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Organization

ILO background paper

► TVET Mapping: Social Partners

For the study on

Enhancing skills linkages to the productive sectors in Africa

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► 1. Introduction

1.1 Overview

This report presents insights into relationships between technical and vocational education and training (TVET) and the productive sectors in Africa. The report has two components. The first is a review of published literature providing insights into aspects of these relationships on the continent. The second is an analysis of three surveys of groups that are regarded as key social partners in building successful TVET systems—employer and workers' organizations as well as employers directly.

The surveys aimed to obtain their views on TVET in hiring and training, and to understand their involvement in the formal TVET systems in their countries. The survey analysis reports on responses from 38 employer associations, 19 union federation responses, 17 individual union responses, and responses from 128 companies. The research was conducted with a view to developing insights to inform strategic recommendations for strengthening linkages of TVET systems with the productive sector and the world of work in Africa. Further, there has been considerable emphasis placed on the need to involve employers in TVET in order to ensure its relevance and enhance its impact. This research sought to explore these relationships with a view to both strengthening and reconceptualizing these relationships. Providing evidence-based analysis of the status of TVET in Africa, and its linkage with industry can feed into policy regulatory frameworks and strategic recommendations in strengthening the linkage of TVET systems with the productive sector and the world of work in Africa.

The review of published research, reported in Section 2, was conducted in view of the difficulties of gathering continent-wide data, as well as the importance of building on existing research. The review considers the role and place of TVET in relation to the productive sectors of economies, as well as in the broader context of African education systems. TVET in Africa remains contentious in both regards. The review confirms that although selective and small scale importing of skills can be seen in many African countries, in general the main challenges seem to be more on the demand side than on the supply side. Policies that have attempted to make TVET more demand-led may have failed partially because of lack of demand, and partially because they have insufficient focus on the need to build and support the weak institutional base of TVET provision.

What is also clear is that the research base itself is small and patchy. McGrath et al (2019) argue that much research in this area is based on inadequate theorization of the role of TVET in development, and fails to account for 'political economy histories emerging out of colonial regimes that shape both what is present and what is absent in VET policies and debates' (p. 2). The limitations of the literature are worrying because many interventions in the area of skills and TVET are based on assumptions and aspirations, and in many cases they are not particularly successful. It is crucial, therefore, to strengthen the research base, in order to design more effective interventions, and it is hoped that this study will play a role in this regard.

Section 3 reports on findings from the surveys, which aimed to address some gaps identified in the overview of research. In specific, the surveys aimed to provide insights into the views of key stakeholders in the productive sectors—employers, unions, union federations, and employer associations—about their views on TVET systems in their countries and on the degree and nature of their involvement in these systems. This includes insights into the nature of training in companies—whether they train new entrants/existing employees, what kind of training they conduct, and the extent of their training, whether it is formalized at all (against any kind of credential or formal curriculum), and if so, in what ways. Further, the surveys aimed to develop insight into which companies are conducting what kinds of training—formal, non-formal, and informal—and what those who do not train saw as constraints. These factors were considered in relation to the size of companies and the extent to which they are part of a global value chain or focus on exports.

We also wanted to obtain insights into the extent of relationships with TVET providers in terms of providing training. Insight into hiring patterns and how qualifications are used can also offer insights into perceptions of TVET and relationships with the TVET system. For example, while companies might state that they formally value TVET qualifications, at the point of hiring they may seek candidates with high school or university qualifications, or vice versa. They may primarily value only company specific training, or there may be some specific formal TVET programmes that are actually valued. Other factors that were considered in the surveys related to the ways in which, and extent to which, skills are perceived to be—or not—integrated into economic development policies, industrial policies, or sectoral trajectories, and importance of skills and training for unions and collective bargaining.

The findings challenge some aspects of the established research findings on TVET linkages in Africa, and in others, gives more fine-grained insights into aspects that are raised in the literature.

In terms of formal involvement in TVET systems, the findings are indicative of many remaining challenges. Many African countries have created, or are creating, formal structures and systems for stakeholder involvement in different aspects of policy. Social partners report in the surveys that they are involved in the development of national policy, as well as, to a lesser extent, governance of TVET systems, skills anticipation, and the development of occupational standards. Employer associations and companies report involvement in assessment of trainees. However, in the open-ended comments, there is an overwhelming sense that substantive partnerships are absent and particularly those that focus on provision. What is interesting and important to attempt to gain more insight into is why involvement is not valued at all levels and why the general perception of VET being weak still persists.

One point that is clear is that involvement gets weaker in areas that are closer to provision—in terms of partnerships for provision of formal programmes as well as areas such as curriculum design. This corroborates findings from previous research that suggests that partnerships for provision is a weak point. It perhaps explains why involvement, collaboration, and partnerships are formally present but not seen as effective—particularly if relationships with colleges are weak. It also does not bode well for something highlighted as a challenge by respondents to this survey and elsewhere in the literature: that theoretical

training and practical experience in workplaces are poorly integrated. One partial exception to this is that many employers suggest that they are involved in assessment. Notwithstanding this, finding ways of building more meaningful partnerships between providers and employers, that builds on, and balances, the training which is happening in companies, is a key challenge for policy makers and development partners in Africa.

The research suggests, in summary, that while national level partnerships and engagement do seem to exist in many countries, what is missing is far more targeted engagement, and support to companies, providers, and unions in building far more targeted and specific partnerships, particularly with regard to provision. There is a need for policy interventions focused on supporting companies to engage with providers for specific programmes, as well as supporting companies, industry bodies, and ministries involved in industrial policy and sectoral economic development to integrate skills into their policies and interventions. This should include a focus on financial levers. Further, clearly, a major challenge and therefore suggested focus for policy interventions is improving data systems, and gathering comparative data, even within countries. What also needs consideration is the role of the state in shaping skills formation in line with economic development priorities. As such, a focus on economic development policies and industrial policies, and ways in which skills are or are not integrated into them, is an area that needs more research.

The companies that responded to the survey suggest TVET qualifications are a significant consideration for hiring; this was unexpected in relation to existing research. The finding could reflect the nature of the companies which self-selected into answering the survey, as the number is small and cannot be considered anything other than anecdotal. Nonetheless, it offers some more hopeful perspectives about employer-perception of TVET, in relation to the usual litany of woes. Further, and even more interesting, the companies rate TVET qualifications as important when introducing new technology, as well as perceiving TVET training as making staff more productive and easier to train. This contradicts the wide-spread view that TVET systems in African countries are viewed as irrelevant and out-of-date, although critical comments were also received along these lines. It also reinforces the need for better tracer systems for TVET graduates, as well as for company interviews, to gain more insight into which TVET graduates are hired as well as where they are hired and in what kinds of jobs.

With respect to training for employees, we found that while employer associations perceive that formal training is prioritized for employees, this is not confirmed by companies. What is clear from the literature is that we know very little about the relationship between formal and on-the-job training and how these reinforce each other—or could do so more effectively. It is interesting that the vast majority of companies report that they do conduct training, but also that a majority report that they are not involved in TVET provision—suggesting that companies see the training they provide as completely separate from the TVET system.

Ideally, what is required is starting to shift to a more integrated picture. Research suggests that where employers take training seriously, they combine different kinds of training, in ways that complement each other. However, policy and funding mechanisms often look at individual interventions, and do not see them as part of a bigger picture. This can aggravate weaknesses of TVET provision—because it is not integrated into a bigger package of vocational skills development.

Solving these challenges requires policies that are highly specific to different industrial sectors. And yet, the findings of this research point to rather superficial links between skills and industrial policy and development. It is in sectoral economic strategy that more nuanced skills policies can be developed. The overview of research also notes that even less is known about how skills is used in sectors that are not formal—which this research does not touch on.

The weakest involvement is seen from the unions and union federations—even to the extent that we struggled to get a reasonable number of union federations to complete the survey. Union respondents also report the least involvement in the formal systems. We did not ask unions questions about their skills policies, and the ways in which they engage with skills issues in collective bargaining, which would be of interest and could be pursued in future research. However, the weakness and fragmentation of unions in many countries will inevitably mean that involvement continues to be weak.

1.2 Research methods

The review of research was conducted in the following manner: We conducted keyword searches for combinations of the terms, technical and vocational education and training, skills programmes, skills development, industrialization/industrial development/industry, employer engagement, and Africa. We also did direct searches through the main journals which publish on either technical and vocational education and training or, on education and development, to look for articles that may not have come up with keyword searches. What is stark is that the body of peer-reviewed literature is limited.

McGrath et al (2019) show that aside from a small body of political economy-focused research, most research has either focused on curriculum and knowledge, or has been mainly aspirational or normative in nature, with ideas of what TVET could or should do for individuals, communities, and economies. Much of the educational literature considers formal provision, although there is a considerable body of literature on informal apprenticeships, particularly in West Africa. There is patchy literature on other informal skills interventions, outside of economics literature considering randomized controlled trials, often linked to skills programmes coupled with cash transfers. Because of the limitations of the literature, some grey literature is also included in the review. While this literature is not the same as peer-reviewed research findings, it does provide some descriptive information about what is happening in different countries, and has therefore been consulted to add to the picture of what is known. Studies focused on individual countries only were, in the main, not considered as part of this review, unless they exemplified an issue that is of broader relevance.

Based on the analysis of the review of published research, three focused surveys were designed. These were administered in only two languages—English and French. The surveys aimed to obtain information from employer associations, union federations, companies, and trade unions in African countries, with a view to obtaining their perspectives on linkages between technical and vocational education and training and the productive sectors.

The surveys aimed to explore the notion of linkages between TVET and social partners from a broad perspective. While the surveys included a number of questions on formal relationships and formal collaboration with structures, systems, and policies, they also tested, for example, employer perceptions of TVET, use of TVET qualifications in hiring decisions, and the nature of training taking place in companies. This is important because, for example, employers or employer associations might be involved in national TVET and skills policy, but still not hire graduates from TVET institutions. We also asked specific questions to the different groups. We asked the most questions related to use of TVET and perceptions of TVET qualifications to companies, for example. We asked unions and union federations about whether training benefits employees.

Given the anticipation of difficulties in getting responses, we had to keep the surveys as short as possible—which meant that we did not exactly reproduce all the questions to all respondents; some had sections and questions which were not administered to others. Open ended questions were kept to a bare minimum. The surveys are available on request, as are the data sets. To supplement the survey findings on the relationship between industrial policy and skills policy, a brief document review was conducted.

The surveys were administered through the ILO offices in various African countries, directly to two of the three constituents of the ILO—employer associations and union federations. It was hoped that this relationship would increase response rate to the survey, and in the case of employer associations it seems to have done so. Additional emails were sent to unions in some countries, which increased response rates.

