Paper 1 defined the key countries of destination in the European Union (EU) that are the focus of analysis. The selected countries – Germany, Italy and the United Kingdom – are home to significant numbers of Egyptian migrants and represent diverse economic systems. In 2017 Italy hosted by far the largest Egyptian population in the EU, with 110,398 Egyptians (or 37.5% of the total Egyptian migrant stock in Europe) residing within it. The United Kingdom hosted the second-largest Egyptian migrant stock (at 39,980 people) whereas Germany was the 5th country in terms of the size of the Egyptian migrant population (at 23,428 people) (United Nations Department of Economic and Social Affairs, 2017). The countries also represent a range of economic profiles and geographical orientations, with Germany representing a relatively inflexible economy within Northern continental Europe, Italy representing a more flexible and informal economy in the Mediterranean, and the United Kingdom representing a diverse, semi-flexible economy.

Based on the selection of countries, literature was collected on each. The literature covered: 1) the structure, history and current objectives of the vocational education and training (VET) systems in each of the focus countries; 2) the skills and knowledge deficiencies observed in the local labour markets, and; 3) active labour market/youth labour market activation policies to support the transition from school to work. Given the descriptive nature of the paper, literature was generally collected from national authorities, international and intergovernmental organisations, and, when necessary, popular media such as newspapers. Where possible, academic texts from peer-reviewed journals on topics such as youth labour market activation policies were drawn into the analysis. The majority of resources taken into the review can be considered grey, non-academic literature.

Unfortunately nuanced secondary data on the labour market outcomes of VET graduates were not available for all of the study countries. Consequently, original analysis of statistical data was not possible for this review. Instead, publications making use of similar original data sources were used to ensure that the same sets of indicators could be used for assessing elements such as skill- and knowledge mismatches across countries. Credible bodies such as the European Centre for the Development of Vocational Training (CEDEFOP) and the European Training Foundation (ETF) were consulted for data and publications that would support comparison among the focus countries.

As the paper has made use of publications available in the public domain and primarily in English, some more contemporary trends or changes may not be well reflected in this review. In all of the focus countries, a number of reforms have recently been undertaken in both the wider educational system and in the VET sector specifically. The fast pace of these changes, and the ambiguity in what planned changes or reforms have actually been implemented, makes it challenging to capture the current state of the VET system. The absence of contemporary information has been particularly challenging in Egypt. The Egyptian VET system appears to be undergoing significant reforms. Given the multiplicity of institutions and stakeholders involved in the VET system and the development of different, parallel reform strategies, the literature was not able to sufficiently reflect the complexity of the sector. This review could be further nuanced through validation with stakeholders in the focus countries or consultations with key experts.

III. VET in Egypt

The vocational education and training (VET) system varies in its design and objectives across countries. The design and objectives of VET systems generally reflect the needs/constraints of local labour markets and country economic development trajectories and strategies. Egyptian youth who have participated in VET programmes in Egypt may migrate to key destination countries in the European Union such as Germany, Italy and the United Kingdom, all of which have unique VET systems. How well they can use the credentials and skills they gained through VET training may depend in part on how the VET systems function in each of the countries of destination. This section therefore provides abbreviated profiles of the VET systems in the four focus countries.

The technical and vocational education and training (TVET) system¹ in Egypt is complex and in transition, which makes analysis of how it prepares migrant youth for inclusion in foreign labour markets challenging. The Egyptian educational system is large and stands apart in the Middle East and North African (MENA) region for the large number of students it includes. Approximately 20 million students were enrolled in pre-tertiary education in Egypt in 2018-2019, and different parts of the educational system may struggle to accommodate the needs of the large young population seeking different forms of education (European Training Foundation, 2019a).

Finding accurate, contemporary statistics on the number of young people specifically in TVET programmes in Egypt is difficult. As of 2009/2010, around 68 institutions in Egypt offered post-secondary VET programmes, which collectively had 127, 400 enrolled students. These students were spread across 108 distinct technical programmes covering 22 training disciplines (Álvarez-Galván, 2015). Over time the absolute number of students enrolled in TVET programmes has remained relatively stable, yet the proportion of TVET students among all students enrolled in pre-tertiary education has decreased. In 2016, approximately 21.6% of all students enrolled in general secondary education were in TVET programmes, and 46% of all students enrolled in upper secondary education were in TVET programmes. The large share

1. In the literature, the Egyptian vocational education and training sector is generally described as including 'technical' education and training. In the European destination countries profiled, the sector was generally described without the addition of 'technical' education and training, which likely reflects the distinct separation made between vocational and technical education and training programmes in Europe. As such, the 'TVET' system is generally referred to in Egypt while the 'VET' system is referred to in European country contexts.

of students enrolled in some form of TVET reflects the overall structure of the Egyptian education system. The student tracking system in Egypt channels students into different forms of secondary education based on student performance in primary education. Whereas students with higher marks are recommended into general secondary education, lower-performing students are tracked into the TVET system (European Training Foundation, 2019a). As a consequence of these educational tracks, a larger portion of young people end up within the TVET system.

III.a STRATEGIC OBJECTIVES AND STRUCTURE OF TVET IN EGYPT

The technical and vocational education and training system in Egypt is embedded within large-scale government strategies and programmes for development. The 2014 Egyptian constitution recognises the need for high-quality TVET that accommodates international standards. The 2015 Sustainable Development Strategy-Egypt Vision 2030 further identifies TVET as an important mechanism to support inclusive, sustainable economic development. In part because of the central role of education and training in promoting national development, the whole educational system in Egypt has been subject to recent reform. In 2018, for example, the Ministry of Education and Technical Education (MoETE) introduced a strategy for reforming the educational system. This strategy included provisions that affect the TVET system, such as the introduction of new technological universities with both two- and four-year programmes that can be accessible to students who completed either general secondary education or technical secondary education (European Training Foundation, 2019a).

In line with the larger educational reforms, the TVET system in Egypt is also undergoing large-scale reform. The reforms aim to address perceived fragmentation in the TVET system, poor coordination between bodies responsible for its design and implementation, and concerns about the system's ability to produce relevant skills for the labour market (Álvarez-Galván, 2015). In recognising that fragmentation in the TVET system can undermine the quality of education, a 2014 presidential decree was issued to create the Executive Council for Technical and Vocational Education and Training. While the Council is not yet operational, its creation reflects a strong desire at central level to increase cooperation among bodies involved in TVET (European Training Foundation, 2019b). In 2016 a Ministry for Technical Education and Training was established to lead strategic policy development for the TVET sector, yet it was abolished several months after its creation (European Training Foundation, 2017). In 2018, President el-Sisi confirmed that a new quality assurance and accreditation agency specifically for TVET institutions will be created (European Training Foundation, 2019b), suggesting that while it may not be possible to have centralised leadership of the entire TVET sector, some centralisation of monitoring and evaluation may still occur.

In addition to reform steps initiated at the executive level, a number of line ministries have also proposed policies and strategies that would support TVET reform. The MoETE, for example, created a medium-term strategy for 2015-2018 that addressed quality improvement mechanisms for TVET. The Ministry of Trade and Industry also developed an institutional strategy that included a specific chapter on TVET. The recent update to the Egyptian labour law, which was developed by the Ministry of Manpower, also addressed means of better integrating TVET into the labour market (European Training Foundation, 2017). In 2019 the MoETE started developing a specific strategy for reform of technical education called Technical Education 2.0. This strategy aims to specifically improve the governance and management of secondary technical education. It focuses on five reform pillars: 1) quality assurance; 2) competence-based training; 3) teacher training; 4) centres of excellence, and; 5) visibility (European Training Foundation, 2019b).

The proliferation of policies and strategies reinforces the remaining institutional fragmentation in the TVET sector. Two initiatives have the potential to unite the institutions and stakeholders involved in the TVET system, but both have so far failed to incite wide-spread cooperation. The first initiative was MoETE's mid-term action plan for 2015-2020. This action plan was designed to support eventual standardisation of the entire TVET sector by proposing the TVET Act. As multiple stakeholders are involved in the design, delivery and monitoring of TVET programmes, the action plan did not receive wide-spread acceptance and cooperation. The second initiative was the 2015 Sustainable Development Strategy – Egypt Vision 2030. The Vision 2030 which includes a specific section on the TVET system, has formed the basis for a large-scale, EU-funded TVET initiative called the TVET Egypt (and previously TVET II) programme (see Box 1). The TVET Egypt programme offers a national strategy for TVET but does not wholly address challenges around institutional fragmentation and decentralisation of responsibility for different aspects of the TVET system. The MoETE is the most active body in the TVET Egypt programme, and while there are a wide range of other actors and institutions involved in the strategy, important bodies like the Ministry of Labour and Ministry of Manpower have retained their own strategic approaches to TVET (European Training Foundation, 2017).

BOX 1: TVET EGYPT PROGRAMME

The TVET Egypt programme is a joint initiative funded by the Egyptian government and the European Union (EU). The TVET Egypt programme extends from 2013-2023 and has so far gained financial commitment of €67 million from the Egyptian government and €50 million from the EU (European Training Foundation, 2019a).

The programme has been developed to respond to Egypt's rapidly-changing socio-economic characteristics and needs. Against a backdrop of high youth unemployment and concerns about sustained economic growth, the programme aims to increase national competitiveness, promote youth employment and promote social equity (European Training Foundation, 2019a).

The programme is fundamentally a reform. It has the potential to change the way the TVET system is organised and delivered given its focus on governance of the TVET sector, updates to the curricula of TVET programmes and reforms of school-to-work transition initiatives (European Training Foundation, 2019b).

The TVET Egypt programme focuses on different aspects of the TVET sector (European Training Foundation, 2017), including:

1. Data collection on the employability of TVET graduates;
2. The development of a unified labour market information system (LIMS), which could support curriculum updating, matching of students with on-the-job trainings and placement options, and eventually better matching of graduates with employers;
3. Development of career advising functions in TVET institutes;
4. Development of entrepreneurship education to promote TVET graduates to start their own businesses;
5. Development of national standards for competence based curriculum, which would see TVET curriculum updated according to private-sector needs, the development of qualification frameworks and establishment of assessment standards.

The programme has engaged a wider range of stakeholders involved in the TVET sector. These include not only the national government but also regional/local governments, the private sector, civil society and international/intergovernmental agencies. Important national agencies involved in the programme include the Ministry of Education and Technical Education, the Ministry of Trade and Industry, the Ministry of Tourism, the Ministry of Immigration and Egyptian Expatriates Affairs and the Ministry of Manpower and Migration (TVET Egypt, 2020).

Given the remaining diffusion of responsibilities, competencies and visions across the different institutions involved in the TVET sector, it is difficult to identify one set of objectives for the entire sector that is shared on country level. Nevertheless, the TVET Egypt programme provides guidance on a vision for the TVET system that aligns closely with the overall development strategy of the country. The objectives identified in the TVET Egypt programme are wide-reaching and relate to small-, medium- and long-term changes in the sector. In the long-term, the programme envisions the creation of laws, strategies, and policies that support coherent governance of the TVET system. Another objective is to identify and mobilise long-term funding sources to ensure sustainability in the sector. Building institutional capacity to ensure that stakeholders can efficiently support the sector and ensure quality education is another objective. The TVET Egypt programme would therefore aim to support better institutional coherence and cooperation, a clearer national governance framework for TVET, and greater financial sustainability for the sector (TVET Egypt, 2020).