In terms of the company survey, employer associations were requested to send it to their members. It was anticipated that response rate would be very low. The surveys were therefore designed to capture some key characteristics of the organizations responding, in order to ensure meaningful analysis of an unrepresentative sample.

The surveys were designed on RedCap, and administered online. Participants were informed that there is no potential disadvantage to them from participating in the survey. Informed consent was obtained through the survey. Confidentiality and anonymity is guaranteed for all participants. Participant's names cannot be obtained in the online survey, nor was any information linking them to specific companies or organizations obtained through the survey.

After cleaning the data set for highly incomplete responses, we obtained responses from 38 employer associations from 31 countries. 22 were from 18 English-speaking countries, and 17 from employer associations in 13 French and Portuguese speaking countries. This is a fair coverage—more than half of African countries. In some countries we got responses from more than one employer association. We also got responses from 4 sectoral employer associations, one in accommodation and food services, one in manufacturing, one in finance, and one listed as 'other'. We analyze all employer associations together, given the small number of responses from sectoral organizations.

The countries we obtained responses for are: Algeria, Angola, Bénin, Burkina Faso, Burundi, Cabo Verde, Côte d'Ivoire, Egypt, Equatorial Guinea, Eswatini (formerly Swaziland), Ethiopia (2), Gambia, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi (3), Mali (2), Nigeria (2), Rwanda, Sao Tomé et Príncipe, Sénégal, Seychelles, Sierra Leone, Somalia, South Africa, Tanzania, Togo (2), Uganda, Zimbabwe.

In terms of union federations, we got responses from 17 federations from 12 countries. The countries we obtained responses for are: Burundi, Cameroon (3), Ethiopia, Ghana (2), Lesotho, Malawi (2), Namibia, South Africa, South Sudan (2), Sudan, Uganda (1), Zambia (2), Zimbabwe. We only obtained responses from one French-speaking country, Cameroon, where we received responses from two federations which were almost identical, and possibly from the same organization, so only one record has been included in the analysis. We also obtained 3 responses from English-speaking federations in Cameroon; one was discarded as mainly incomplete. Nonetheless, the response rate is indicative of interest and activity on the union side in that country—where there was no response from employer associations. Namibia, South Sudan and Sudan, and Zambia are other countries where we obtained responses from union federations but not employer associations.

The lower response rate from union federations—under a quarter of African countries—was, unfortunately, expected. In general unions and union federations are not very strong in Africa, and are not very involved in TVET. We treat these responses as less robust than those from employer associations, but nonetheless consider them in places, as they do offer some interesting insights. We report 17 responses, given the incomplete ones mentioned.

We also received responses from 17 individual unions, in 5 countries—Ghana, Lesotho, Liberia, South Africa, Zimbabwe. The majority—8 responses—were from South Africa. These individual union responses are discussed in places in the report as anecdotal insights, given the small numbers.

In terms of individual companies, we received 128 responses. While this is tiny relative to companies in Africa, it is still a reasonable number to make some anecdotal observations, particularly in relation to the location of companies, as well as other company characteristics such as size and growth trajectory. Given that companies represent a self-selected group, it is important to note some key characteristics of the companies who responded:

- In terms of company size, the largest group are very large and medium companies: there are 39 responses from companies with over 250 employees, and 38 from companies with between 50 and 11 employees. Surprisingly, there are 29 responses from small companies (fewer than 10 employees), and only 22 from medium sized companies (between 51 and 249 employees).
- In terms of the growth trajectory of the labour force, 68 had growing workforces prior to COVID; only 22 since COVID. 28 report stable workforces prior to COVID, while 46 have been stable since COVID. 28 companies report that their labour force was shrinking prior to COVID, and 57 since COVID.
- The largest number of companies are in manufacturing (30), with 14 in agriculture, and the rest scattered across the sectors.

Countries with the largest number of company responses are Kenya (24), Mali (18), Ghana (23), South Africa (16), and Uganda (14). There are seven responses from Liberia, six from Togo and Cabo Verde, and five from Burundi. Then there are four responses from Tanzania, three each from Burkina Faso, Rwanda, Senegal, and Zimbabwe; two each from Cameroon, Ethiopia, Guinea, Malawi, Nigeria, and Zambia; and one each from Benin, Eswatini, the Gambia, Mozambique, Sierra Leone, and Tunisia.

We mainly present findings with actual numbers instead of percentages, due to small numbers of missing responses in different categories, and due to the small numbers of some groups of respondents; where percentages are used we report numbers as well wherever possible. We separate responses from French and English-speaking countries only where there appear to be some significant differences.

► 2. Literature review: TVET and linkage to productive sectors in Africa

This review provides an overview of insights from recently published, peer-reviewed literature on TVET on the African continent, with a focus on relationships to productive sectors¹. We start with a consideration of some of the major factors shaping what is conventionally understood as the 'supply' of workers to workplaces and labour markets, as well as economic and labour market dynamics that are seen as shaping the 'demand' for skilled workers. We then consider research on areas in which TVET relates to productive sectors of economies: systems for engagement with employers on skills needs; systems for engagement with employers on standards, qualifications, curricula and assessment; partnerships for provision of training; aspects of skills development incorporated into economic development strategies. There is then a brief analysis of the literature on TVET institutions, strategies, priorities, and policy frameworks, as well as financing arrangements. We conclude with a brief consideration of success factors for TVET on the continent.

The review uses the term TVET² to refer to formal provision of secondary level education and training aimed at preparing learners for work in what are generally regarded as mid-level skills occupations (Oliver et al., 2019). TVET sometimes includes a year or two of post-secondary provision, but excludes degree-level professional education. The review considers TVET as well as other vocational skills development programmes, including short-course course provision, on-the-job training, and informal training.

2.1 Employer roles, and sectoral and national engagement with productive sectors

Employers play a major role in shaping formal TVET as well as the nature of skill formation systems more broadly. Issues here include the role of employers in financing skills development; if and how employers play a role in determining national skills needs; the roles of employers in shaping qualifications or occupational standards, as well as curricula and assessment; partnerships for provision of TVET and vocational skills development; and strategies to strengthen production knowledge. There is very little published research on any of these issues in Africa. Three aspects are briefly considered here. The first is formal structures for engagement. These mainly include sector skills bodies, but some countries also have national structures like human resource development councils. The second aspect is systems for skills anticipation, including reform of qualification systems, competence-based training systems, and the introduction of qualifications frameworks. The third is formal partnerships.

¹ For an overview of historical literature see King (2020) and McGrath *et al* (2019), and see King and Palmer (2010) for an overview of the history of development aid and TVET which has considerable analysis of Africa.

² See King (2020) for an overview of shifts in terminology, from industrial education, to technical and vocational education, to skills development, and somethings, technical and vocational skills development.

2.1.1. Formal engagement and skills anticipation structures

There are various initiatives to attempt to formalize and facilitate the involvement of social partners in education and training. For example, Senegal has a law that formalizes the participation of the social partners in TVET, leading to a number of formal structures with social partner representation (Ministère de la Formation Professionnelle, de l'Apprentissage et de l'Artisanat, 2018; Loi Portant Loi 'orientation de La Formation Professionnelle et Technique., 2014). Botswana and South Africa both have Human Resource Development Councils; South Africa's body has been the subject of critical evaluation and research (Allais et al., 2017; Human Resource Development Council of South Africa, 2014; Kraak, 2008b).

A number of countries have developed sector skills bodies, usually called sector skills councils, sometimes industry skills councils, as structures that are created for engagement between stakeholders, with a key role for employers. Formally, these structures are intended to bring the world of work and the world of education and training together. In some instances, they are seen as structures that advise government and education and training providers; in others they are seen as structures to oversee the development of qualifications and occupational standards; and sometimes they play a quality assurance role. Sectoral skills bodies are usually created as autonomous bodies overseen by a government structure of ministry, and with an official remit created through legislation or regulation (ILO, 2021). They have become a focus of policy attention in many countries, because it is believed that they can ensure industry involvement in TVET systems and policies, to ensure greater responsiveness and relevance to employers' needs.

In Africa, countries that have such structures or are in the process of establishing such structures include Ethiopia, the Gambia, Ghana, Kenya, Mozambique, South Africa, and Tanzania (ILO, 2021). They are usually set up through a skills levy, which is discussed further below in the section on financing. They usually have governance structures that consist of representatives from employer and worker organizations as well as government, but some (the Gambia, Ghana, South Africa) have representation from additional constituencies as well (ILO, 2021).

In South Africa they are called Sectoral Education and Training Authorities (SETAs), and were created for all sectors of the economy. They have been in existence for over twenty years (Akoojee et al., 2005; Allais, 2013; Kraak, 2004, 2008a), and have been the subject of considerable evaluation, contestation, and debate, as well as a Ministerial Review (DHET, 2012; Mzalabazo and REAL, 2018; Singizi Consulting, 2007). They have changed over time in terms of remit and configuration and sectoral demarcation, and have been reduced from an original 33 to now 21 (Department of Higher Education and Training, 2012). They do not play a direct role in the development of standards or in quality assurance; they develop sectoral skills plans based on research and data supplied by employers, and fund training interventions based on these. The data which employers supply to SETAs on workplace skills needs are a major part of the data that feeds into sectoral and national skills anticipation systems in South Africa, albeit with very uneven and much criticized results (Allais et al., 2017; Allais & Marock, 2020; Reddy et al., 2016; Singizi, 2020). The same applies to the broader institutional architecture—South Africa has a large number of formal structures for engagement with social partners, but limited results (Centre for Researching Education and Labour, 2021).

The other African countries mentioned above have started with smaller numbers of bodies in targeted sectors, and they have been created much more recently. There is less published research on structures in these countries, whether commissioned evaluations or peer reviewed research, and much of the information below comes from grey literature and policy documents.

In Ethiopia, Sector Skills Councils have been established in the textile & garment and agro-processing sectors with the support of the Federal TVET Agency, following a 2019 National Plan for Job Creation 2020-2025 which called for such structures to be created in targeted sectors of economic activity. They have undertaken sector studies to identify the skills needs of the industry and allow the member to exchange and share their views and experience on skills development issues. According to an ILO (2021) report, these bodies are aligned to a lead industry association; to-date, sectoral analysis has been conducted using a mix of qualitative and quantitative methods to review the trends and needs of the sectors. Similarly in the Gambia, pilot Sector Skills Councils have been established in the ICT, agro-processing, and construction sectors, following the adoption of a 2019 Technical and Vocational Education and Training (TVET) Roadmap for 2020-2024. The intention is for them to provide a platform for employers to feed their training needs into the education and training system, and to support initiatives to address these training needs. According to the ILO (2021), they have a remit to develop occupational or competency standards, and have worked with the quality assurance agency to formalise apprenticeships and encourage more structured workbased training. Most work has happened in the Construction body.