III.b SECTORAL FOCUS OF VET IN EGYPT

The vocational education and training sector in Egypt provides support for students in a number of different sectors and industries. Given the diffusion of visions for TVET in Egypt, there is no universal list of priority sectors that TVET programmes focus on. As it represents the closest to a national TVET vision, the TVET Egypt programme can nevertheless provide some sense of priority training sectors. The TVET Egypt programme had placed particular emphasis on a small number of sectors, namely:

- Tourism
- Agriculture
- Food processing
- ICT
- Renewable energy
- Textiles and ready-made garments (RMGs)
- Building and construction
- Automotive
- Logistics
- Industrial engineering
- Commerce and trade.

The sectors of focus for the TVET Egypt programme and for the TVET system in general strongly reflect the national vision of TVET as part of larger economic development strategies. For example, the focus on tourism responds in part to recognition that tourism has been one of the most important contributors to Egypt's economic growth yet has been deeply affected by reduced tourism inflows in recent years. To address

the reduction of these flows the TVET Egypt programme proposes that the sector's revival will depend in part on the skill of hospitality workers, thus there is a strong link made between the training of hospitality workers and its long-term recovery (TVET Egypt, 2020).

Past assessments of Egypt's education system in general have suggested that there is a mismatch between supply of students and demand for workers with minimum skills levels. Limited literary and numeracy skills have been identified as a problem for young people entering the labour market. Primary school students appear to graduate with poor reading, writing and numerical skills that then carry over into secondary education, including TVET. Weak basic skills may translate into poor employment opportunities or dissatisfaction from employers on the skills of employees. A 2012 survey of employers who hired post-secondary VET graduates signalled that both basic (e.g., literacy, numeracy) and technical (e.g., occupation-specific) skills could be improved. Across all sectors, only 38% of employers indicated that post-secondary VET graduates had 'strong' basic skills; over half (58%) indicated that basic skills were of 'medium' mastery, and 4.3% indicated that graduate's basic skills were 'weak'. Technical skills were assessed better, with 51% of employers indicating that graduates had 'strong' technical skills, 45% indicating graduates had 'medium' skills, and 4.4% indicating that graduate had 'weak' technical skills (Álvarez-Galván, 2015). Such employer's assessments may signal that it is important to focus on building basic and soft skills in addition to technical skills to assure that graduates at all levels, including from VET programmes, meet the needs of the labour market. In addition to challenges in skill level of graduates, there also appear to be come challenges around mismatches in the supply and demand of skills in specific sectors.

Based on data from 2014, Dimova and Stephan (2016) identified a significant oversupply of students from social science specialisations and engineering. As a consequence of oversupply, students from these fields enter the labour market in a larger pool of potential applicants. The overcrowding of the potential-worker pool may lead to higher unemployment among recent graduates. Indeed, job-seekers with some form of working experience have higher likelihoods of being employed. This suggests that in overcrowded employment pools, job seekers who have had not only formal education, but some form of work experience will have a competitive edge (Dimova & Stephan, 2016).

Unfortunately, assessments of the (mis-)match between the supply of TVET graduates specifically and demand from specific sectors of employment are lacking. There are some indications that TVET graduates may be more in demand than university graduates, however. A 2015 review of skill mismatches in Egypt conducted by the International Labour Organisation (ILO) found that the labour market has experienced shortages in workers with technical and mid-level professional skills. Such skills are typically developed in TVET programmes, yet perceptions about the low quality and low status of the Egyptian TVET sector has resulted in more students moving toward the university system rather than TVET programmes. Data from 2012 indicate that youth unemployment rates were highest among youth seeking jobs as technicians and associate professionals (29.6% of all job-seekers unemployed) and those seeking

professional occupations (46.5% of job-seekers unemployed). In contrast, unemployment rates were much lower among youth seeking work in craft and related trades (3.1% unemployed) and skilled agricultural and fishery workers (0.5% unemployed) (International Labour Organisation, 2015). The low levels of unemployment in occupations that are typically trained in vocational education programmes suggests that there is a strong need in Egypt for graduates from VET programmes.

Other assessments confirm that education/skills and occupations are not always well matched. Data collected on workers aged 15-64 in 2016 indicated significant over- and under-education in specific sectors. A number of occupation categories linked to TVET demonstrated strong education mismatches. For example, while 11.7% of service workers and shop/market sales workers were found to be *over-educated*, a much larger share – 26.6% – were found to be *under-educated* for their work. The skills gaps were even more marked in skilled agriculture and fishery occupations (with 31.7% of workers over-educated and 37.6% under-educated) and among plant and machine operators and assemblers (with 6.5% of workers over-educated and 29.6% under-educated) (European Training Foundation, 2019c). The under education of workers in occupations that would usually require vocational training suggests that the Egyptian VET system is not completely calibrated to the needs of the labour market. Indeed, a number of structural challenges in the VET sector have been identified that can lead to poor take up of young people into the labour market. These challenges are summarised below.

III.c YOUTH LABOUR MARKET ACTIVATION AND THE EGYPTIAN VET SYSTEM

When examining the role of vocational education and training in supporting youth employment, it is important to understand what mechanisms support youth in the transition from education/training to work. The so-called school-to-work transition is often facilitated by programmes that either seek to generate job creation or to promote the movement of youth into first employment. One specific way of easing the school-to-work transition is through active labour market programmes (ALMP).

Youth-focused ALMPs often support young people's inclusion in the (formal) labour market through four mechanisms: 1) training and skills development, both in and outside of the formal educational system; 2) entrepreneurship promotion; 3) employment services, and; 4) subsidised employment. A 2017 assessment of ALMPs used in Egypt (Barsoum, 2017) suggests that each of these four intervention types are used in the country but with varying levels of success. While some of the ALMP interventions are connected to each other, they are generally used in isolation. For example, there is an extensive youth public employment scheme that recruits youth into the public sector, guaranteeing a minimum number of jobs per year for recent graduates. As the focus is on the public sector, there is limited connection between the supply of skills provided for in the educational system, including VET, with skills demanded in eventual job placements.

The TVET sector in Egypt has several features that limit its effectiveness in supporting youth in the school-to-work transitions. Key issues identified by the ILO (2017) include the disconnect between trained skills and demand on the labour market, poor targeting of programmes, quality of training and focus on classroom-based rather than experiential learning. The disconnect between trained and demanded skills within the traditional supply-driven design of Egypt's TVET sector is a particular issue highlighted by multiple evaluations. As Barsoum (2017) notes, VET programmes cover a pre-defined list of skills for training that vary according to the training centre. The skill lists may not be updated often enough to remain fully relevant for the demands of the labour market, leading to limited activation of youth (Barsoum, 2017). The skill mismatch between training programmes and employment includes both soft skills (e.g., communication skills, problem-solving skills, adaptability) and technical skills (e.g., occupation-related competencies), suggesting that students are not adequately prepared for work on multiple domains of competency (AlAzzawi & Hlasny, 2018). The TVET Egypt programme recognises the need to better align the curriculum of TVET programmes to the demand of employers. It follows a number of smaller-scale initiatives (e.g., Sectoral Enterprise Training Partnerships, the ITC-sponsored National Program for Training for Employment) that sought to offer demand-driven training. While such initiatives were valuable ways of promoting youth activation, they were generally industry subsidies and not appropriately targeted to vulnerable youth (International Labour Organisation, 2017).

Another feature of Egypt's TVET system that challenges youth activation is the focus on classroom-based rather than work-based learning. Work-based learning occurs when students learn concepts or skills, can apply them in a job setting, and reflect on that experience to inform further learning. In the TVET context, important forms of work-based learning are on-the-job trainings, internships, apprenticeships, in-school production centres and other exercises that allow students to practice what has been learned in a classroom setting.

Within the TVET sector in Egypt, some forms of work-based learning have been used in the past. Several have emerged from international cooperation projects. One well-known example is an apprenticeship scheme formerly called the Mubarak Kohl Initiative (MKI) for Vocational Education Training and Employment Promotion. The MKI was first introduced in 1994 with assistance from the German technical cooperation agency GIZ but later became a self-sustaining model under MoETE. The MKI supported around 30,000 apprentices to be placed with companies in 2017 (International Labour Organisation, 2017). Other work-based learning schemes are the product of national innovations. The so-called 'factory in school' scheme is one. The factory in school scheme involves students directly working on a production line, with the goods produced later sold on the market. The production line may be run in the school with the assistance of a teacher, or it may be run through a partnership with a company, where the company installs the production line in the school and directly employs some students (European Training Foundation, 2017).

While the existing work-based learning models allow students to practice their skills, the number of students who can make use of these programmes is relatively small. In 2016 the MoETE estimated that around 2% of all secondary students were enrolled in programmes with explicit work-based learning components (European Training Foundation, 2017). The small number of students in work-based learning may reflect the limited capacity of companies to facilitate such placements. Small- or medium-sized companies, which are the majority of all businesses, often do not have the resources to train workers on the job. It may also be risky for companies to invest in work-based learning if trained employees quit after receiving training (International Labour Organisation, 2017). As a consequence of limited work-based learning, students may not be able to adequately practice and train the skills needed by employers. There are also fewer opportunities for students to come into contact with potential employers until they are actively seeking work. In recognition of the importance of work-placed learning to increase the quality of students and their contact with employers, the Egyptian government has prioritised creating more work-based learning opportunities. Work-based learning is an explicit component of the TVET Egypt programme.

III.d SUMMARY OF TVET SYSTEM IN EGYPT

The technical and vocational education and training system in Egypt includes a large number of students and plays a potentially important role in supporting youth employment, but it can be further strengthened through ongoing reforms. The TVET sector in Egypt fits within a complex and diverse educational structure. A number of national development strategies and frameworks, including the 2015 Sustainable Development Strategy-Egypt Vision 2030, identify further strengthening of the whole educational system as priorities to ensure sustainable and inclusive economic growth. Egypt has the largest educational system in the MENA region, with approximately 20 million students enrolled in pre-tertiary education alone in 2018-2019 (European Training Foundation, 2019a). The youth population in Egypt is substantial, which creates demand and strain on existing educational structures. Due to lingering perceptions that the TVET system is of poor quality and low status, there are some indications that students try to be tracked into general secondary education and university rather than vocational education and training tracks. Nevertheless, the TVET sector remains an important component of the educational system and can play an important role in supporting better matching between the skills demanded on the labour market and the skills trained through formal education and training.

The high potential of TVET system in Egypt to support young people's transition into formal work can be improved by addressing some of the structural challenges identified in the TVET system. One of the major challenges facing Egypt's TVET sector is the **lack of unified vision on the sector** and a consequent **absence of coherent governance**. Programmes offered within the TVET sector can be offered by different

stakeholders and may be designed, implemented and monitored by different bodies. For example, in 2009/2010 around 68 institutions in Egypt offered post-secondary VET programmes, which offered 108 distinct technical programmes covering 22 training disciplines (Álvarez-Galván, 2015). Reform of the TVET sector has been an important policy priority, yet the movement towards coherent governance and standards frameworks within the sector remains challenging. In 2019 more than 20 ministries and institutions were involved in TVET, and there were some indications of competition among key ministries to take leadership of the sector. Important institutions such as the MoETE, the Ministry of Trade and Industry, and the Ministry of Manpower have all developed individual strategies or policies that relate to TVET (European Training Foundation, 2019a). The number of approaches to TVET have supported continued fragmentation of the sector that can undermine the quality of TVET programmes. The absence of strong quality-assurance mechanisms can limit both the quality of programming and the transferability of skills acquired within the Egyptian TVET sector.