In Tanzania, six sector skills councils were created in 2019, although their roles need to be more clearly defined and delineated (Singizi, 2021, p. 20). The four key areas which have been identified are identifying skills needs and skills planning; training and curriculum review; sectoral coordination; and policy development, lobbying, and advocacy.

In Ghana the body in charge of TVET, the Council for Vocational Education and Training, has initiated the development of sector skills bodies in targeted sectors; initially, construction, agriculture, hospitality and tourism sectors (ILO, 2021). In Kenya some sectors have bodies that manage and distribute levy funds, but there are also sector skills bodies that are solely responsible for the development of occupational standards (ILO, 2021). Referred to as “Les Branches Professionnelles”, the Ivory Coast has similar structures, involving the participation of social partners, also supported by a legal instrument³. Botswana has Human Resource Development Committees which operate under the national council mentioned above. They are supposed to be chaired by key employers in sectors, and include representatives from workers and other stakeholders, such as representatives from the informal sector. They are supposed to develop sector plans containing information about skills shortages and occupations where demand for skilled workers is expected to be high (ILO, 2021). Powell (2015) argues that their location under the national council supports coordination in planning.

³ Projet d'Arrêté interministériel N°2018/SEETFP/MEF/SEBPE portant organisation et fonctionnement des branches professionnelles en matière de formation professionnelle et technique

Outside of South Africa, there is little evidence which roles are being effectively fulfilled by these sectoral skills councils or national coordinating structures as yet, partly because many of these structures are very new. Ongoing employer engagement is clearly a problem, as is finding the right level at which to involve employers; another problem occurs where governments select employer representatives, as Powell (2015) argues was the case in the attempts to build formal representative structures in Mozambique.

2.1.2. Qualifications reform

The role of employers in shaping qualifications, occupational standards, curricula and assessment mainly emerges in competence-based training reforms, usually linked to vocational or national qualifications frameworks, sometimes overseen by the sectoral bodies discussed above.

A recent evaluation of competence-based training in seven African countries found widespread support for the approach, although difficulties with implementation (UNESCO, IIEP and IFEF, 2020). The evaluation argues that most francophone African countries have reformed their TVET systems using a competence-based training model, with an extensive role for donors and international organizations; a strong role for these organizations is also noted in anglophone countries that have adopted this model.

The country described by the evaluation as the most advanced is Ethiopia, where competence-based training was introduced from the start of the 2000s, and intensively implemented from 2005-2006 onwards. The Unesco, IIEP and IFEP evaluation describes the biggest achievements as establishing a strong public-private partnership and the development of 675 occupational standards. Rwanda is also described as successful at implementing competence-based training across their TVET system, although only starting in 2015, and focused to-date on understanding employment needs and developing occupational standards. Senegal is described as experimenting for many years, officially adopting the approach in 2015, but only starting to implement it very recently. Ghana, according to the evaluation, has established public-private partnerships to develop occupational standards, but so far only has involved a small number of TVET institutions and mainly lower level qualifications. Benin has piloted a competence-based training approach in the craft sector, focused on informal or traditional apprenticeships. In Morocco, according to the evaluation, competence-based training has been implemented across the TVET system. Finally, in South Africa, the evaluation argues that only two types of training have used competence-based training. This is somewhat misleading, given that the reform of qualifications introduced in 1995 in South Africa attempted and failed to use this approach to the whole system (Allais, 2007b, 2011; Gamble, 2020).

The evaluation (UNESCO, IIEP and IFEF, 2020) found, in common with much research literature in this area, that with a few rare exceptions such as in the upgrading of the traditional apprenticeship in Benin, private sector presence was limited. While partnerships with employers are seen as one of the key benefits of competence-based training, the study found little involvement, with a few exceptions, mainly involved in engineering and in taking in trainees or trainers for upgrading. It also points to a gap between legislation and policy and actual implementation.

The evaluation did not extend to investigating actual changes to pedagogy, curricula, and assessment, nor to an analysis of whether the implementation of competence-based training had actually improved the fit between education programmes and workplaces.

Competence-based reforms of secondary school curricula are also evident in many countries (Mastercard Foundation, 2020). While a new wave of competence-based reforms is currently in evidence, many countries all over the continent have engaged in similar reforms for ten or twenty years already (African Union, 2020). Evaluation of the extent to which they have improved relations with employers, employment of graduates, or even changed pedagogy, curriculum, and assessment is lacking (Fleisch et al., 2019).

Linked to competence-based training initiatives is the introduction of qualifications frameworks, for TVET or for entire education and training systems. A recent report commissioned by the AU (African Union, 2020) provides an overview of the development of qualifications frameworks: out of the 40 countries examined, 17 had approved national qualifications frameworks; 10 were engaged in consultation and initial development of design and policies; 10 had started planning the development of qualifications frameworks; and three had started the first steps of reflection and analysis towards NQF.

The majority of qualifications frameworks that are to some extent operational were found in southern Africa. In the north, Egypt, Morocco, and Tunisia have had legally established frameworks for some time and are working on implementation structures and registers of qualifications. In west Africa the situation seems to be more diverse. Of course, like all countries, all African countries have qualifications systems, including systems for developing qualifications, for cataloging qualifications, and for relating qualifications to each other. So, for example, west African countries have established systems such as the Licence Master Doctorat (LMD) system in higher education; this system is also found in central African countries such as Cameroon. This is an element of the higher education harmonization for the Francophone countries of West and Central Africa within their Council for Higher Education (CAMES). In terms of the move towards organizing them all into single national frameworks, and specifically the trend of doing this using learning outcomes or competencies, and attempts to engage employers in this process, that has emerged in the last 20 years. Ghana has an eight-level TVET framework and is engaging in the development of a comprehensive NQF. Cape Verde has a comprehensive national qualifications framework that has been in design and implementation for over ten years. Other west African countries, such as Sierra Leone and Guinea-Bissau, were found to be at early stages of their NQF development processes.

In east Africa, the Ethiopian qualifications framework has been in development since 2006 and was formally proclaimed in 2010, but it is unclear whether legislation has been enacted since the proclamation. In Kenya regulations for a qualifications framework have been developed and gazetted the Kenya National Qualifications Authority, and this body is in the process of developing occupational and training standards, with the hope that this will align qualifications to industry and employer needs. Rwanda adopted a qualifications framework for higher education in 2007, and is currently developing and implementing a single national qualifications framework. However, there is no published evidence on how this has proceeded to date.

There is very little published peer-reviewed research about national or regional qualifications frameworks in Africa, outside of South Africa where there is considerable research (Allais, 2003, 2007b, 2007a, 2011; Breier, 1998; French, 2005; Granville, 2004; Heitmann & Mummmenthey, 2009; Keevy, 2006; Lugg, 2007; Muller, 2004; Samson & Vally, 1996). There is some research in Botswana, Ethiopia, Mauritius, Namibia, and Tunisia (Allais, 2017; Marock, 2011; Tau & Modesto, 2011; Thorsen, 2014). Arias, Evans, and Santos (2019) argue that complex qualifications frameworks tend to overstretch administrative capacity, especially for TVET, and that it is important to avoid overinvesting in complex NQFs and certification systems. There is evidence, especially in South Africa, that outcomes-based qualifications framework has introduced an enormous amount of policy complexity, and a raft of new institutions in a context in which most institutions were weak. Even outside of Africa, where there is a stronger body of research, the evidence that qualifications frameworks have been successfully implemented, let alone that they have achieved the many goals policy makers have associated with them, is very limited; the research literature is mainly critical or very cautious (Allais, 2010, 2014, 2017, 2019; Bohlinger, 2007, 2012; Boudier, 2003; A. Brown, 2011; Gössling, 2015; Hupfer & Spöttl, 2014; Lassnigg, 2012; Lester, 2011; Méhaut & Winch, 2012; Pilcher et al., 2015; Raffe, 2003, 2011, 2013; Young, 2005).

2.1.3. Partnerships for provision and on-the-job training

Turning to the third area of engagement with employers, partnerships for provision, again peer-reviewed research with evidence of what has happened, and what works, and why, is hard to find, although, as Cramer, Sender, and Aqubay (2020) argue, there is in general very limited collaboration between TVET colleges and factories.

Formal apprenticeship systems are especially tiny—in general they are small fraction of the small formal TVET systems. According to Franz (2017), they are found mainly in Southern and Eastern Africa. And even these are very small. South Africa—noted by Franz as the country with the most extensive formal apprenticeship system on the continent—graduates fewer than 30 000 apprentices a year (von Maltitz, 2018); Egypt also has a relatively large system. Franz discusses Malawi and Ethiopia as exceptions, as in their formal TVET systems a form of apprenticeship training is described in policy as the default, or dominant form of formal TVET delivery. Numbers are still small in these countries: Franz (2017) discusses the fact that in Malawi apprenticeship training is in high demand, and points out that in 2015, more than 9,000 youth were reported to have applied for less than 1,300 apprenticeship places. Ethiopia is also seen as an exception because workplace experience is formally built into TVET provision, although in practice workplace experience does not appear to take the form of conventional apprenticeships, but rather simply some time in employment.

Franz (2017) provides an overview of workplace-based training interventions in specific countries, and provides a useful base to inform further research in this regard in relation to specific countries. She points out the rising popularity of apprenticeships, mainly found in small pilot projects backed by international organizations and donors. In terms of formal apprenticeship systems, she points out that they are weakly researched, especially compared to informal apprenticeships:

Generally, research and information on formal apprenticeship training in Africa is scarce, scant and sketchy, and there is no cross-country comparative research or system description. (Franz, 2017, p. 12)

She argues that where they do exist, apprenticeships are attractive to young people as they offer a rare chance to access formal workplaces. She also suggests that the involvement of employers is limited to training delivery in most African countries, and there are limited cases where employers assume a more influencing role in the system as a whole.

The main area that is researched in relation to training for the informal sector is informal apprenticeships, predominantly in West Africa as mentioned above, although also found in some other regions (Adams et al., 2013; Ahadzie, 2009; Billetoft, 2016; Darvas et al., 2017; H. Haan, 2002; H. C. Haan, 2006; ILO, 2012; OECD and ILO, 2019; Palmer, 2007, 2009; Walther & Filipiak, 2007). King (2014) argues that while informal training (including apprenticeships) does occur in the informal sectors of Eastern and Central Africa, it does not have the norms and legacies of west African models. There are other forms of informal training at the entry to work in the informal sector (Billetoft, 2016), but informal apprenticeship training is seen as the most important skills development system throughout Africa (Adams et al., 2013; Aggarwal et al., 2010; Hoffman & Okolo, 2014; McGrath et al., 2019; Nübler et al., 2009; Oketch, 2014; Palmer, 2007, 2009; Robertson, 2017). This is important given that informality is the reality for the vast bulk of people in Africa. As Fox, Senbet, and Simbanegavi (2016, p. 3) put it,

Given the large numbers of youth entering the labour market each year, and the weak structural transformation of most African economies, the informal sector will remain a major employer of youth, particularly the less skilled and less educated, for decades to come.