The quality of existing TVET programmes is a further challenge that can undermine the employment of youth. Concerns about quality of Egypt's TVET sector has been linked to **inflexibility of training curriculum** and a consequent **skills mismatch** between the skills emphasised in education/training and the demand for skills on the labour market. Across the TVET sector there has previously been a lack of appropriate assessment of labour-market needs to inform curriculum development and updating. The TVET Egypt programme, a large TVET reform initiative funded by the government of Egypt and the European Union, seeks to better incorporate labour market assessments into curriculum planning. Currently different institutions offering TVET programmes may establish their own lists of skills to be developed in TVET programmes. Such lists may not be updated frequently enough to match the needs of the labour market, and individual programmes may not have the capacity to conduct their own labour market assessments. Outdated skills lists may lead to the training of students who lack both the soft and technical skills that will support their eventual employability (European Training Foundation, 2019a). The **mismatch between skills/education and employment** may be particularly significant in some sectors. A large share of employees have been found to be under-educated for the work they should perform in occupations related to skilled agriculture and fishery (37.6% of employees under-educated), plant and machine operation and assembly (29.6% of employees under-educated), and sales and services (26.6% of employees under-educated) (European Training Foundation, 2019c). The under-education of workers in occupations typically linked to vocational education suggests that the TVET sector is not training sufficient numbers of workers or is not targeting the right types of skills in existing programmes.

The TVET system in Egypt may also not fully support the transition of youth from school to work given the **absence of work-based learning opportunities**. Work-based learning allows students to directly practice and further improve the skills and capabilities

they learn in the classroom. Different models of work-based learning are currently offered within Egypt's TVET sector. One well-known model (the formerly-called MKI scheme) links students of TVET programmes to apprenticeships with companies in the field of study. Another model, the 'factory in school', supports students to work on a production line within the school, directly producing goods that can be sold on the market. The various work-based learning opportunities in Egypt cover a very small share of students enrolled in TVET (International Labour Organisation, 2017; European Training Foundation, 2017). There are indications that students receive insufficient opportunities to practice what they learn. The limited ties to industry to support work-based learning opportunities may result in students having insufficient mastery of the soft and hard skills needed to become and remain employed in their sector of training. The shortage of work-based learning placements may also translate into lower exposure of students to potential employers.

The weaknesses of the TVET sector are generally all addressed in the **TVET Egypt programme**. The programme targets different elements of the TVET sector for reform. The TVET Egypt programme aims to support better institutional coherence and cooperation, a clearer national governance framework for TVET, and greater financial sustainability for the sector. It also focuses on expanding programming in specific priority sectors. These sectors include (among others) tourism, agriculture, food processing, building and construction, logistics, industrial engineering, and commerce and trade. As the TVET Egypt programme has a long-term vision for reform and no evaluations are yet available on the objectives it has met so far, it is unclear how effective the programme will be in supporting greater youth labour market activation.

IV. VET in Germany, Italy and the United Kingdom

Across the European Union, vocational education and training (VET) is considered to cover a wide range of programmes offered in different settings. Such programmes may be part of secondary, post-secondary or tertiary education levels. Vocational education and training may take place in formal structures or through informal learning, including through active labour market measures. Programmes for VET may also rely on classroom-based learning, work-based learning or a combination of both².

IV.a GERMANY

The German economy is the largest in the EU. The automotive sector and manufacturing more generally are the basis of the economy, and several German companies are among the leading manufacturers worldwide. Furthermore, wholesale and retail trade as well as health and social care are key sectors of the German economy. The basis of the success of the economy is an educated and highly skilled workforce, for which the German VET system is a crucial component (European Centre for the Development of Vocational Training, 2020).

The German vocational education and training system is known for its apprenticeship-based system, also known as the German dual training system, and for the way it combines theory and training and embeds this in a work environment. The main legal framework guiding the system is the German Vocational Training Act of 1969, which was last amended in 2005. Through this Act the German State declares that non-school vocational education and training is a public task. Within the Act vocational training refers to “vocational training preparation, initial training, further training and retraining” (Federal Ministry of Education and Research, 2005). The Act further stipulates that vocational training should build those skills, knowledge and qualifications that are needed to start working in a recognised training occupation. In addition, the Act governs further training later in career trajectories as well as retraining for other occupations.

2. In some countries, a combined focus on classroom- and work-based learning is referred to as a *dual track* or *dual education* system. Within such systems, students apply the theory and concepts learned in a classroom to work conducted in an apprenticeship.

On average, one in two graduates from secondary school goes on to follow a vocational path and a majority do so in the form of an apprenticeship. The VET system is a cooperation between the government, companies and social partner, which jointly set standards and regulations that result in a system recognised worldwide. For youth the system provides a relatively easy transition into the labour market and as a result low levels of youth unemployment (Hippach-Schneider & Huismann, 2018).

Within the German educational system (visualised in Figure 1), VET programmes and programmes combining VET and general education are offered at several educational levels: upper secondary, post-secondary and tertiary. The basic full VET programmes are at the upper secondary level, and students first enter these VET programmes after completing lower secondary education at the age of 15 or 16. At this level, several forms of VET are offered. Firstly, there are apprenticeship programmes, which usually last between two and three and a half years. These are the core of the German vocational education and training system and are also referred to as the dual system. The system combines two places of training: work-based learning and vocational schools. In general, the majority (about 70%) of the learning takes place in the workplace. Besides the apprenticeships, there are also school-based programmes at different levels, which last between one and three years and lead to different kinds of qualifications. There are full-time vocational schools, which offer education for non-academic occupations, for example, in the health care sector. In addition, there are general education programmes that have a vocational orientation at the upper-secondary level. In addition, there are transition programmes, which provide basic training upon completion of a lower secondary programme before then moving into either an apprenticeship or a school-based programme (European Centre for the Development of Vocational Training, 2017a; Hippach-Schneider & Huismann, 2018).

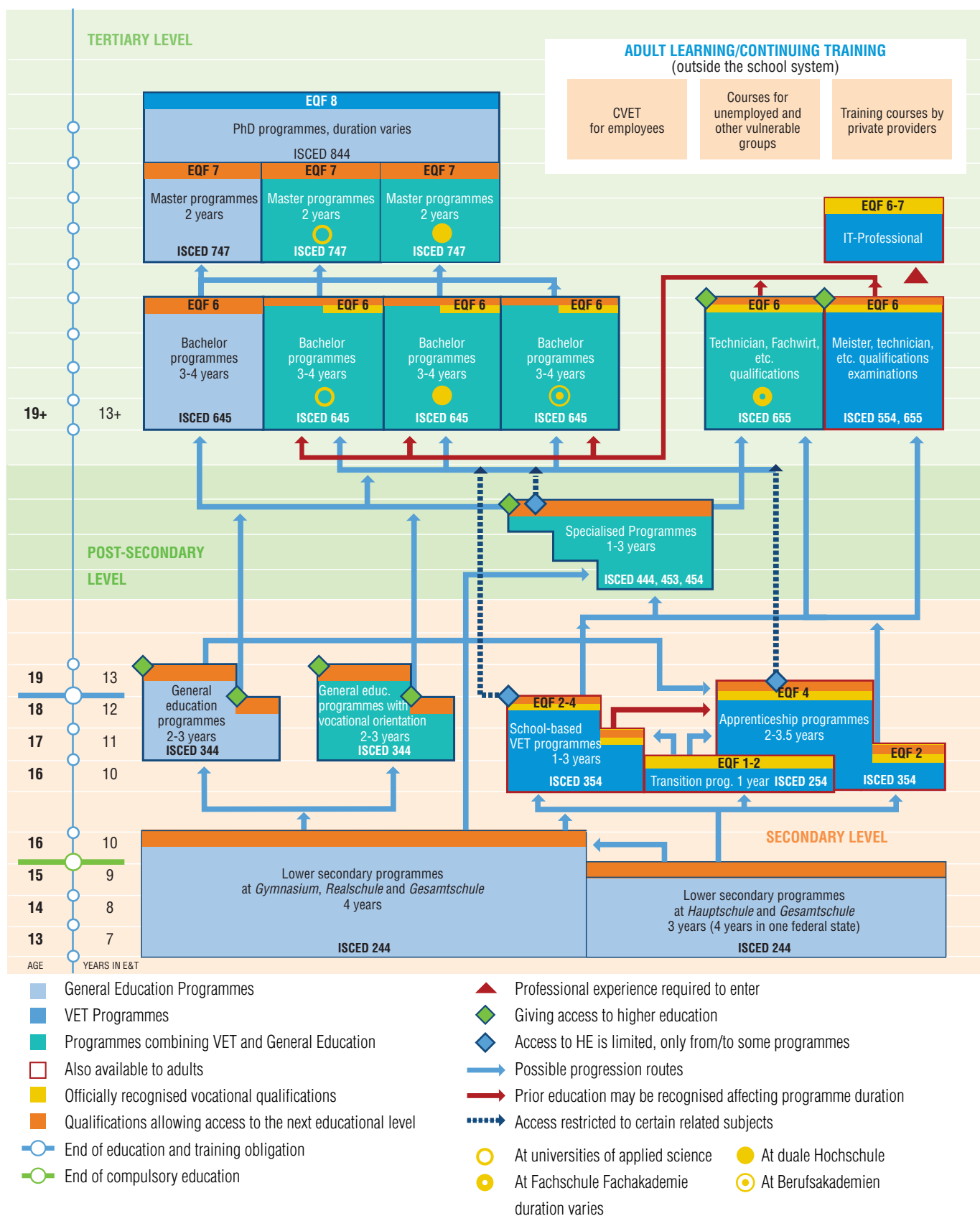
As can be seen in Figure 1, there are several pathways from general education into VET and from upper-secondary VET to higher education. Post-secondary level programmes exist to enable the transition into tertiary education for holders of general intermediate secondary school leavers as it enables them to obtain a qualification to enter higher education. The specialised programmes at the post-secondary level build on knowledge and skills built through general education and initial VET and deepen specific occupational knowledge. Programmes last for one to three years and graduates then have qualifications needed to enter the universities of applied sciences (European Centre for the Development of Vocational Training, 2017a; Hippach-Schneider & Huismann, 2018).

Given the structure of the German education system, there are several opportunities for upward movement within and beyond VET tracks. Possibilities for lateral movements also exist at several points in the system, although to a limited extent. What is important to note is that students who initially enter any of the upper-secondary VET programmes still have the opportunity to obtain a tertiary level education by moving into higher-level VET and VET/general education programmes and then from these upper-level VET/general education programmes into university (see Figure 1).

These channels for possibilities to move through the system are important to note as they are also relevant for non-national youth who may enter the VET system at different levels depending on their previous education and training. As will be discussed in Section IV.A.iii, Germany has increased its efforts to recognise professional and technical skills of migrants. This means that migrants may not need to enter the VET system if their aim is to work and their previous training is recognised. It also means, however, that migrants entering the VET system are generally able to increase their education independent of where they are first placed in the system. In this context, it is important to mention that the German government has opened channels for regular labour migration for the purpose of training and further training for foreign, third-country nationals. More information on this is provided in Section IV.A.ii below in the context of skills matching.