This form of training may be argued to be where skills training in Africa is the most directly related to the needs of workplaces. Ngatia and Rigolini (2019) argue that informal apprenticeships are the most widespread form of training in the informal sector, and that they cater to the poor as well as to young people with low educational attainment. What is also clear from the literature is that informal apprenticeships are very heterogenous, varying in length, contractual arrangements, quality of training, and costs. They mainly attract young people with low educational achievement—less than primary education in Cote d'Ivoire, Ghana, Rwanda, Sierra Leone, Tanzania and Uganda, primary education in Tanzania, and junior secondary education in Ghana (Filmer & Fox, 2014). Filmer and Fox argue that the fact that most entrants are relatively old given this level of education—around 21—suggests that this pathway is not a first choice. There is of course, wide variation in uptake—from 6% of young adults in Uganda to 35% in Ghana (Filmer & Fox, 2014).

They seldom contain an element of formal or school-based education (Ngatia & Rigolini, 2019). A debate in this regard has been ways of improving informal apprenticeships without forcing them to formalize and thereby lose their dynamism and relationship with work. Researchers caution against romanticizing informality, which is, as Fox, Senbet, and Simbanegavi (2016) argue, inversely correlated with income and levels of development. It is widely argued by development economists that industrialization is a crucial part of moving

economies into levels of productivity that reduce informality (Cramer et al., 2020). Also, the notion of informality is complex and contested. Kraemer-Mbula and Wunsch-Vincent (2016, p. 13) point out that Hans Singer, one of the fathers of the concept in the early 1970s, compared it to a giraffe: difficult to define by usual standards but easy to recognize when you meet one; however, Bruno Lautier (1990) countered that it is not a giraffe, but a unicorn, because ‘the literature abounds with definitions, but you will never actually encounter it, because it does not exist’. Certainly, as Cramer, Sender and Oqubay point out,

... the poorest people depend for their survival on access to wage labour opportunities—much of the problem results from the fact that such opportunities are often few and far between, and even when they are available the pay and conditions for the work involved are pitiful. (p. 10)

In other words, it is not the case that poor people are not in waged work, even if they also work in subsistence agriculture: ‘an overwhelming majority of the very poorest people have to work for wages—casually, seasonally—in order to survive’. Their poverty is exacerbated if the demand for wage labour in rural Africa is not sustained (Cramer et al., 2020, p. 11). Despite the complexity of debates about informality, researchers argue that it has not really been confronted in policy on TVET or education policy in general (Arias et al., 2019; Mastercard Foundation, 2020). Fox, Senbet, and Simbanegavi (2016, p. 5) continue point out that many countries

... lack a basic understanding of their labour market and youth employment prospects. This leads to a focus by governments and researchers on a narrow segment of employment where data are more widely available—formal wage employment. Yet this sector is not where most African youth in low-and middle-income countries work or will work.

While the problem is noted frequently, dealing with it in practice is clearly challenging. If TVET is really going to be demand-driven, it needs to be driven by the demands both the formal and informal economies, and the latter is where the vast majority of people work. A key issue here that needs further research is the success of the many projects that have been implemented around the continent to assess and certify workers’ skills (recognition of prior learning schemes, or Validation des Acquis d’Expérience). However, there is little peer reviewed research available showing the labour market outcomes of such schemes.

A significant and wide-spread form of non-formal provision is agricultural extension services, which aim to improve agricultural productivity. This is important as about 56% of Africa’s labour force is estimated to work in small scale agriculture (Arias et al., 2019). The share of employment in agriculture is still very high in most African countries, even in low and middle income countries, and is only low in upper middle income countries—where it has almost disappeared (Cramer et al., 2020). Most poor people in Africa, Cramer et al argue, will continue to live in rural areas for some time to come, and, they suggest that there is scope for agricultural production and processing to reap productivity and other gains previously associated with manufacturing. For these reasons, they argue that raising agricultural productivity will be a foundation for sustained economic development, and should be a priority for policy. From a skills perspective, the key issue has been agricultural extension programmes.

Internationally, researchers have argued that the knowledge required for industrial growth and development takes time to develop, and needs to be actively cultivated (Chang, 2003). Firms tend to upgrade after mastery of simply assembly operations. Oyelaran-Oyeyinka and McCormick (2007) and Kinyanjui and McCormick (2007) argue that the basic problem of African industry lies not in the investment climate (which can certainly be improved) or in gaining market access to rich countries but in low levels of industrial capabilities. Much research in Africa focused on this issue is concerned with the role of production knowledge cultivated through industrial clusters (El-Shahat, 2007; Hilsenrath & Pogue, 2017). Kiggundu (2007) argues that clustered firms can create collective efficiency, although this does not always occur. Mano et al (2012) argue that clusters often fail because of lack of managerial skills. Lall and Kraemer-Mbula (2005) analyse the ways in which firms shift from low- to high-return activities, and argue that research in this regard does not sufficiently explain what knowledge inputs and actors are critical at different upgrading stages and why, nor why each upgrading stage requires a different form of learning and pattern of collective action.

In terms of on-the-job training, Perotti (2019) provides an overview of the World Bank Enterprise Surveys, which reveals substantial heterogeneity across the continent, and, overall, a trend of slightly less on-the-job training than other parts of the world. Ngatia and Rigolini (2019) suggest that about 30 percent of formal sector firms in Sub-Saharan Africa provide training, compared with 35 percent in the rest of the world, with percentages varying from 9 percent in Sudan to 55 percent in Rwanda. In all regions, firms more likely to provide training are large firms, or firms that export. In sub-Saharan Africa 23 percent of smaller firms provide training, compared with 41 percent of medium firms and 52 percent of large firms. Similarly, 29 percent of companies that don't export provide training, compared to 41 percent of exporting firms.

The prevalence of training is also correlated with firms that see lack of skills as the main obstacle to their enterprise. Perotti (2019) confirms this general picture, and also suggests that firms with higher labour productivity are more likely to provide training; she also suggests, based on World Bank data, that firms generally focus more on skills when other problems have been addressed, and even in Africa firms in upper-middle income countries see skills as more of a challenge. This could, she suggests, mean an increased desire for skills in the future, but could also explain why partnerships between TVET providers and employers are difficult to establish. Using the most recent World Bank survey, Perotti (2019) suggests that currently slightly fewer firms than in other global regions rank a lack of skills as their primary obstacle:

On average, across all the 37 African economies, only 2.7 percent of firms rank skills as the top obstacle from a list of 15 elements of the business environment, compared to 3.4 percent in South Asia, 5.1 percent in the Middle East and North Africa, 5.8 percent in Europe and Central Asia, 10.2 percent in East Asia and the Pacific, 10.4 percent in the Latin America and Caribbean region, 13.5 percent in OECD high-income economies, and 13.7 percent in non-OECD high-income economies. (Perotti, 2019, p. 3)

Ngatia and Rigolini (2019) argue that there is scope for incentivizing training, as it seems as if on-the-job training is relatively limited. However, they also point out that the reasons for lack of training could be that firms are not using cutting-edge technology, and thus, training

the workforce without technology upgrades may lead to only limited productivity improvement. They point out that while there are poor data for very small firms, the available information suggests that such firms generally do little training; some reports suggest an exception in Burkina Faso and Togo. Similarly, on-the-job training in the informal sector seems to be much less prevalent, but again, data are weak. The public sector, a major employer in the formal sector, does not appear to offer much in the way of on-the-job training. Ngatia and Rigolini also point out that the available data do not offer the possibility of assessing quality or intensity of training.

There are many examples of small-scale interventions, often supported by donors and development agencies, that attempt to improve relationships for provision. For example, Adams (2010) examined the implementation of an apprenticeship programme in Egypt, and described it as an ‘island of excellence’ in a weak technical education system. He found that 86% of companies offered employment contracts to the graduates of the programme; 30% of the graduates were employed, while 40% continuing higher education, and 26% searching for work in the years after the programme, and employers were described as enthusiastic about its benefits. Another small scale-tracer study, this time in Sudan, found that many of the graduates in study were not employed in their field of study, although it also found many strengths of the institution under study (Amin et al., 2016).

2.2 Aspects of TVET relevant for thinking about relationships with productive sectors

2.2.1. Institutions: coordination and provision

One consistent message from the research literature is that systems for formal TVET are persistently small and weak, despite numerous reform attempts by governments and donor organizations (Allais, 2020b, 2020a; Arias et al., 2019; ICQN/TVSD, 2014; King, 2013; McGrath et al., 2019; Oketch, 2007, 2014; Walther & Boukary, 2016). Further, they are described as heterogenous and fragmented in most African countries (McKinsey & Company, 2012).

Santos, Alonso Soto, and Sosale (2019) confirm that in most of Africa TVET provision is fragmented and disconnected from labor market demands. Although some countries have invested in the development of greater access to technical and vocational training (South Africa, Morocco and Tunisia, for example), most still have training systems that cater for only a very small minority (between 1% and 6%) of the 15 to 24 year olds in education. (ICQN/TVSD, 2014). TVET enrolments are very low relative to academic secondary school enrolments, which in themselves are low in most countries. However, when school enrolments are disaggregated, higher vocational enrolments can be seen; for example, about 50% of school students in Egypt are doing technical secondary school, and South Africa has many broadly vocational subjects in its school curriculum.

Santos, Alonso Soto, and Sosale (2019) cite an average of 12.2% of students in upper-secondary education being enrolled in vocational programmes in sub-Saharan Africa in 2014, from 13.4% in 2010. In lower-secondary education, the share increased from 2.7% in 2010 to 3.1% in 2014. They point out that these averages hide significant differences across countries, and that countries like Angola and Cameroon have relatively large enrolments while in Kenya

or Mauritania they are tiny. Adams (2010) suggests that in Egypt: Approximately two-thirds of secondary students or about 1.8 million youths attended a technical secondary school, although this was of low quality and relevance with a weak payoff in the labor market, in a society segregated along class lines with small upper and middle classes and large lower middle classes, reinforcing a strong social bias against technical education. It is not clear, however, whether like and like are being compared. Data are very poor, and there are different terms and different understandings of TVET enrolments. Further, while international data sources on schooling differentiate between net and gross enrolments, TVET numbers tend to only reflect gross enrolments, and therefore look somewhat larger than they are relative to age cohorts (Allais, 2020a). This means that international sources like UIS give a very incomplete picture.