Since 2005, the BMBF produces an Annual Report on Vocational Education and Training³. In the report a summary of trends in the last year are provided, including an overview of the training balance of the past year. The latest report for 2018 shows that in that year 494,539 individuals started vocational training in the dual system, which is 1.7 per cent more than the year prior. In addition, 178,718 people started a school-based VET programme (Bundesministerium für Bildung und Forschung, 2019). Looking at the share of students in Germany that is enrolled in VET reveals some further interesting trends and reveals the importance of VET in the country. In 2016, below 5% were enrolled in VET at the lower secondary level, but then almost 46% of all students enrolled in upper secondary education were in some form of VET. At the post-secondary non-tertiary level this share then increases to 92%. Males outnumbered females in VET enrolment at the lower level and also when it comes to graduates, with just about 40% of graduates from post-secondary VET programmes female. At the post-secondary non-tertiary level, females outnumber males both in terms of enrolment and graduation. The dominance of work-based learning in VET in Germany is shown by the fact that in 2016 almost 65% of enterprises in Germany hired VET students in some form of placement (Eurostat, 2019).

3. See <https://www.bmbf.de/de/berufsbildungsbericht-2740.html>

Figure 1: VET in Germany's education and training system

NB: This is a simplified chart, based on the unified approach used for the spotlights on VET in all EU-28 countries plus Iceland and Norway. ISCED-P 2011. EQF levels have not yet been defined for all qualifications

Source: European Centre for the Development of Vocational Training, 2017a, p.3

IV.a.(i) Management and strategic objectives of VET in Germany

The German vocational training and education system involves a range of actors, including the State, federal states (*Laender*), companies and social partners (European Centre for the Development of Vocational Training, 2017). At the governmental level, the Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung; BMBF) is mainly responsible for the vocational training system; in particular when it comes to VET policy. The Ministry also holds a coordinating and steering role for issuing federally-regulated vocational training regulations together with the respective Ministry responsible for the specific sector (Federal Ministry of Education and Research, 2012).

Another key actor governing the vocational training system in the German context is the Federal Institute for Vocational Education and Training (Bundesinstitut für Berufsbildung; BIBB), which works closely with and advises the BMBF and VET providers. It is a centre of excellence for vocational research and for the progressive development of vocational education and training in Germany. The main mandate is therefore to identify challenges for the VET system and to drive change both in the national but also international training systems. They focus on practice-oriented solutions for all stages of the VET system, including initial and continuing training (Federal Ministry of Education and Research, 2012; European Centre for the Development of Vocational Training, 2017).

The federal states (*Länder*), on the other hand, are responsible for the school-based components of the VET system. This is due to the stipulation in the Constitution that school education is regulated by the individual *Länder*. For this purpose, each of the states has a VET committee, made up of state representatives, employers and employee representatives. These advise the state governments on necessary actions regarding the vocational training in schools. In order to ensure coherence between the federal states, there is a standing committee at the national level, the Kultusministerkonferenz (KMK). The KMK develops recommendations to ensure unity and comparability, but those have to be passed and implemented at the state-level to become legally binding (Hippach-Schneider & Huisman, 2018).

Social partners also have an important function in the German dual system. This refers specifically to employers and trade unions. These actors are influential when it comes to the development of content and form of VET, in order to ensure that their interests, needs and requirements are considered. As such they are involved in the VET committees at the state level and representatives are also on the board of the BIBB (Hippach-Schneider & Huisman, 2018).

Finally, professional chambers and several federal and state authorities also play a crucial role for the VET system as so-called *Zuständige Stellen* (competent authorities). They ensure the suitability of training centres, monitor training in enterprises, provide advice to apprentices, trainers and enterprises, establish and maintain lists of training contracts and organise and implement the final exams. Each competent authority has

a VET committee, which has to be informed on VET-related issues and decides on the regulations for implementation. It consists of representatives of employers, trade unions and teachers (Hippach-Schneider & Huismann, 2018). The regionally organised chambers of industry and commerce, chambers of crafts and professional bodies for liberal professions are mandated as such competent authorities and assigned tasks accordingly. Mainly, they coordinate the training companies and organise the examinations of the different training trajectories. They also issue the proficiency certificates, which are recognised across Germany and internationally (Forschungsinstitut Betriebliche Bildung, 2020).

In the Annual Report on Vocational Education and Training policy priorities for VET are outlined. In general, these relate to making VET attractive for young people, developing and modernising the system further and utilising the potentials that exist to address skills shortages. Related is that one of the main points highlighted is that matching of training places and potential trainees needs to be made more efficient (Bundesministerium für Bildung und Forschung, 2019), a challenge which will be further discussed in the following section.

In the Annual Report of 2018, the integration of young foreigners and youth with a migration background was also specifically highlighted as a priority. This is based on the fact that evidence showed that these groups face more difficulties entering VET than young Germans do. More specifically, the statistics show that 27.6% of foreign nationals start training compared to 55.8% of Germans. In addition, foreign nationals are on average older by two years when they enter VET. Also striking is the fact that 31.4% of first generation young migrants are considered to be unskilled. For young people with a migration background this share is also 19.9%, while it is only 8.8% of German youth. Specific initiatives have been and continue to be developed to encourage more people with a migration background to enter into training (Federal Ministry of Education and Research, 2018).

IV.a.(ii) Sectoral focus and skills matching of VET in Germany

Training occupations are highly regulated in Germany and there are currently around 330 in the dual system alone. In addition, the federal states are responsible for further occupations and have passed their own regulations governing these. These occupations include, for example, teachers and other educators, engineers, architects and medical specialists (Federal Institute for Vocational Education and Training, 2020). Independent of who is responsible, the dual system offers apprenticeships in every sector of the German economy (Hippach-Schneider & Huismann, 2018). As such, there are no clear priority sectors for VET in the case of Germany due to the key role of the system for the economy as a whole. This is supported by the fact that the number of company-based training places offered increased period from 2009 to 2017 shows that training places increased over time in all sectors.

Namely these are:

- Trade and Industry
- Skilled Trades
- Professional Services
- Public Sector
- Agriculture (Federal Ministry of Education and Research, 2018).

While there are no clear priorities with regards to sectors for which VET is relevant, it is clear that the responsible actors engage frequently in revising existing occupations and introducing new occupational standards when necessary. In this sense, they adapt the system to the needs of the labour market as needed (Hippach-Schneider & Huismann, 2018).

Despite the lack of sectoral focus in the set-up of the VET system and the strong link between the economy and training offerings, data does show that the demand in several sectors is not met by youth going into VET and by VET graduates. Matching of supply and demand for vocational training positions has been a challenge for a number of years. A time series has been kept since 2009 when this was first highlighted as an issue. In 2018, 57,656 places could not be filled in September which is when apprenticeships usually start. This is the highest number in the time series. At the same time, there is a significant amount of young Germans who do not succeed in finding a position initially. As such, there is a mismatch between demand and supply. It has been identified that this issue has a regional component. In some regions of the country companies are not able to fill positions, while young people find a training position quite well, while in other regions companies fill their positions, but young people face challenges to start their training when they would like to. Both of these problems are caused by a mismatch of expectations of businesses and youth. These can, for example, be a mismatch between supply and demand for specific training occupations, but also the fact that youth might prefer training in a large business, while it is SMEs that offer training positions in the respective field (Bundesministerium für Bildung und Forschung, 2019).

Besides this mismatch of supply of and demand for apprenticeships, there is also other evidence that the VET system is not fully successful in matching the demands in the labour market. An OECD (2017b) report indicates that the supply of knowledge is mismatched to the demand in knowledge areas such as computers and electronics; clerical work; customer and personal service, and; engineering, mechanical, and technology, all of which experienced critical shortages in knowledgeable staff. The only areas with a *surplus* of knowledge were transportation, food production and mechanical, while there is no area with a critical surplus (OECD, 2017b). The knowledge areas highlighted in the table overleaf are readily connected to VET training and suggest areas in which the VET system may need to increase effectiveness.

Table 1: Knowledge mismatches in Germany per sector

Sector	Critical Shortage	Shortage	Surplus	Critical Surplus
Computers & electronics				
Communications & media				
Clerical				
Customer & personal service				
Engineering, mechanics & technology				
Sales & marketing				
Telecommunications				
Transportation				
Food production				
Building & construction				
Mechanical				

Source: Adapted from OECD (2017b) based on selection of VET-relevant sectors.

Mismatches in supply and demand of skills do not only occur when it comes to occupation-specific skills, but also in soft skills, basic skills and non-technical abilities. In its assessment of ability shortages and surpluses in Germany, the OECD (2017b) identified some ability areas where workers lacked the skills and abilities for which there is demand on the labour market. Critical shortages were identified in areas such as verbal, reasoning and quantitative abilities, all of which relate to the ability of workers to acquire and work with information to support decision making and problem solving. In contrast, more workers than demanded offered physical abilities such as endurance and physical strength. The areas of critical shortage and critical surplus suggest that there is demand for workers with the ability to integrate information into complex problem solving and not so much for workers with strong physical abilities. This likely reflects the transition in the German economy away from manual tasks and toward automation-assisted tasks and services (OECD, 2017b).

Table 2: *Ability mismatches in Germany per ability*

Sector	Critical Shortage	Shortage	Surplus	Critical Surplus
Verbal abilities				
Reasoning abilities				
Quantitative abilities				
Fine manipulative abilities				
Spatial abilities				
Reaction time & speed abilities				
Control movement abilities				
Endurance				
Physical strength				
Flexibility, balance, & coordination				

Source: Adapted from OECD (2017b) based on selection of abilities.

IV.a.(iii) Transferability and recognition of skills in Germany

At the end of an apprenticeship the responsible chambers hold final exams. The results of these exams serve as evidence that the training has been completed successfully. The certificates that graduates receive are fully recognised and trusted by employers. As such, transferability of skills for people trained in the formal system is easy and generally smooth. For people outside of the formal system, there is an option to take final exams as external candidates. Candidates need to show that they have been working in the respective occupation for at least one and a half times the time that the regulated training for this occupation takes. If the exam is passed, the same certificate is provided, also enabling these candidates to then have the certificate that enables easy movement on the labour market (Hippach-Schneider & Huisman, 2018).

For recognition of skills obtained abroad, Germany introduced a new Federal Recognition Act in 2012 (Gesetz über die Feststellung der Gleichwertigkeit von Berufsqualifikationen). This Act provides the legal framework for the recognition of professional and vocational qualifications obtained abroad. The introduction of the act was accompanied by the establishment of several services, such as a dedicated website and a telephone hotline, where interested parties can find all relevant information. Compared to earlier processes, the Act aims to simplify and standardise the procedures for recognition. It has also opened up ways to get skills recognised which was not possible before. The main aim of this change was to make Germany more attractive for skilled potential migrants in the face of labour market challenges related to demographic changes and existing skill mismatches (please see Research Paper 1 for more information on this) (Bundesministeriums für Bildung und Forschung, n.d.).

The implementation of the Act is regularly monitored and is reported on in annual reports. The latest report shows that from 2012 until 2018 140,700 applications for recognition have been made for the occupations governed by the federal law. The occupations that saw the most requests were healthcare professionals, including care workers, doctors, physiotherapists, pharmacists and dentists (Bundesministeriums für Bildung und Forschung, 2019).

In 2018, 20.4% of 29,202 individual applicants were filed from abroad. The available data also shows that since the reform in 2012 until 2018, 2,424 requests for skill recognition were made by people that received their training in Egypt (Bundesministeriums für Bildung und Forschung, 2019). This is likely also the result of the fact that Egypt is one of the countries that is part of the *ProRecognition* project, which is funded by the BMBF and implemented by the DIHK Service GmbH. The purpose of the project is to provide information and consultation on recognition to potential labour migrants in countries of origin.⁴ This service is provided through the German-Arab Chamber of Industry and Commerce in Cairo (Bundesministeriums für Bildung und Forschung, 2020; German-Arab Chamber of Industry and Commerce, n.d.).