TVET takes different forms within and across countries, including different forms of provision under different ministries, including ministries of education, labour, agriculture, youth, trade and industry, and ministries related to social policy. UIS data generally reflects formal TVET located under ministries of education. This is why Palmer et al (2007, p. 10) caution that “what is classified as TVET in one country is not necessarily the same in another”.

Santos, Alonso Soto, and Sosale (2019) suggest that most formal TVET provision is aimed at young people finishing primary or lower-secondary education. Formal TVET generally takes one of four forms, which may all coexist in the same country, although sometimes the first and second do not coexist (Walther & Carton, 2017):

A technical or vocational stream within the formal secondary school system, offered either in separate technical high schools or in separate classes within secondary schools;

Vocational programmes offered in institutions which may be called vocational or further education colleges, industrial training institutes, vocational training institutes or centres, and similar, that are seen as at the level of senior secondary education and a year or two of education post-secondary;

Short term (and sometimes long term) courses for people who don't qualify for one of the two options above;

Tertiary level provision through universities and polytechnics.

Brown and Slater (2018) argue that many African countries are increasingly integrating vocational and technical content into both lower and upper secondary school curricula, in the belief that this will assist youth in workplaces. Many countries are attempting to reform their secondary school curricula with a view to preparation for work, including adopting competence-based reforms. An analysis of curriculum reform shows that most countries have attempted to implement or are implementing competence-based training, but there is no evidence of successful achievement in terms of either classroom practice or work readiness (Fleisch et al., 2019).

The duration of formal TVET programmes tends to be between three and six years. There is variation in the extent to which it is institutionally differentiated—for example, Santos, Alonso Soto, and Sosale (2019) describe the incorporation of basic vocational skills into the primary and lower secondary school curriculum in Burkina Faso, Liberia, and Mozambique; Oketch (2007) discusses attempts at early vocationalization in Ghana and Kenya. Many countries,

however, in practice track students into TVET at the level of senior secondary education. Tertiary TVET is a recent development, and the size of private for- and not-for-profit systems varies considerably and is weakly documented (McGrath et al., 2019).

Unesco⁴ confirms that TVET in sub-Saharan African countries show fairly similar patterns: in general, TVET officially starts from year 9 or 10. Many have TVET offerings parallel to both junior and senior secondary school, but some only parallel to senior secondary school. TVET may be integrated into compulsory schooling, or offered through elective subjects as part of schooling (eg Namibia, Nigeria), or, there may be separate institutions offering technical and vocational programmes at a senior secondary level (Kenya, South Africa). Arias, Evans, and Santos (2019) argue that the evidence is strongly against early specialization, as it comes at a cost of building the foundational skills that are key for work as well as further learning.

In general, TVET enrolments are highly gendered, and these differences matter for future earnings. Santos, Alonso Soto, and Sosale (2019) cite an example from Uganda (Campos et al., 2015) showing that women who enter male dominated sectors make as much as men, and three times more than women who stay in female-dominated sectors.

Santos, Alonso Soto, and Sosale (2019) suggest that the implementation of TVET strategies is made difficult by poor coordination and weak clarity of functions across different actors in the system. Arias, Evans, and Santos (2019, p. 1) make a similar point, arguing that 'Multiple agencies at the central and local levels are involved in skills development strategies, making skills "everyone's problem, but no one's responsibility.'" While some countries, including Malawi, Mauritius, South Africa, and Tanzania, have established coordinating bodies and autonomous agencies for oversight, legislation and agreements to ensure coordination may not always be operational. Santos, Alonso Soto, and Sosale also point out the existence of overlapping mandates, a point explored in relation to South Africa by Allais, Marock, and Ngcwangu (2017). Santos, Alonso Soto, and Sosale (2019) also suggest that both financing and accountability mechanisms are weak, and argue that unclear governance arrangements may hamper autonomy of public TVET providers. They further suggest that where there are semiautonomous national TVET governing bodies, they tend to lack adequate involvement of key stakeholders such as private businesses and nonstate TVET providers. Similarly, Arias, Evans, and Santos (2019) argue that while over the past decade many countries in sub-Saharan Africa have set up agencies to conduct quality assurance assessments and accreditation, the capacity of such agencies is limited.

McGrath et al (2019) point out that differences in provision systems are often linked to colonial legacies. King (2020) points out that colonial regimes targeted specific groups of people for vocational education, introducing stigmatized systems from very early on. He argues that while colonial curricula including their 'industrial education' components were often abandoned at independence, development agencies continued to push for some type of vocational education, resulting in a large number of different projects over the years, although the World Bank was seen as arguing against it in an influential report (World Bank, 1991).

⁴ <https://unevoc.unesco.org/go.php?q=World+TVET+Database> accessed 28th October 2019

The formal education and training system largely caters to wage employment in very small formal sectors (Arias et al., 2019). Formal provision of on-the-job training seems to be very low, although data are not available in many cases. A survey showed firms reporting training varying from 9 percent in Sudan to as high as 55 percent in Rwanda (Arias et al., 2019). On-the-job training in micro and small firms, often informal, is even more challenging. Arias, Evans, and Santos argue that there are multiple reasons for this, including infrastructure, the business environment, and governance.

There is significant non-formal provision of various types of vocational skills development delivered by public, private, or nongovernmental organizations (Adams et al., 2013). Walther and Filipiak (2007) conclude, from a survey of seven countries, that the vast majority of TVET provision may consist of on-the-job training, self-training, and informal apprenticeships. Ngatia and Rigolini (2019) describe a wide range of 'remedial' training programs supporting livelihoods and small-scale entrepreneurship, including public works with a training component supporting entrepreneurship in West Africa, comprehensive programs with a significant training and coaching component aimed at improving the productivity of the rural poor, and programs promoting small-scale entrepreneurship and improvements in the productivity of existing small-scale entrepreneurs. Some industries have training workshops, and some large companies run their own TVET centres, leading to internationally recognised certificates (Franz, 2017). Information on private provision is even more patchy than formal public provision (McGrath et al., 2019).

The full array of vocational skills development provision consists of a range of different types of provision: formal education institution-based TVET programmes offered by public institutions primarily, against a national qualification; dual or apprenticeship programmes, also offered against national qualification, with a (strong) workplace component and a (strong) education institution component; short or longer skills programmes that may lead to national credits or industry certification/recognition or company certification/recognition; orientation /induction programmes that provide an overall introduction to the workplace, including health and safety issues; informal on-the-job training on new technology; workplace-experience programmes/ internships for new entrants; general ongoing informal on-the-job training; training by supervisor or team member on new worktask. There is little research on the relationships between these different types of provision, although a recent paper on manufacturing industries in South Africa suggest that employers who take training seriously tend to look at a range of different types of provision in complementary ways (Allais et al., 2021).

There is little published research literature to-date on the impact of COVID on TVET and skills provision. An important exception is a recently published ILO and World Bank (2021) report, which provides an overview of international experiences, foregrounding how hard TVET was hit by the pandemic and lock downs. Other than this, at the time of writing there was a World Bank think piece (World Bank, 2020), which argues for the importance of agile and responsive TVET in economic recovery, and a paper in South Africa (Allais & Marock, 2020); no doubt more research will be emerging in the coming months and years.

2.2.2. Strategies and priorities

TVET is seen as both an important priority and a difficult challenge at a continental level. The African Union states that 'VET has to be sold as the magic instrument that converts youth into experts and entrepreneurs' (African Union, 2018, p. 39). A 2014 AU resolution adopted a continental Strategy⁵ that called on member states to enhance support and investment for TVET. Policy documents at a continental level express formal support for technical and vocational education and emphasize the need for technical skills in the economy; there are also many official descriptions of the weaknesses of TVET. In 2007 the AU described technical and vocational education in most African countries as weak, but at the same time suggested that promising reforms had recently been passed (African Union, 2007). Eleven years later, the AU (2018, p. 8) described African TVET systems as 'under-resourced' and 'obsolete' with 'damaged infrastructure' and 'inadequate inter-sectoral linkages'. The AU (2018) goes on to argue that 'In many countries, technical and vocational education is still considered by parents, the public at large and even some politicians as a domain for less academically gifted students' (p. 13) and that the 'poor quality and inefficiency of training has led to a situation where the labour market looks outside the country for skills' (p. 14). A study of TVET in the Southern African Development Community (SADC) found similarly that while countries placed significant emphasis on TVET in their official policy and public commitments, there are significant weaknesses in the systems (McGrath et al., 2013). Aggarwal and Gaskov (2013) argue that policy implementation is generally poor—suggesting that many policies that are seen as 'good' policy by policy makers are based on idealism and policy borrowing, and are not sufficiently focused on local context, especially risk factors and the challenges of implementation.

Arias, Evans, and Santos (2019) suggest that many countries in the region have or are in the process of developing frameworks and policies for apprenticeships and internship, with a view to enhancing the workplace experience of youths including university graduates. A large number of projects have attempted to improve TVET systems. Ngatia and Rigolini (2019) discuss development interventions aimed at informal apprenticeships since the 1980s (in Benin, Nigeria, Togo, and Zimbabwe) and which can now be found in many countries.

2.2.3. Financing arrangements

A consistent trend across the continent is that TVET systems receive a very small share of education budget allocations (Santos et al., 2019). It has frequently not been free, by contrast with higher education (although that is also starting to shift, and many countries now have a second layer of private higher education) (Arias et al., 2019). Current policies and institutional arrangements are not seen as providing stable funding, nor as fostering productive partnerships with the private sector, and aspects such as teacher training, facilities, equipment, and curricula development are in general underfinanced (Ngatia & Rigolini, 2019).

⁵ See <http://www.au.int/en/pressreleases/19702/african-union-heads-state-and-government-adopts-continental-education-strategy> (accessed: 20th September 2016)

A number of African countries have training levies outside of the fiscus, intended to incentivize training, and in some cases they are the main source of financing for TVET (Johanson, 2009; Ngatia & Rigolini, 2019; Palmer, 2020; Walther & Uhder, 2014). In some cases they are managed by independent or semi-independent structures with stakeholder representation—the sectoral skills councils discussed above, and Sectoral Education and Training Authorities in South Africa, but in others they simply finance the formal provision of TVET. For example, Ngatia and Rigolini (2019) argue that more than 80 percent of the provision of TVET in Tanzania is financed through their skills development levy.

A recent review of such levies in the SADC region, where such levies have been in existence for over 10 years in some countries, finds that they do not appear to be effective in terms of creating training incentives, and that there is limited evidence on the extent to which they have improved individual employability (Palmer, 2020). Monitoring and evaluation systems in the training funds were found to be weak. While there were some sectors in some countries in which levies were seen to be working to some extent, in general the study found that both employers and employees were not really benefiting from them. This could partially be linked to the fact that in some countries employers have limited control over the levies, due to limited participation in the boards and structures that control them. The study argues that in many cases, the systems are poorly designed, inefficiently managed and governed, poorly monitored and/or evaluated, and are frequently seen as simply an additional tax. In many cases surpluses were accumulated, suggesting that lack of funds is not the only problem for TVET systems—capacity to spend funds also appears limited.

COVID is likely to have a severe impact on these funds, as they are based mainly on payroll levels, or, in the case of Botswana, a levy based on company turnover—all of which will be negatively affected.

A slightly older survey of training funds in west and central African countries is even more negative (Walther & Uhder, 2014). It found that in 8 out of 11 cases, the national Treasury gets hold of the major part of the funds, leaving inadequate funds available for apprenticeships and training programmes. It also found a lack of support for training for the informal sector—most funds went to formal apprenticeships systems which were limited in all the countries. All funds were overseen by a tripartite or bipartite governance structure, but these were seen as rather weak both in terms of functioning and in terms of power—government retained significant power.

Ngatia and Rigolini (2019) argue that the size of businesses substantially affects how firms access such levies, with the bulk going to large firms; they point out further that because sectors have different compositions of large, medium, and small firms, sectorally based levies can exacerbate disparities in training.

In terms of apprenticeships, Franz (2017) describes a range of different patterns. In formal apprenticeships usually there is an allowance paid by the company to the apprentices, set by government or negotiated through industrial relations processes. Where training funds exist, they are often used to cover some of the costs to employers.

2.3 Supply and demand factors

Four broader issues are discussed in this section, because they are significant for any analysis of TVET and the productive sectors in Africa: firstly, rapidly rising primary and secondary education enrolments (Bashir et al., 2018); secondly, existing workforces with very low levels of education; thirdly, labour market mobility factors; and fourthly, in the main weak economies without much structural economic change.

2.3.1. Rising educational levels and the roles of different parts of education and training systems

With regard to the first point, a major issue in terms of the supply of workers to labour markets and workplaces is rising educational achievement levels. Enrolment in secondary education is expected to double by 2030—an additional 46 million students over the next 10 years. Africa is currently undergoing the shift from an elite system to a mass system—as happened in countries in the developed world experienced at different periods of the 20th century. This means that secondary education will increasingly become the ‘platform from which the majority of young people will enter the workforce’ (Mastercard Foundation, 2020, p. 8). However, current secondary systems—schools and vocational institutions—don’t have the capacity to accommodate demand, and, labour markets are not changing nearly as fast.

While growth rates have been strong for a number of sub-Saharan countries in recent years, the structure of most economies on the continent has not changed substantially over the past 40 years (E. K. Brown & Slater, 2018; Fox & Thomas, 2016; Newman et al., 2016). No low or lower income sub-Saharan African country has a high manufacturing employment share; in most countries the share is below 5%. There has also been little change in the structural composition of employment: most of the labour force is still in agriculture, and services sectors tend to be the fastest growing (Newman et al., 2016). And this growing service sector consists mainly of household enterprises (Fox & Thomas, 2016).

This means that rising education levels have been achieved in the context of slow economic growth and, in most cases, rising populations. 65 million out of school youth—leading to rapid expansion without, in many cases, achieving quality. The World Bank describes a ‘crisis of learning’ in Africa: ‘Although schooling in Sub-Saharan Africa has surged ahead over the past quarter century, learning has not kept pace’ (Bashir et al., 2018, p. 53). In many cases learning outcomes are very poor—according to the Mastercard Foundation (2020), one in ten students in secondary school has the required level of reading and maths. It also means that every year growing numbers of people enter labour markets in Africa with higher levels of education—resulting in even more educated youth struggling to find stable well-paid employment in skilled occupations and professions (Elder & Koné, 2014). The ILO school to work transitions survey found that for all countries in which the survey was undertaken, the young person with the lowest level of education is the least likely to be unemployed—because these young people are likely to work in subsistence agriculture. 97% of workers with no education are informally employed (Mastercard Foundation, 2020, p. 37).

Fox and Thomas (2016, p. 16) argue that high fertility rates combined with slow industrialization leaves the majority of youth entering the labour force with no employment options except household farms and household enterprises in which earnings and

productivity are usually low. In other words, most youth are working in about the same sectors and types of jobs as their parents. This, they argue, 'has resulted in a large gap between the aspirations of youth (and their parents) and the economic opportunities available.' They go on to argue that 'the typical supply-side enclave youth vocational projects are unlikely to bridge the aspirations gap or help youth make an efficient transition to a stable livelihood' (Fox & Thomas, 2016, p. 17). This was aggravated by the shedding of public sector jobs in the 1990s. Fox and Thomas (2016, p. 27) predict that 'at best one in four of Africa's youth will find a wage job, and only a small fraction of such jobs will be 'formal' jobs in modern enterprises'. Cramer, Sender, and Oqubay (2020, p. 169) disagree about the impossibility of expanding waged employment in Africa, arguing that 'the best available (ILO) estimates of changes in the absolute number of employees between 1991 and 2017 ... shows a consistent and unambiguous increase in 'formal' wage employment'. They also argue that (again using ILO figures) the absolute number of Africans employed in industry seems to have grown dramatically since 1991:

In Ethiopia, for example, the number of people engaged in manufacturing increased from 561,000 in 1995 to 2,825,000 in 2011, while the comparable increases in Kenya and Nigeria were from 747,000 to 1,990,000 and from 1,271,000 to 2,345,000.⁶⁸ Recent increases in manufacturing wage employment should be seen in historical context: in the 1960s, a tiny number of Kenyans or Ethiopians (fewer than 50,000) found jobs in the manufacturing sector; in 1960, about 47,000 Tanzanians were engaged in the manufacturing sector, but by 2011 this sector employed about 700,000 workers.
(Cramer et al., 2020, p. 177)

Secondary education is becoming a requirement for formal wage jobs, although, increasingly many with some secondary education will not obtain wage employment (Fox & Thomas, 2016). University graduates are still very small fraction of the labour force in most countries—on average about 3–4%. They come from the richest house-holds and have the best job prospects (Fox & Thomas, 2016, p. 29). Nonetheless, in the absence of structural economic change, graduate unemployment, which started to appear as early as the 1980s in some countries (Colclough, 1989), has been increasing in many countries (Amani, 2017; Broecke, 2012; Ogege, 2011; Pheko & Molefhe, 2017; Rose, 2015; Zinabu, 2019).

The relationship between the nature of labour markets and labour forces on the one hand, and changing enrollment levels on the other, is a factor that affects TVET. As Colclough (1989) argued over 30 years ago, the expansion of education at higher levels has, in many cases, been faster than education systems have been able to provide adequately qualified students at lower levels of the system. In other words—tertiary expansion could happen at the detriment of quality lower down in education systems, particularly when, as seems to have been the case in the 30 years after he made this analysis, other parts of education systems are starved of funds at least partially because of the rapid expansion of tertiary education. However, this is not to argue that university education is not important—it is seen as key to delivering knowledge for development and industrial innovation, and researchers argue that African universities systems have been inadequately funded in this regard (Cloete et al., 2011). Cloete, Bailey, and Maasen go on to argue that the lack of knowledge production at

many of Africa's leading universities is not simply a lack of capacity and resources, but 'a complex set of capacities and contradictory rewards within a scarce-resource situation'. They suggest that linkages with industry are often confined to units or centres, and that there is little evidence of university engagement in research and development with or for industry.

With regard to issue of low levels of education in existing workforces, according to Ngatia and Rigolini (2019) more than two-thirds of workers in Africa have not completed primary education, and more than 300 million workers are illiterate. This varies dramatically from country to country, with low levels of workers aged 20-24 with no education in countries such as Botswana, Malawi, Mauritius, South Africa, Uganda, and Zimbabwe, and very high levels in countries such as Mali, Mozambique, and Niger (Ngatia & Rigolini, 2019). Horne, Khatiwada, and Khun (2016) suggest that more than two thirds of African workers are in low productivity, low quality jobs; they attribute this to the fact that they do not possess the skills sought by increasingly sophisticated labour markets.

All of this seems to lead to a similar conclusion to that raised by King (2014, p. 147), when he argues that 'high-cost good-quality diversification of general education, when closely linked to the labour market, is a good investment for richer countries. But in poorer countries, minimal diversification may not be worthwhile'.

2.3.2. Labour force and economic factors

All of this is located mainly in the poorest and youngest region in the world (sub-Saharan Africa). And Africa is facing many economic crises, from the aftermath of the COVID-19 pandemic to the effects of the climate crisis, to which Africa is vulnerable partly because predictions impact worse effects, and partly because of the significant role of agriculture in most African economies.

Twenty percent of the world's under 25 population live in sub-Saharan Africa (E. K. Brown & Slater, 2018), and it is the only region in the world where the absolute number of poor has increased since 1990 (Bashir et al., 2018). In terms of the former, while some countries have made the 'fertility transition', (Botswana, Lesotho, Swaziland, urban Kenya, and urban Ethiopia), many still have some of the highest fertility rates in the world—notably Angola, Mozambique, DRC, Congo (Brazzaville), and Cameroon (Cramer et al., 2020). Set against this is fatalities from organized violence—the highest in the world between 1989 and 2017 in Rwanda, Ethiopia, DRC, Sudan, and Nigeria (Cramer et al., 2020). Nonetheless, levels of fatalities from armed violence have declined substantially over the past 10 to 25 years in countries such as Angola, Burundi, Ethiopia, Rwanda, and Uganda.

African labour markets are dominated by informality, with around 85% of workers in Africa being estimated to be in informal employment by the ILO. Shares vary considerably by region, as follows: northern Africa: 67.3%; Central Africa 91%; Eastern Africa 91.6%; Southern Africa 40.2%; and Western Africa 92.4% (ILO, 2018, p. 28). Participation in formal labour markets is strongly correlated to educational levels, and participation in informal labour markets rises with lower education levels. This and the role of public employment is a significant factor shaping the nature of labour markets. Some estimate that less than 20% of employment in low-income African countries is in a wage-paying job, even one that is largely casual or temporary. Instead, Fox, Senbet and Simbanegavi (2016) describe the common

situation in Africa as full-time employment with low earnings, often with considerable income variability, and widespread underemployment. In other words—the central problem is a lack of labour demand. At the same time, they point out that forced labour continues to be widespread. Fox and Thomas (2016, p. 33) conclude their overview with the analysis that,

As secondary education enrolments expand creating an even more educated youth labour force, competition among youth for wage jobs in modern enterprises is likely to become even stiffer. Traditional policies related to the school-to-work transition typically use informational interventions and other strategies to link jobseekers to employers, but their relevance in Africa is limited. Indeed, for all the discussion of a skill mismatch in SSA, the real problem seems to be a flat supply curve for entry-level wage employment at the current wage.