IV.a.(iv) Youth labour market activation and the German VET system

The fact that the VET system and especially its dual component are well known and recognised in Germany is an incentive in itself for youth to transition from general education into the labour market in cases where they do not want to pursue tertiary education. The fact that doing an apprenticeship provides a good starting point for career development is accepted within the German society and supported by data. Statistics show that 94% of apprentices find a job immediately or within three months after completing their training. Yet, general and higher education are also becoming more attractive and demographic changes are changing the labour market. This poses challenges to the VET system and to making it attractive for those going into initial training out of secondary education (Hippach-Schneider & Huismann, 2018).

One of the strong points for activating youth to enter VET is the fact that in the dual apprenticeship system the learners receive a wage. This is a strong motivator for youth as it provides them a level of financial independence. Those enrolled in school-based VET programmes can apply for student grants or loans. In addition, the German government provides several support measures for initial VET learners under the Social Code of the country (Hippach-Schneider & Huismann, 2018). Youth that is engaged in VET and does not receive sufficient remuneration to meet basic needs, such as housing, food and transportation, is eligible for vocational training assistance (Berufsausbildungsbeihilfe). This is provided through the Federal Employment Agency in the form of a monthly subsidy (Bundesagentur für Arbeit, n.d.).

4. The service is represented online at <http://www.prorecognition-egypt.com/en/home/>

It is important to note that this service is also available to non-national youth at the discretion of the responsible Employment Agency (Bundesagentur für Arbeit, n.d.). Here it is important to mention that coming to Germany to start vocational training is an option that exists. Interested individuals need to apply for a visa. In order to qualify for this, they need to already have secured an apprenticeship with a German company. In addition, the Federal Employment Agency needs to confirm that there is no German or other prioritised national (EU, Iceland, Liechtenstein, Norway and Switzerland) is available to fill this specific position. This does not apply for graduates of German schools abroad. Visa applicants also need to show that they can financially support themselves during their stay in Germany. Additional requirements, such as proof of language sufficiency may also be requested (Die Bundesregierung, n.d.).

Turning back to the situation in Germany and labour market activation of youth, the Federal Employment Agency also offers prevocational training. This targets youth who have completed compulsory education, but not started VET. Specific programmes are offered for disadvantaged youth. Measures for the engagement of this group include financial support and socio-pedagogic assistance. Training is offered to give youth with limited prospects the chance to acquire skills and slowly build qualifications towards a recognised occupation (Hippach-Schneider & Huismann, 2018).

Another option for unemployed people is to turn to self-employment and open their own business. The Federal Employment Agency provides several support services for people interested in this step. They provide advice regarding options for self-employment and the associated risks and opportunities.

Under certain conditions individuals may also receive financial support for starting a business. The main conditions are that it is the main economic activity and that the person still has the right to unemployment benefits for 150 days after starting the business. In addition, a chamber or similar institution needs to certify that the business model and the personal preconditions promise success of the business. In order to support new entrepreneurs, the chambers also offer trainings for those interested in this step (Bundesagentur für Arbeit, 2020).

IV.b ITALY

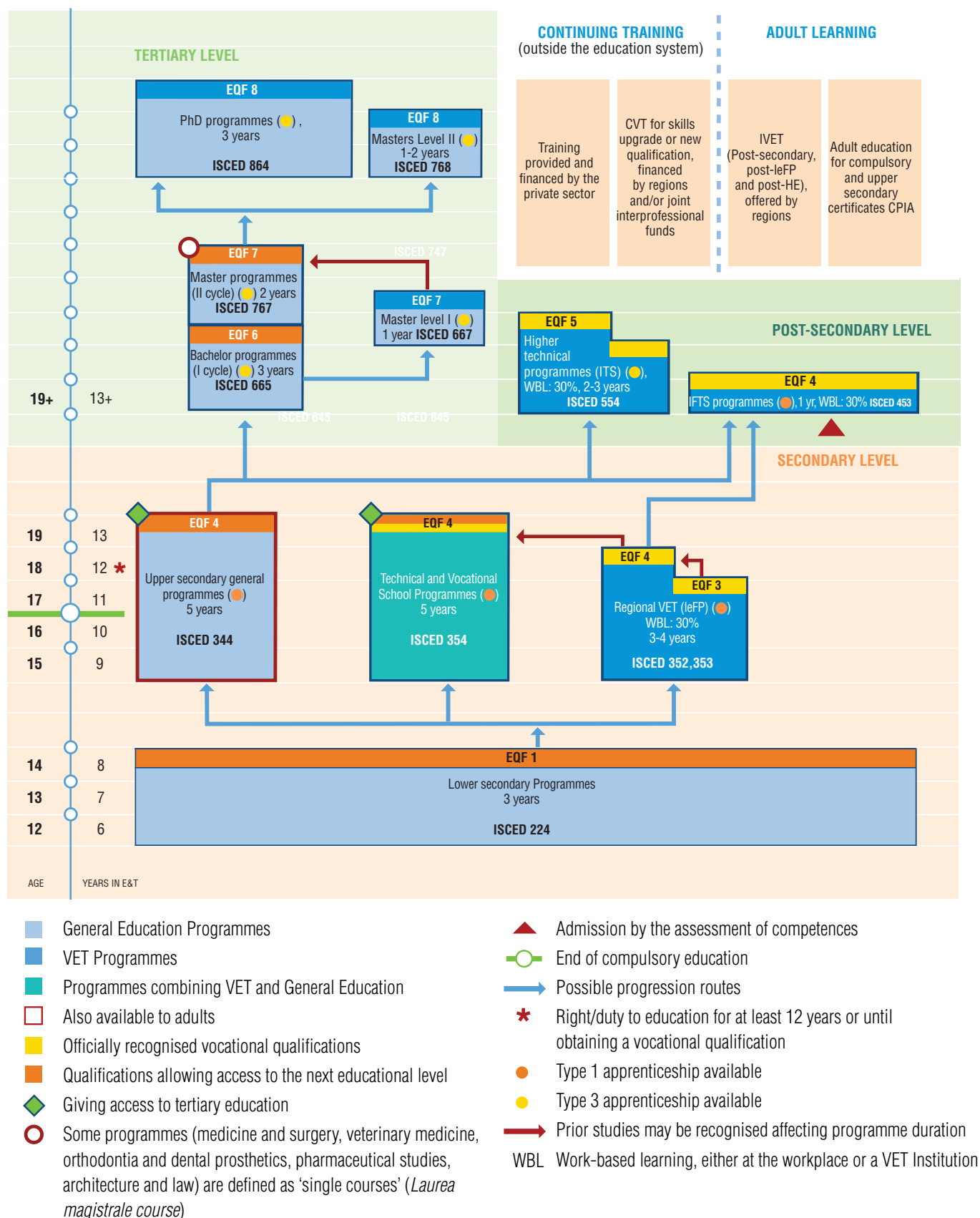
The VET system in Italy is large and includes educational programmes at varying education levels. Within the Italian education system, the term ‘vocational education and training’ is generally used to refer only to select programmes that are offered by regions and autonomous provinces. Nevertheless, many types of programmes that would be classified as VET in a wider European context do exist (European Centre for the Development of Vocational Training, 2014).

Within the Italian educational system (visualised in Figure 2), VET programmes are offered at two educational levels: upper secondary and post-secondary non-tertiary. Students are tracked into VET programmes at the upper-secondary level after completing lower secondary education at the age of 14. At the upper-secondary level, two forms of VET programmes are offered. The first form of programme, regional TVET programmes, focuses exclusively on VET and is offered for either three or four years. Whereas three-year VET programmes lead to a vocational qualification, four-year programmes lead to a technician professional diploma. The second form of VET programme is a five-year programme offered at technical schools. The five-year programmes combine both VET curriculum with general education and lead to professional education diplomas (European Centre for the Development of Vocational Training, 2017b).

The further education and training pathways for VET students differs depending on the level of training received. Students in the three- and four-year programmes may move horizontally into a five-year mixed VET/general education programme, where the number of years they have already completed in the three- or four-year programme count toward attainment of the five-year programme certificate. Students who have completed four-year programmes may also choose to move vertically, upward into a one-year VET programme at post-secondary level that culminates in a high technical specialisation certificate. Students who completed a five-year VET/general education programme may move vertically into both general education tracks (tertiary level bachelor programmes) or VET tracks. The post-secondary VET tracks available for graduates of five-year upper-secondary programmes include one-year programmes or two- or three-year higher technical programmes. The completion of a higher technical programme results in a high-level technical diploma (European Centre for the Development of Vocational Training, 2017b).

Given the structure of the Italian education system, both lateral and upward movement within and beyond VET tracks is possible. Students who are tracked into the lowest level of VET programmes at upper-secondary level (i.e., those moved into three-year VET programmes) could in principle still have later access to tertiary education by moving laterally into higher-level VET and VET/general education programmes and then from these upper-level VET/general education programmes into university. The three- and four-year VET programmes are built in a “modular” manner, with students exposed to modules that focus on basic, cross-cutting and occupational/technical skills. The modularisation supports the recognition of credits from one programme to another. The “permeability” across educational tracks ends at the upper-secondary level, however. Once at the post-secondary level, students cannot make the transition from VET education to general education.

Figure 2: VET in Italy's education and training system



Source: European Centre for the Development of Vocational Training, 2017b, p.3

The track system is important to understand given its implications for non-national youth who wish to enter the educational system at a later moment. Someone with a VET diploma or certificate may not have access to upper-levels of VET if their credentials are assessed as being at the lowest post-secondary level (i.e., at the level of a three-year programme). The VET system in Italy is offered through multilevel cooperation and coordination. At the national level, the Ministry of Education, University and Research (MIUR) and the Ministry of Labour and Social Policies (MLPS) are responsible for establishing common rules and frameworks for the broader education and training system. Following national guidelines, the regions and autonomous provinces are responsible for implementing VET programmes, including some work-based learning schemes (European Centre for the Development of Vocational Training, 2017b). In principle all VET programmes at post-secondary level may be offered with apprenticeships, but the Italian VET system is not considered dual track because the learning is primarily classroom-based.

Large shares of students in Italy are tracked into some form of VET programme. In 2016, over 55% of all students enrolled in upper secondary education were in some form of VET, indicating that the remaining 45% of students were enrolled in general upper secondary education. As VET programmes are the only form of education or training offered at the post-secondary non-tertiary level, 100% of students enrolled in this level were in VET programmes. Males outnumbered females both in VET enrolment and graduation, with less than 40% of graduates from post-secondary VET programmes female. As mentioned above, some VET programmes in Italy combine classroom- and work-based learning. Typically work-based learning is executed through apprenticeships. In 2016 just over 30% of enterprises in Italy hired VET students in some form placement (Eurostat, 2019).

IV.b.(i) Management and strategic objectives of VET in Italy

The Italian VET system involves representation of a wide range of stakeholders with different responsibilities and competencies. The governance of the VET system may affect how quality is assured within VET programmes, how programmes are calibrated to local labour market needs, and how validation frameworks are established. As mentioned earlier, the Ministry of Education, University and Research (MIUR) establishes frameworks for VET at post-secondary level. Programmes at upper secondary level fall under the mandate of the Ministry of Labour and Social Policies (MLPS). The role of the MIUR and MLPS is to define the general roles and principles of educational programmes, but the actual design and implementation is shared with other stakeholders. The regions and autonomous provinces of the country have legislative power over VET and are responsible for the planning, organisation and offering of VET programmes. The regions and provinces generally also supervise apprenticeship-like schemes with industry. In addition to government at different administrative levels, other stakeholders – called social partners – have an important role in VET. Social partners, including representatives of the private sector, help promote work-based learning, may advise on VET policy, and assist in the design and organisation of active labour market policies (European Centre for the Development of Vocational Training, 2014; 2017).

The different types of VET programmes at upper secondary and post-secondary level are associated with different kinds of institutions. Whereas the three- and four-year VET programmes at upper-secondary level are regional programmes, other VET programmes are offered through technical institutes and professional institutes. Each of these pathways within the VET system may be organised slightly differently yet may have some overlap in terms of the competencies and sectors they train.

Despite the strong involvement of the regions and provinces in the design of education, some parts of the VET system are not responsive to local employment contexts and do not necessarily reflect local needs in the curriculum. The regions of Italy vary widely in socio-economic characteristics, labour opportunities and infrastructure. Despite marked differences in local labour needs, the areas of study offered in professional institutes were previously standardised. Previously professional institutes could only offer six areas of study, and the courses offered were not calibrated to the priorities of the region. The Italian government has begun reforming the structure so that professional institutes can offer more study areas that are responsive to priority sectors of the region. In contrast, the regional VET programmes – the three- and four-year VET programmes at upper-secondary level – have always reflected the needs of the regions and local areas in their design (OECD, 2017a).

Regardless of how a VET programme is offered (e.g., at regional level, in professional institutes), there are strong reform movements to promote greater engagement between students and employers. The “Good School” (*Buona Scuola*) reform introduced in 2015 enforced work-based learning in both general and vocational education. The reform requires students in technical and professional schools to fulfil 400 hours of work-based learning, which may occur in a private or public organisation. The reform would not entail that the VET system becomes fully dual track in the same way that the German VET system is. Rather than encouraging apprenticeships, the Good School reform encourages students to have some form of work-based training, without prescribing the format that should be used (Pastore, 2019).

IV.b.(ii) Sectoral focus and skills matching of VET in Italy

The different types of VET programmes offered in Italy at different geographical levels focus on different priority areas for training. A 2014 assessment of the Italian TVET system (European Centre for the Development of Vocational Training, 2014) identified several focus areas for VET trainings offered in different schemes. The following select economic sectors were offered within the three- and four-year VET programmes offered at upper-secondary level (the regional schemes):

- Trade and industry (e.g., clothing production, footwear production, chemical production, agro-food processing)
- Skilled trades (e.g. woodworking, artwork, pleasure craft building and maintenance)
- Professional services (e.g., motor vehicle repair, tourism and hospitality, catering, wellness, retail, commercial sales, hairdressing and cosmetology, waiting and bar services)
- Agriculture.

At the post-secondary level, some VET schemes focused on similar sectors. A list of 20 higher technical specialisations that should be targeted in one-year post-secondary VET trainings are defined at national level (through Decree 7.2.2013). Among these specialisations are those relating to agriculture, industry, manufacturing, tourism and public services. Longer post-secondary VET programmes (those lasting two years) generally focused on more technical fields. The technological areas focused on in two-year VET programmes included energy efficiency, sustainable mobility, new life technologies, and information and communication technologies (European Centre for the Development of Vocational Training, 2014). Over time the sectors and technological areas offered by the different VET programmes under different schemes will likely have shifted in line with changes in national development priorities and labour market reforms. Unfortunately, little information is available on the shift in priority areas over time.

Despite the focus of particularly regional VET programmes on meeting the demands of the local economy, there are nevertheless some indicators that supply of VET graduates does not fully match labour market demand. While not specific to VET graduates, recent assessments have suggested significant skill mismatches across Italy. The 2017 OCED Survey of Adult Skills indicated that 12% of Italian workers had higher skills than needed for their current functions, and 8% were under-skilled, meaning that they were not assessed as meeting minimum skill proficiency requirements to perform their current jobs satisfactorily. The skill mismatch varied widely by region, with greater shares of workers considered under-skilled in the South and greater shares of workers considered over-skilled in the North (Garda, 2017).

Across the country certain work areas or knowledge domains also had critical or mild surpluses or shortages of employees. A 2017 OECD evaluation indicated that the supply of knowledge is mismatched to the demand in knowledge areas such as computers and electronics; clerical work, and; engineering, mechanical and technology, all of which experienced critical shortages in knowledgeable staff. The only area of critical *surplus* of workers was in the building and construction area, but there were milder surpluses in the supply of workers in areas such as transportation and food production (OECD, 2017a). The knowledge areas highlighted in the table below are readily connected to VET training and suggest that the VET system may shift focus away from surplus sectors toward shortage sectors.

Table 3: *Knowledge mismatches in Italy per sector*

Sector	Critical Shortage	Shortage	Surplus	Critical Surplus
Computers & electronics				
Communications & media				
Clerical				
Customer & personal service				
Engineering, mechanics & technology				
Sales & marketing				
Telecommunications				
Transportation				
Food production				
Building & construction				
Mechanical				

Source: Adapted from OECD (2017a) based on selection of VET-relevant sectors.

Supply-demand mismatches relate not only to technical knowledge areas but can also relate to soft skills, basic skills and non-technical abilities. In its assessment of ability shortages and surpluses in Italy, the OECD (2017) identified some ability areas where workers lacked the skills and abilities at highest demand on the labour market. Critical shortages were identified in areas such as verbal abilities and quantitative abilities, both of which relate to the ability of workers to acquire and work with verbal or mathematical information to support decision making and problem solving. In contrast, more workers than demanded offered physical abilities such as endurance and physical strength. The areas of critical shortage and critical surplus suggest that workers better able to integrate information into complex problem solving would be at higher demand than workers with strong physical abilities. Such findings likely reflect the transition in the Italian labour market away from manual tasks and toward automation-assisted tasks (OECD, 2017a).

Table 4: *Ability mismatches in Italy per ability*

Sector	Critical Shortage	Shortage	Surplus	Critical Surplus
Verbal abilities				
Reasoning abilities				
Quantitative abilities				
Fine manipulative abilities				
Spatial abilities				
Reaction time & speed abilities				
Control movement abilities				
Endurance				
Physical strength				
Flexibility, balance & coordination				

Source: Adapted from OECD (2017a) based on selection of abilities.

Unfortunately information on the mismatch in knowledge and skills/abilities is not available for workers of different educational profiles. As such, it is difficult to discern whether the skill/knowledge areas at greatest demand are addressed by graduates of VET programmes or not. Nevertheless, the mismatches in specific skill and knowledge areas that VET programmes are likely to train suggests that graduates may not be as well placed to make the school-to-work transition.

IV.c UNITED KINGDOM

In the United Kingdom context, the governance of education, including VET, has been devolved by the UK Government to the Devolved Administrations in Scotland, Wales and Northern Ireland. The systems in three of the four countries, England, Northern Ireland and Wales, share many similarities. Yet, reforms are increasing the number of differences between these three systems. The Scottish system has always worked differently and continues to do so (Abusland, 2018). As such, in some instances specific points about the individual systems will be pointed out throughout this section.

The UK's VET system is a key component of the country's economy and its origins date back to the 12th century. The system is continually adjusted to changes in the national economy and to keep up with developments in the global economy (Department for International Trade, 2018). The British Council (2017) states that the system aims to prepare people for the labour market by equipping them with skills. These skills are generally specific to an industry, trade and/or occupation and enable those with VET training to be fully active in the labour market (British Council, 2017).

Education or training is compulsory until the age of 18 in England and 16 in the other three countries, but the majority of youth continues in one of the trajectories for longer. While it is obligatory, learning costs are covered by government agencies and grants and loans are available for older learners (Abusland, 2018).

Within the overall education system in the UK, VET is delivered in two main forms at secondary and tertiary level (see figure 3): school-based programmes and apprenticeships. The school-based programmes combine general academic studies with VET elements. The latter may be either broad VET programmes or programmes for specific occupations and may take place in schools and a workplace. Duration of programmes varies by occupation and level of study but generally lasts between one and four years. Equally, whether programmes are offered full- or part-time and whether students attend training for blocks or single days, on weekdays or weekends varies by specific programme (Abusland, 2018).

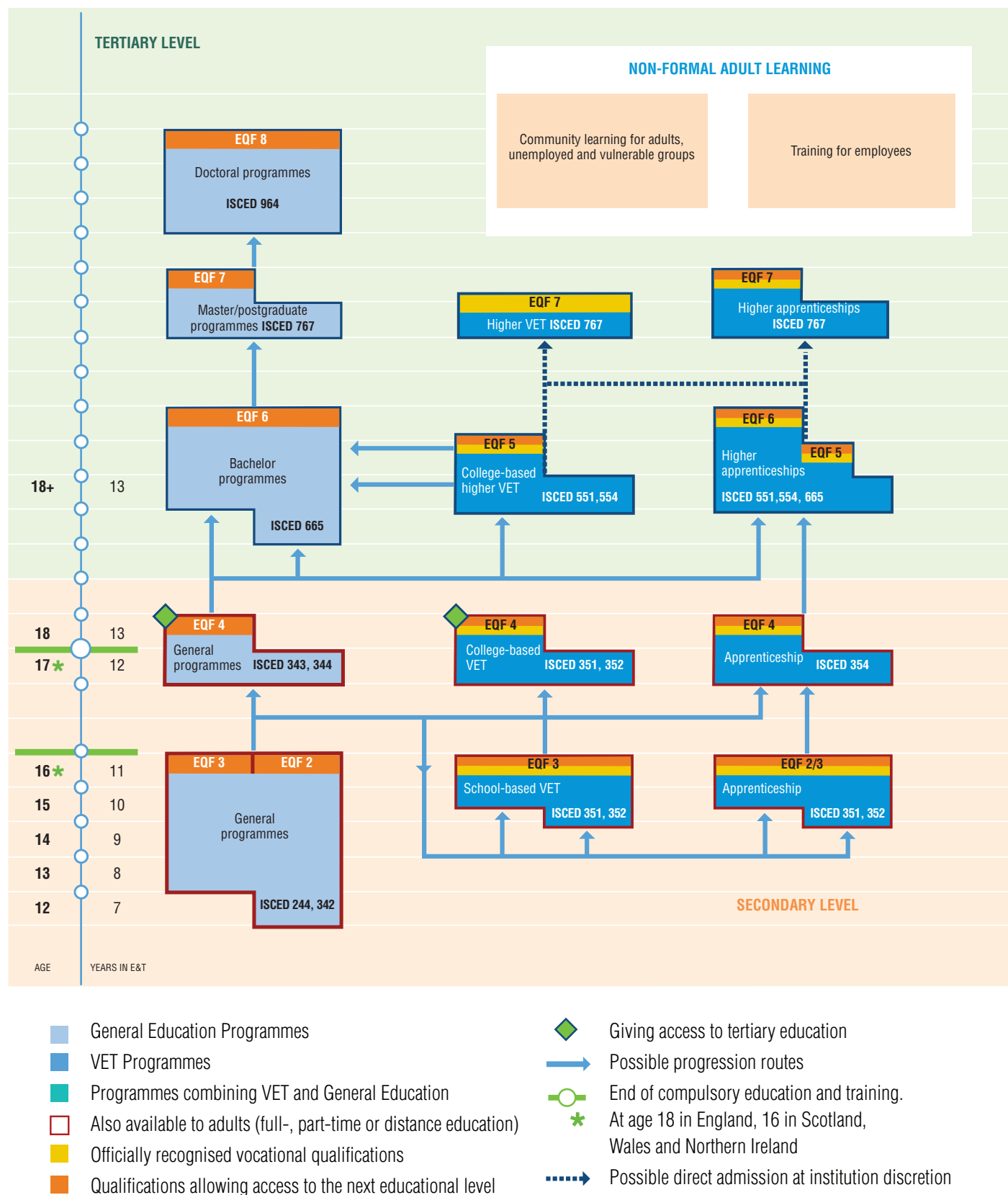
On the other hand, the apprenticeship system is growing as demand in different sectors of the labour market and competition for positions are increasing (Abusland, 2018). Apprenticeships generally are based on a work contract and include components of technical and occupation-specific qualifications as well as core, transferable skills like literacy, numeracy and ICT (British Council, 2017). It is important to note that due to changes in the labour market, apprenticeships are increasingly also being offered at the tertiary level in the UK (Abusland, 2018).