Fox, Senbet, and Simbanegavi (2016, p. 3) agree, arguing that

The large cohort of youth entering Africa's labour force is the best educated one the continent has seen, and Africa is witnessing its best growth performance in decades; yet jobs remain elusive in the formal wage sector. This is largely because African economies have hitherto failed to transform structurally from low productivity agriculture to higher productivity non-agricultural sectors and this, taken together with the high fertility and low infant mortality, has resulted in the structure of employment not changing much. Although many refer to the youth employment problem as the 'youth unemployment problem' in actual fact, (measured) unemployment in low-income sub-Saharan Africa (3%) and even in middle-income countries outside of Southern Africa, unemployment is not high as it is considered a 'luxury'.

Finally, labour force analysis is complicated by poor data (Cramer et al., 2020). Fox and Thomas (2016, p. 19) similarly point out that

Data on the structure of employment in SSA are very difficult to obtain. Many countries do not collect these data very frequently; often the data are not released until long after they have been collected; and in some cases, only published tabulations are released. Regardless of how they are released, the quality is often poor, and inconsistent across countries'.

Furthermore, labour market analysis is often conducted using concepts from developed countries, despite the fact that the characteristics of labour markets and the institutions associated with them are not similar (Ghose, 2003) and many of policies recommended are based on assumptions of full employment. This has the further implication that the notion of skill and skilled labour varies according to context: Meschi and Vivarelli (2009) argue that the notion of skill is relative to each country and therefore its meaning may change, especially in developing countries.

2.3.3. Labour market mobility

Location in global value chains as well as migration patterns are significant factors shaping both the nature of the demand for skilled labour as well as perceptions of skill. Of course, 'brain drain' is a well-established phenomenon in Africa (Docquier & Iftikhar, 2019).

A major current education policy intervention in regard to labour mobility is qualifications frameworks and frameworks for the recognition of qualifications. The OECD and ILO have research (OECD/ILO, 2018) that suggests that migrant workers are more likely to be overqualified than workers in the country to which they have migrated, particularly in mid-level skills occupations. However, there is no conclusive evidence demonstrating that lack of recognition of qualifications is the problem here, nor that it is a major barrier to labour mobility; this is not to say that it could not be the cause, but simply that it has not been demonstrated to be, and is an area that should be researched further. Africa has had one continent wide agreement about the recognition of qualifications—the Arusha convention, which was adopted in Arusha, Tanzania, in 1981. It was initially focused on higher education qualifications and was widely seen as not having been implemented. This convention was revised in Addis Ababa on 12th December 2014, and is therefore now referred to as the Addis Convention (in full, the Revised Convention on the Recognition of Studies, Certificates, Diplomas, Degrees and Other Academic Qualifications on Higher Education in African States). A linked policy which the AU is aiming at are a Pan-African Quality Assurance and Accreditation Framework. The African Standards and Guidelines for Quality Assurance was developed through the Harmonisation of African Higher Education Quality Assurance and Accreditation (HAQAA) initiative and approved in 2019. The ASG-QA offers guidelines recommending that learning outcomes be defined and documented for all programmes and benchmarked against level descriptors of national or regional qualifications frameworks. Interestingly, the ASG-QA contains guidelines addressing open and distance learning. In 2019 eight African national quality agencies participated in pilot external evaluations testing the ASG-QA.

Regional agreements in various regions could be seen as having their origins in this convention. These are now being developed into regional qualifications frameworks. Regional qualifications frameworks are generally not aimed at the development of qualifications or the regulation of national systems, but rather focus on recognition of qualifications across borders⁶. The latest development in this regard is the commissioning of a study on qualifications frameworks in Africa, by the African Union (AU), with a view to establishing an Africa-wide regional framework, which is commonly referred to as a continental framework (African Union, 2020). Qualifications frameworks are introduced with a range of aims; the focus here is on recognition of qualifications with the aim of facilitating labour mobility, and the discussion mainly considers regional frameworks. The following section discusses the hope that national qualifications frameworks will create more relevant qualifications.

Southern Africa is described by the AU report as having the most advanced regional framework, approved since 2011, and 'reactivated' in 2017 (African Union, 2020). This followed a protocol on education and training in 1997, and through this established a technical committee to attempt to relate ('harmonize') qualifications across national borders

⁶ For example, the European Qualifications Framework, arguably the most well-developed regional framework, was developed with a view to ensuring that different European countries had a benchmark against which post-secondary qualifications could be compared across borders, building on years of discussions and policy agreements between European countries with regard to harmonizing university qualifications through what is referred to as the Bologna process.

in the region. The work of this committee was influenced by the emerging qualifications frameworks in South Africa, Namibia, and Mauritius, and by March 2005 a SADC concept document for ensuring comparability of qualifications and credits across borders in the SADC region was adopted (Keevy, 2011). The intention is for all countries of the Southern African Development Community (SADC) to align their qualification frameworks or systems to the regional framework. A tool for self-assessment has been disseminated, with support from the European Training Foundation. Peer learning and capacity building workshops have been undertaken to assist the countries with the process. Eight countries (Botswana, Eswatini, Lesotho, Mauritius, Namibia, Seychelles, South Africa and Zambia) agreed to be part of a pilot phase of alignment in 2017, and Angola, Democratic Republic of Congo and Zimbabwe joined in 2019. According to the AU report, two member states—Seychelles and South Africa—had completed this exercise by 2020. What it has actually achieved since then is not clear, and there is no published peer-reviewed research. A recent report of the South African Qualifications Authority states that it was ‘revived’ in 2016 (Jaftha and Samuels, 2017) and an online document (SADC, 2017) describes it, albeit still in terms of how it will operate rather than how it does operate.

In the Economic Community of West African States (Ecowas) region, guidelines for regional and national qualifications frameworks were approved by ministers of education approved in October 2013 (African Union, 2020). The AU report suggests that Nigeria, the Gambia, Ghana, Cape Verde, and Senegal have functional national frameworks, and the report further argues that a common approach will be adopted for the development of qualifications in the region, to support harmonisation across countries. Policies such as the Framework for Recognition and Equivalence of Certificates in the Ecowas Region and the Ecowas Benchmarks for the Harmonisation of University Education are being developed.

East Africa had a regional framework for higher education qualifications, which was adopted in 2015, but little information is available about how it is actually being used. The overall coordination for the higher education section of the framework rests with the Inter-University Council for East Africa (African Union, 2020).

The AU study argues that there are many weaknesses of regional bodies, and that it is not clear whether they have the capacity to develop and implement regional qualifications; certainly, progress has been slow to date, according to the report (African Union, 2020). Nonetheless, the report argues for the necessity of an African Continental Qualifications Framework by 2022, with the aim of contributing to enhanced comparability, quality and transparency of qualifications of all levels and from all sub-systems and facilitating recognition credentials and therefore mobility of learners and workers. What is striking is the little evidence provided either that qualifications are currently a primary barrier to mobility, or that qualifications frameworks have improved mobility. Clearly, further research in this area is needed.

2.3.4. Relationship between TVET and industrial policy/economic development strategies

This sub-section takes a step back to look at economies as a whole. The first point that needs to be made is that the COVID-19 pandemic has devastated African health systems and economies. This will affect all the economic development strategies recently developed and

which countries have been attempting to develop, as well as continental strategies such as Agenda 2063, the continental long-term strategy for economic development, which has seven aspirations which aim at 'Building an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the international arena'.

Further, what needs to be noted in any consideration of linkages between TVET and the productive sector is 'the extraordinary variety and contradictory characteristics of recent economic experiences both across and within African countries' (Cramer et al., 2020, p. 8). Despite these differences, formal TVET systems seem to be relatively similar to each other—as described above, suggesting that they have not developed organically in relation to specific economic developments. The ADB (2020) notes that most TVET policy in Africa is very much 'supply driven', with weak linkages to economic demand. What is not visible to-date is focus on determining skills required within the context of industrial development as part of decisions and mechanisms linked to industrial transformation, driven by employer associations/firms.

Bashir et al (2018) point out that economic growth and development are not strongly correlated with educational enrolment in many African countries: 'Within Sub-Saharan Africa, however, there is little association between a country's knowledge capital and its subsequent economic growth, although the evidence is limited' (p. 56) and 'In some extreme cases, countries with similar "knowledge capital" as measured in 2000 differed widely from each other in terms of GDP per capita growth over the ensuing 15 years (p. 57). Below a brief overview of different categorizations of development is discussed. To start with, Arias, Evans, and Santos (2019) categorize African countries into five broad groups:

- those more advanced in transformation and with a policy environment that they consider more conducive to reaping the returns to skills (such as Botswana, Mauritius, the Seychelles, and South Africa);
- those which are transforming but have a less conducive policy environment (such as Ghana and Namibia);
- countries rich in natural resources with a policy environment that is not conducive (Angola, Cameroon, the Republic of Congo, Gabon, Mauritania, and Nigeria);
- countries that are lagging both in transformation and in creating a conducive policy environment (such as Mozambique and Rwanda).
- countries weak in transformation and policy environment (such as the Central African Republic, the Democratic Republic of Congo, Guinea-Bissau, and Somalia).

The first group are mainly upper-middle and high-income countries. Arias, Evans, and Santos argue that they have firstly, gone the furthest in shifting labour out of agriculture and into more productive activities, and secondly, have implemented reforms to improve the business environment for the private sector, relative to the rest of the region. They suggest that because of this, they are in a better position to reap rewards of investing in technical skills at a postsecondary level. In the second group, while labour has moved out of agriculture, the countries have not made what are seen by the World Bank as the necessary economic and regulatory reforms; this type of reform is necessary, they suggest, to ensure that skills play a role in economic transformation (Arias et al., 2019). Countries in the third group have the resources to invest in technical skills, they suggest, but first need policy reforms to create a

business environment conducive to transformation and diversification. For the fourth group, they recommend very selectively targeted technical skills development. For the fifth, they recommend a focus on supporting livelihoods for inclusion and social cohesion, including through support for agriculture, self-employment, and informal apprenticeships. They suggest that investing in formal provision of technical skills will not be of value without far more economic and policy transformation. For both the first, second, and third groups, they also emphasize the necessity of investing in skills for the inclusion of disadvantaged youths and adults, including remedial education, informal apprenticeships, and self-employment. For the fourth, they emphasize the need for attention to the skills of youths and adults geared toward improving earnings and livelihoods in low-productivity sectors.