Possibilities for transitioning from VET programmes to higher education exist in the UK context. Vocational qualifications at the upper-secondary level allow learners to access selected first-cycle university programmes. There is, however, no guarantee for such lateral pathways. As Figure 3 shows, the majority of possibilities for movement are upward once someone is in the VET system. Once in either an apprenticeship or a school-/college-based VET programme, it does not seem possible to move between the two forms until the highest level of VET. In addition, while lateral movement from general education into VET programmes is possible at the secondary level and when transitioning from secondary to tertiary education, options for movements in the other direction are limited. Specifically, only those that are in college-based higher VET may be able to transition to a Bachelor programme.

As in the other two case studies, it is important to understand these, in this case, more distinct tracks with regards to the implications for non-national youth wanting to enter the educational system at a later moment. In this case, the way that existing skills are recognised may determine the possibilities for furthering education and training in the UK. The recognition of skills will be further discussed in Section IV.C.iii on page 50.

As in the other two countries, a relatively large share of students is enrolled in a VET programme in the UK. At the lower secondary level, over 17% of students are already receiving vocational education. At the upper secondary level this share increases to almost 47%, while the remaining 53% are enrolled in general secondary education. The shares are slightly higher for females (47.6%) than for males (45.6%). Females also slightly outnumber males when it comes to graduation from upper secondary VET programmes with a share slightly higher than 50%. Furthermore, as mentioned above some VET programmes in the UK are school- or apprenticeship-based. This reflects in the fact that in 2016 only slightly more than 30% of enterprises in the UK hired VET students in some form placement (Eurostat, 2019).

Figure 3: VET in the United Kingdom's education and training system



Source: European Centre for the Development of Vocational Training, 2017c, p.3

IV.c.(i) Management and strategic objectives of VET in the United Kingdom

The institutional set-up of the VET system is quite complex due to the nature of government in the UK. For each of the four constituent countries there is a different body that is responsible for VET policies. Namely, these are the Department for Education (DfE) in England; the Department of Education and the Department for the Economy in Northern Ireland, the Welsh Government's Department for Education and Public Services and Department for Economy, Skills and Infrastructure in Wales and the Department of Learning and the Department of Lifelong Learning of the Scottish Government in Scotland.

Each of the countries also has their respective own inspection and review bodies. These bodies hold responsibility for inspecting schools and further education colleges as well as assessing the effectiveness of the outcomes for learners, the quality of teaching, learning and assessment, and of leadership and management. In England, this responsibility lies with the Office for Standards in Education, Children's Services and Skills (Ofsted). In the other countries these are tasks for Education Scotland in Scotland, Estyn in Wales, and the Education and Training Inspectorate (ETI) in Northern Ireland. In addition, the Quality Assurance Agency (QAA) conducts quality reviews of higher education provided at UK further education (FE) colleges. This is done through Higher Education Review, which combines peer review, student involvement, as well as analysis of core and thematic elements (Abusland, 2018).

VET in the UK is provided in different kinds of institutions, including secondary schools, school sixth forms, sixth form colleges, FE colleges, higher education institutions, private providers and employers. This variety of providers make the control described above even more important. The VET qualifications are developed and awarded by independent awarding organisations that also issue the certificates. These organisations either offer a wide range of different qualifications, often general academic and vocational, or specialise on one specific area. This usually depends on the size of the organisation (European Centre for the Development of Vocational Training, 2017c).

Reviews and assessment lead to constant improvements and the government has been actively driving the further development of the VET system to ensure it matches the demands of the labour market. While improvements are important, they also come with the risk that employers are not aware of the value and relevance of different qualifications. This has been found to be true in research in the Wolf report (Abusland, 2018; Wolf, 2011). Based on this and other reviews, one of the most recent reforms is the introduction of T Levels. These will be new two-year courses, that will be offered starting in September 2020. Students will be able to enter them upon completing secondary education. Employers and businesses were heavily involved in developing these programmes to ensure that contents meet their needs and that the students graduating will have smooth transitions into the labour market. The T Levels take the form of a dual system, meaning that they will provide a mixture of training in the classroom and at a workplace. The on-the-job experience should last at least 315 hours or 45 days and enable the trainees to get insights into working life. Such programmes

will be offered in a wide range of 25 areas, for example accountancy, digital business services, hair, beauty and aesthetics, health, management and administration, and science.⁵ The ratio of classroom learning is what makes the T Levels different from apprenticeships, where the majority of training, around 80%, is provided on the job (Department for Education, 2019).

IV.c.(ii) Sectoral focus and skills matching of VET in the United Kingdom

VET qualifications exist in a wide variety of sectors in the UK, though the UK does not have a large number of regulated occupations. As such a specific sectoral focus cannot be identified. Programmes exist for a wide variety of occupations and equally employers have demands for VET skills in all sectors of the economy (Abusland, 2018; Cerna, 2013). However, the introduction of the new T Levels may indicate that there is a newly introduced focus on specific sectors in the UK VET system. In order to ensure that the training received in these new programmes match demands in the labour market, employers, training providers, and the DfE have been working jointly to develop each T Level. T Level panels have been established, where groups of employers work together to define the skills and requirements for each course. This way of developing the programmes was chosen to ensure that once they graduate from their T Levels the students have the technical knowledge and skills required by employers in that industry. As the programmes are introduced later this year, the content will be further revised in cooperation with the students, trainers and employers (Department for Education, 2019).

While employment levels in the UK are high, research has found that these statistics hide the fact that there is a mismatch between the skills offered by workers and those in demand by employers. More specifically, 40% of workers are not fully qualified for the occupation that they are engaged in. And these kinds of mismatches exist in two-thirds of the knowledge areas defined by the OECD and almost all workplace skills. A forecasting estimation indicates that this will remain a significant challenge in the UK and that in particular the issue of under-skilled labour force will increase by 2030 (Industrial Strategy Council, 2019).

More specifically, country certain work areas or knowledge domains show critical or mild surpluses or shortages of employees. The 2017 OECD evaluation indicates that the supply of knowledge is critically mismatched to the demand in knowledge areas such as computers and electronics and clerical work. There are milder shortages in a wide range of other sectors, including communications and media, telecommunication and building and construction. Mild surpluses are observed in the supply of workers in areas such sales and marketing, transportation, food production and mechanical work (OECD, 2017b). The knowledge areas highlighted in the table below are readily connected to VET training and suggest that the VET system may need to focus especially on those sectors with critical shortages.

5. For a full list please consult <https://www.gov.uk/government/publications/introduction-of-t-levels/introduction-of-t-levels>

Table 5: *Knowledge mismatches in the United Kingdom per sector*

Sector	Critical Shortage	Shortage	Surplus	Critical Surplus
Computers & electronics				
Communications & media				
Clerical				
Customer & personal service				
Engineering, mechanics & technology				
Sales & marketing				
Telecommunications				
Transportation				
Food production				
Building & construction				
Mechanical				

Source: Adapted from OECD (2017b) based on selection of VET-relevant sectors.

As in the other two countries, the supply-demand mismatches relate not only to technical knowledge areas but also to soft skills, basic skills and non-technical abilities. In its assessment of ability shortages and surpluses, the OECD (2017b) identified some ability areas where workers in the UK lacked the skills and abilities at highest demand on the labour market. Critical shortages were identified in areas such as verbal, reasoning and quantitative abilities. These are skills that are necessary to be able to acquire and work with verbal or mathematical information to support decision making and problem solving. In contrast, more workers than demanded offered physical abilities such as endurance and physical strength. Overall, the situation is like that in both Germany and Italy in so far that the areas of critical shortage and critical surplus suggest that workers better able to integrate information into complex problem solving would be at higher demand than workers with strong physical abilities. Such findings likely reflect the transition in the labour market away from manual tasks and toward automation-assisted tasks (OECD, 2017b).

Table 6: *Ability mismatches in the United Kingdom per ability*

Sector	Critical Shortage	Shortage	Surplus	Critical Surplus
Verbal abilities				
Reasoning abilities				
Quantitative abilities				
Fine manipulative abilities				
Spatial abilities				
Reaction time & speed abilities				
Control movement abilities				
Endurance				
Physical strength				
Flexibility, balance & coordination				

Source: Adapted from OECD (2017b) based on selection of abilities.

IV.c.(iii) Transferability and recognition of skills in the United Kingdom

Since the 1980s, attempts have been made in the United Kingdom to advance the recognition of qualifications (formal, non-formal and informal) and the system has been developing gradually since then (Cerna, 2013). Yet, the possibilities for getting skills that were obtained outside of the formal system are somewhat limited. Especially when it comes to accessing further and higher education based on such non-formal learning, transfer opportunities are limited. The process in place for this is the Recognition of Prior Learning (RPL). In England RPLs policies exist at the discretion of the awarding organisations. Furthermore, the National Institute of Adult Continuing Education (now the Learning and Work Institute) developed RARPA (Recognising and Recording Progress and Achievement in non-accredited learning) in order to provide possibilities for the recognition and validation of learning that does not lead to a formal award. RARPA includes a multi-step process for the assessment of learners abilities and achievements on an individual basis. In addition, the Quality Assurance Agency has a service called Employer Based Training Accreditation. This links employers to higher education institutions, monitors that quality and standards are met in the work-based training, and in some cases even links it to national qualification standards. These processes promote the recognition of informal training and therefore assists transition to the formal system (Abusland, 2018).

In Scotland, the Scottish Credit and Qualifications Framework contains guidelines regarding RPL as does the Credit and Qualifications Framework of Wales. In Northern Ireland, the Department for the Economy in Northern Ireland allows and encourages individuals with no or little formal training to transition to higher education based on accredited prior experiential learning. The Northern Ireland University and College

Accreditation of Prior Experiential Learning (APEL) Guidelines allow people to access higher education – especially Foundation degrees – based on vocational and experiential learning (Abusland, 2018). Regarding the recognition of skills obtained abroad, the UK National Recognition Information Centre (NARIC) works with the UK immigration authority to facilitate this. They provide recognition of formal qualifications from abroad and match it to the most appropriate level within the UK education system. NARIC is a private company specialised in matching overseas qualifications to the UK qualification frameworks. Once this matching is done, a Statement of Comparability is issued which is recognised by employers in the UK. In order to maintain the quality of this system and to develop it further, the advisory board of NARIC is comprised of representatives of businesses, education and recognition agencies (Cerna, 2013).

IV.c.(iv) Youth labour market activation and the United Kingdom VET system

There is a long tradition of ALMPs in the UK, generally with a focus on moving people out of unemployment. An especially important phase in this regard is the transition from school to work as decisions made at this point may impact lifelong career trajectories. As stated by the Authority of the House of Lords (2016): “Making a good transition into work can overcome earlier disadvantage. Making a bad transition can mean a lifetime of poverty” (p. 15). As in many countries, evidence shows that in the UK people with privileged backgrounds are the ones that have easier transitions, but education can make a difference here and impact opportunities in the future (Authority of the House of Lords, 2016).

The government has tried to enable social mobility for those from disadvantaged backgrounds and in doing so has focused on both providing them access to universities as well as apprenticeships. A concern in this regard is that while work-based learning and apprenticeships were a clear option for youth not choosing to go to university, this has changed. This is due to the fact that higher education expanded in a way that it replaced many of the traditional VET trajectories. As a result, the jobs are now not available to people without a university degree anymore (Authority of the House of Lords, 2016).

When it comes to unemployment, the UK Government has been implementing the Work and Health Programme since 2017. The programme is run by service providers and gives these the freedom to develop their own strategies to support the unemployed in finding work. Youth, aged between 18 and 24, is generally referred to this programme after claiming unemployment benefits (Jobseeker’s Allowance) for nine months, while for older individuals this happens after 12 months (European Commission, 2019).

There is a special initiative targeting the group of unemployed 18 to 24 year olds called the Work Experience scheme. This is specifically for those young people in the UK that have no or little previous work experience. The scheme places individual youth into a suitable workplace for two to eight weeks. The participants then work between 25 and 30 hours a week. Participation is voluntary and can be ended at any time. Employers do have the option to expand the placement for up to four weeks if they are willing to hire them as an apprentice following that (Dar, 2015). As such, this kind of ALMP forms a way into formal VET training to youth that did not successfully transition from school to work previously.

V. Conclusions

The vocational education and training (VET) systems in Egypt, Germany, Italy and the United Kingdom differ from each other in important ways that may shape how VET-trained Egyptian youth make the move from education/training to work. This paper reviewed the structures and objectives of the different VET systems in the four focus countries. The review of how the VET systems differ demonstrated that in each of the focus countries, the VET system does not fully align with the needs of the labour market. Disconnects between education and the labour market may lead to sometimes delayed absorption of graduates into (formal) employment. The staggered movement of graduates into employment offers both opportunities and potential risks for Egyptian youth wishing to enter the target EU labour markets with the skills and credentials gained in the Egyptian VET system.

The focus countries differ in important ways in terms of how the VET system is structured and prepares students to transition into the labour market. One of the important differences in this regard relates to the role of work-based learning in each VET system. Germany stands apart for having a truly dual training (dual-track) system in which students in VET programmes are exposed to potential employers through apprenticeship schemes. The apprenticeship system used in Germany ensures that students in VET programmes meet potential employers long before they need to make the movement into the labour market. The dual training system also requires students to practise the combination of professional and technical skills that are demanded by employers. One of the weaknesses identified in the VET systems of Egypt and Italy is that they provide insufficient opportunities for students to deepen their skills through work-based learning. In contrast to classroom-based learning, which often emphasises learning of concepts and principles, work-based learning requires application of ideas and skills in real-time environments. Different forms of work-based learning are used in the focus countries, which range from more intensive and immersive methods such as apprenticeships to forms of work-based learning that are actually offered in school settings, such as the “factory in school” method used in Egypt. Whereas Germany has the most intensive system of work-based learning that is mainstreamed throughout VET programmes, the work-based experiences in the other focus countries are more limited. In both Italy and the United Kingdom, more intensive work-based learning is planned under ongoing educational reforms, but it is unclear in how far the envisioned forms of work-based learning will allow students to deepen their acquired skills. The use of work-based learning methods are important to help students consolidate the skills they’ve learned, including those that are less explicitly trained in VET programmes.

Another important dimension of the VET systems analysed relates to the types of skill sets generated in VET programmes and demanded in the labour market. A common thread across the focus countries is that there are a range of skills and competencies expected by employers. These skills and competencies are not only technical in nature and specific to the sector of work but relate to broader employability skills. The broader skills demanded include general skills, such as literacy and numeracy. They also include professional skills that relate to the ability to problem solve, which importantly includes verbal skills, quantitative skills and reasoning skills. In Germany, Italy and the United Kingdom, these professional skills were generally assessed as being of critical shortage among workers. The absence of workers with these professional skills suggests that education across different levels, including VET, may not provide adequate training for the non-technical skills required across job functions and sectors. In contrast, physical skills – related to endurance, physical strength, and balance and coordination – were generally assessed as either being in surplus or in critical surplus in the three focus destination countries. The oversaturation of these skills in the labour market suggests that the jobs for which these skills are most relevant, such as construction, may not be in as much demand as would accommodate the supply of workers.

Indeed, analyses of the extent of knowledge mismatch in specific sectors or areas of work suggest that the VET systems in each country may not be training the knowledge of most critical demand. In Germany, Italy and the United Kingdom, specific work areas were assessed as having critical shortage of knowledgeable personnel to perform jobs. Across all three destination countries, there were two sectors or work areas that had critical knowledge shortages: computers and electronics, and clerical work. In Germany, additional areas of critical knowledge shortage were customer and personal services, and sales and marketing. In Italy, work related to engineering, mechanics and technology had experienced critical knowledge shortages (OECD, 2017b). The sectors experiencing critical skills shortages are generally those that require the skills noted above, such as verbal and quantitative skills. The absence of sufficiently-knowledgeable workers in these areas suggest that different levels of education, VET included, may not be appropriately responsive to labour market shifts and demands.

Vocational education and training systems face several challenges in responding to labour market needs, and supporting supply-demand matching is even more complicated when considering training of students locally for deployment in another country. Within the analysed VET systems, the curricula of programmes were generally updated through different feedback cycles, including with industry representatives. Despite mechanisms for updating curriculum being in place, however, VET programmes may not be sufficiently flexible to meet evolving labour market needs. In Italy, for example, national VET programmes implemented in professional institutes were previously restricted to one of six programme areas, which were not always responsive to the needs of the regions in which the institutes were placed (OECD, 2017a). Indeed, in all of the destination countries there are some indications that VET programmes are not able to prepare workers for regional labour market demands. All of the focus countries have diversified economies and distinct regional differences in key sectors and occupations. The skill and knowledge mismatches vary across region, suggesting that sufficient support for the school-to-work transition entails understanding *which* specific labour market graduates are being trained for.

The characteristics of the VET systems in the four focus countries, and the skill-/knowledge supply and demand mismatches within them, suggest opportunities for mobile Egyptians wishing to work in the EU. The acute need for knowledgeable professionals in specific work areas like clerical work, computers and electronics, and customer and personal service (in Germany) or engineering, mechanics and technology (in Italy) suggests potential employment opportunities for Egyptian youth trained in these areas. The work areas that have experienced acute knowledge shortages now are generally those that will continue to grow, even amid transitions to automatisation.

For Egyptian youth to make the transition from education or training (in Egypt) to employment (in Germany, Italy or the UK), several important factors should be considered. A first important consideration relates to the quality of VET education that is delivered, particularly related to the non-technical skills that are implicitly or explicitly trained in VET programmes. Across both Egypt and the EU destination countries, critical shortages in basic skills (numeracy/literacy) and professional skills (e.g., verbal skills, quantitative skills) have been observed. These skills may need to be explicitly trained in classroom-based education and consolidated through some kind of work-based training. More experiential or work-based learning could help ensure that students have the chance to build both soft and technical skills demanded in specific areas of work, using the equipment and following the instructions and standards of particular industries. The generally low level of basic skills like literacy and numeracy across graduates of the Egyptian education system is particularly worrisome in this regard. Being able to read and understand industry-specific language – for example, safety instructions, or manuals for working with specific equipment – is an essential set of skills in most jobs. When reflecting on the work areas experiencing critical knowledge shortages in the focus destination countries, such as clerical work, skills related to language and numerical mastery seem key. For Egyptian migrant youth to capitalise on the knowledge and skills shortages in the EU, it is essential for the VET system in Egypt to support students to learn the technical and professional skills needed in specific sectors.

The VET system in Egypt trains students to work in a variety of occupations or professional areas, not all of which are relevant or demanded in the EU destination markets. The priorities of any national VET system are generally calibrated to local labour market needs. It is therefore unsurprising if the priority sectors for training highlighted in ambitious packages such as the TVET Egypt programme do not fully match with the priority sectors in the EU destination countries analysed. The VET system can be better aligned with the needs of specific migrant destination countries, but to do so, a different governance and policy framework would generally need to be in place. In other countries, bodies responsible for execution of labour migration policies and programmes generally play more central roles in supporting VET graduates to transition into foreign labour markets. In such cases, the VET system is a small but essential part of labour training and deployment schemes. In the Egyptian context, it is unclear how the VET system is incorporated into labour migration policies and programmes. Given the inclusion of the Ministry of Immigration and Egyptian Expatriates Affairs and the Ministry of Manpower and Migration in the TVET Egypt programme, there is presumably some embeddedness of VET programmes in labour migration schemes. Nevertheless, it would be important to understand in more depth how the labour migration framework in Egypt incorporates different elements of the VET sector.

Other factors should be taken into account when considering how Egyptian migrant youth with VET credentials received in Egypt may be included in the EU labour markets. One of the important potential determinants relates to validation of VET credentials and the “transferability” of skills and knowledge across countries. While there are some frameworks for supporting migrants trained abroad to transition into both the (higher) educational system and labour markets in both the United Kingdom and Germany, it remains unclear how transferable skills and certifications are in reality. In 2012 Germany introduced a new Federal Recognition Act (Gesetz über die Feststellung der Gleichwertigkeit von Berufsqualifikationen) to support the recognition of skills/qualifications gained abroad. The Act, which facilitates the evaluation and recognition of both vocational and professional qualifications, was established to standardise procedures for recognition. Between 2012 and 2018, 2,424 requests for skill recognition were made by people who received their training in Egypt (Bundesministeriums für Bildung und Forschung, 2019). Unfortunately the limited data available on recognition applications under the Act does not provide sufficient insight into the portability of credentials for applicants holding VET qualifications specifically. There have also not been evaluations of how well the Act supports recognition of skills from people trained abroad. To understand how well VET qualifications in Egypt enable young Egyptians to work in the German labour market, it would be helpful to understand how well the recognition framework functions for people trained in different sectors, in different types of VET institutions, and in VET programmes with different curricula.

Understanding the potential labour market opportunities for graduates of the Egyptian VET sector is also challenged by missing or incomplete data/literature on important elements of the German, Italian and UK labour markets. As mentioned throughout this paper, information on the school-to-work transition is not always explicit to the experiences of VET graduates. There is limited information available on skill matching per industry according to educational level or qualification. The information available on both skill and knowledge mismatch is generally not disaggregated by type of education, which makes it difficult to determine if graduates of VET are more or less able to make a successful school-to-work transition than graduates of other forms of education. There is a similar lack of information on the sectors for which VET graduates are best or least-well matched in terms of skill and knowledge. Having such information would help identify areas in which VET programmes are systematically sufficiently or insufficiently building required skills. As noted above, there is also very limited information available on how individuals who have received VET certifications abroad can use their credentials in specific labour markets. The frameworks for recognising foreign-earned qualifications in both the United Kingdom and Germany offer important supports for Egyptian VET graduates. Nevertheless, information is sparse on how VET qualifications gained elsewhere “translate” into employment opportunities in other countries. Recognition of qualifications is just one element that will determine how foreign-earned certifications are valued on the local labour market. Other factors, such as work-based learning opportunities and the professional skills they build, may lead qualifications in one VET system to be valued differently in other labour markets.

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