This categorization is interesting if considered in juxtaposition to other categorizations of African countries which focus more on industrialization, and less on 'climate of investment'. For example, in 2011 UNCTAD developed a typology of industrialization trajectories in Africa, based on both industrialization levels in 2010 and industrial growth performance from 1990-2010, with the five types:

- 'Forerunners'⁷ (Namibia, the Seychelles, and Tunisia),
- 'achievers'⁸ (Gabon, Morocco, Mauritius, South Africa, (the then) Swaziland);
- 'catching up'⁹ (Angola, Mozambique, Sudan, Uganda)
- 'falling behind'¹⁰ (Botswana, Cameroon, Cote d'Ivoire, Ghana, Kenya, Mauritania, Nigeria, Senegal, Tanzania, Zimbabwe);
- 'infants'¹¹ (Burundi, the Democratic Republic of the Congo, Guinea, Guinea-Bissau, Djibouti, Ethiopia, Liberia, Malawi, Mali, Niger, Rwanda, Sierra Leone).

Allais (2020a) points out the differences between this and a later typology by Newman et al (2016, p. 2) which categorizes Ethiopia (an 'infant' in the previous classification), Ghana, Kenya, Nigeria, Senegal, and Tanzania ('falling behind' in the earlier group), and Mozambique and Uganda ('catching up') as some of the 'stars' of growth in the region, representing 54 per cent of the region's GDP, and with a combined manufacturing sector that makes up 'about one-fifth of SSA's manufacturing value added (excluding South Africa)'. However, Newman et al caution that the 8 strongest economies are not emerging industrial economies:

⁷ Forerunners are countries who by 2011 had shown long-term sustained-growth path with an industrialization level at least twice the African average and an industrial growth performance that is at least 2.5 per cent.

⁸ 'Achievers' had attained a comparatively high industrialization level in per capita terms but had industrial growth below the 2.5% threshold

⁹ Countries 'catching up' had a fairly promising path with potential to achieve a higher industrialization level.

¹⁰ 'Falling behind' countries had a relatively low industrialization level and little growth.

¹¹ 'Infants' had a very low industrialization base and very poor industrial growth performance.

Senegal has the highest share of manufacturing in GDP at about 18 per cent. Nigeria has the lowest at less than two per cent. On average they are quite similar to Africa as a whole. Their share of manufacturing in GDP is 9.5 per cent, and the policies all eight countries adopted for industrial development closely parallel those of the region more broadly.

They point out that recent changes have happened in a context of growing gaps in infrastructure, institutions, and education relative to the emerging Asian competition, after the years of slow growth and austerity (Newman et al., 2016, p. 12). Arndt, McKay, and Tarp (2016) have a typology of 16 sub-Saharan African countries, as follows:

- Relatively rapid economic growth and corresponding poverty reduction (Ethiopia, Ghana, Malawi, Rwanda, and Uganda);
- Relatively rapid economic growth but limited poverty reduction (Burkina Faso, Mozambique, Nigeria, Tanzania, and Zambia);
- Uninspiring or negative economic growth and corresponding stagnation or increases in poverty (Cameroon, Côte d'Ivoire, Kenya, Madagascar, and South Africa); and
- Low-information countries (DRC).

Consider, in juxtaposition to these typologies of development and industrialization, a typology of educational expansion in a recent World Bank report on education in sub-Saharan Africa (Bashir et al., 2018). The World Bank's educational categories are¹²:

- Established¹³: Gabon, Ghana, Eswatini, Kenya, Mauritius, Namibia, South Africa, Zimbabwe;
- Emerged¹⁴: Cameroon, DRC, Malawi, Rwanda, Tanzania, Uganda;
- Emerging¹⁵: Angola, Benin, Cote d'Ivoire, Ethiopia, Madagascar, Mauritania, Mozambique, Nigeria, Sierra Leone, Zambia; and
- Delayed¹⁶: Burkina Faso, Chad, Guinea, Equatorial Guinea, Liberia, Mali, Niger, Senegal, Sudan.

As Allais (2020) points out, there are stark differences between categorizations of industrialization, growth, development, and poverty reduction on the one hand, and rising educational enrolments on the other. Only Ghana and Kenya show some degree of consistency in terms of the relationship between economic development and educational enrolments. By contrast Ethiopia, with very recently rising levels of primary enrolments and remaining high levels of out-of-school youth, and Senegal, one of the worst performers in the World Bank's education groups, are described as 'stars of growth'. In contrast, South

¹² Only countries listed above are included; the full set can be seen in Figure 1 below.

¹³ Gross enrolments close to 100% in 2010 and 2013; low out-of-school rates for children of primary school age; primary retention close to 100% in 2013.

¹⁴ High gross enrolments by 2010 and 2013, low out-of-school rates but low primary retention.

¹⁵ Low gross enrolments in 2010 but high by 2013; high out-of-school primary rates; low primary retention rates.

¹⁶ Low gross enrolments in 2010 and 2013; high out-of-school rates; low primary retention rates.

Africa and Zimbabwe have well-established education participation rates, but stagnant economies. Botswana and Gabon, two small and relatively wealthy African countries, also have established education participation but very high levels of inequality. All of this suggests that relationships between so-called 'climate of investment' conditions, industrialization, growth and poverty reduction, and education levels, are inconsistent on the African continent. Perhaps related to some of these challenges, Billetoft (2016) points out that labour markets are typically disorganized and employer and employee organizations are weak, and therefore have weak mandates in governing bodies of TVET. Often, he argues, neither group have a qualified view on TVET, apart from general dissatisfaction with quality.

With this challenging situation of increasingly educated citizens and little structural change in economies and labour markets in mind, we turn to a brief analysis of the provision of TVET on the continent, in terms of enrolments, the types of institutions providing TVET, and the ways in which they are governed and coordinated.

2.4 Success factors and perceptions of TVET

As mentioned above, TVET in Africa is seen as weak, and examples of highly successful system-wide reforms are hard to find, although successful programmes can be found on a small scale, and, as mentioned in the introduction, the economics literature focused on randomized controlled trials contains examples of youth-to-work interventions some of which seem to be promising, often linked to cash grants.

In terms of formal TVET provision, a problem mentioned consistently is lack of practical experience. This could be linked to inflexible systems of provision which are difficult to combine with work (Johanson & Adams, 2004; Santos et al., 2019). Public formal TVET is also seen to be outdated and out of touch with labour market needs (Billetoft, 2016). Santos, Alonso Soto, and Sosale (2019) argue that employers see lack of practical training as one of the main weaknesses of TVET in the regions, and they provide examples from Cameroon and Burkina Faso of programmes with extremely outdated facilities.

Formal apprenticeship systems are also seen as weak. In some cases incentive schemes have been set up, as well as attempts at partnerships with employers (Arias et al., 2019), but they remain very small; a tiny fraction of formal TVET systems, which are themselves small.

The quality of teacher training is seen as a problem in many countries, as well as outdated facilities (Billetoft, 2016; Santos et al., 2019). Teacher education is sometimes university-based—and very similar if not identical to schoolteacher training, or, in some cases teachers are skilled workers with limited or no training as teachers. Exceptions are found in Tanzania, with a dedicated Vocational Teachers Training College, and Cameroon, with the Normal Schools for Teachers of Technical Education (Arias et al., 2019, p. 11). Arias, Evans, and Santos (2019) argue that relatively few teachers in public TVET institutions have industry experience, in part because of the requirements for teaching qualifications.

Oketch (2014) argues that one of the reasons for the ongoing weakness of formal TVET provision in Africa is that systems tend to have too many aims, many of which are conflicting—curing youth unemployment, supporting innovation and technical change through technological know-how, offering an educational alternative to those who have not

succeeded in school, training mid-level skilled workers, and reducing poverty by providing skills leading to employment. Allais and Wedekind (2020) similarly argue that formal TVET will always be challenging in poor countries, and should not be seen as the solution to large-scale educational or social problems, in the absence of major structural economic and labour market reform.

Linked to the problem of too many goals for formal TVET systems is the problem of early specialization, which Arias, Evans, and Santos (2019) argue reinforces the weaknesses of TVET systems because it takes place at the expense of building foundational skills, and then reinforces the vicious circle of low status TVET. Oketch (2007) describes failed attempts in Ghana and Kenya¹⁷, and argues for longer periods of general education, which would support short specialized training; Cramer, Sender, and Oqubay (2020, p. 182) agree, arguing:

If education is a cumulative process, with later learning building on earlier learning, it follows that an improvement in the levels of literacy and numeracy achieved in African secondary schools could make in-employment training much more effective; and these improvements would probably have a more positive impact on labour productivity than expenditures to improve 'skills'.

While labour force data are weak in many countries, where analysis has been done it seems that labour market returns to formal TVET are often not better than, and sometimes worse than, those for high school graduates (Bhorat et al., 2016; Santos et al., 2019). What is hard to sort out is the causality here—the low status of TVET, and fact that it usually serves students with weaker educational backgrounds, could reinforce poor quality, and therefore poor labour market outcomes, or the causality could run in the other direction. Certainly, TVET serves poorer learners, whose parents tend to have lower educational achievement. Santos, Alonso Soto, and Sosale (2019) point out that the weaker foundational skills of TVET students may reinforce poor labour market outcomes, as foundational skills are important in many workplaces. They suggest that even when labour market returns are initially comparable to general education, they decline over time, particularly relative to individuals with university qualifications, but nonetheless argue that for individuals who are unlikely to make it to university, TVET does, in some instances, have labour market value. They also point out that while TVET is generally seen as a second-rate choice for those with an academic aptitude, it can still be seen as promising for those less likely to succeed, or unlikely to make it to university:

... given weak foundational skills and other disadvantages and the fact that they are unlikely to be able to attend the high-quality general education institutions that richer, better-prepared students are able to attend, TVET can be an attractive path for the less well-off. This is especially the case in countries where access to universities remains mostly limited to elites (Santos et al., 2019, p. 189)

Franz (2017) argues that there is anecdotal evidence about good employment outcomes for apprentices in some countries, but cautions that this could be related to selection biases of

¹⁷ These recent reports echo the earlier work by Foster (1965) on the 'vocational fallacy'.

apprentices and the fact that formal apprenticeship places are mainly offered by those companies that train for own recruitment purposes.

Allais (2020a) argues that the process, pace, and levels of industrialization means that in general sub-Saharan African countries have low numbers of well-paying jobs requiring technical expertise; she argues that this also has an indirect effect, which is a lack of economic development and the maintenance of labour markets with very small numbers of jobs that would be considered 'middle class' or 'mid-level' in wealthy countries, and in which most people are in survivalist work. In other words, 'the real issue is one of economic development rather than the efficiency of VET systems' (McGrath et al., 2019, p. 5).

There are some examples of positive impacts of short-term training programmes aimed at supporting self-employment and small-scale entrepreneurship, with more successes found in those that include grant support (Ngatia & Rigolini, 2019). They note that in general there is little evaluation of such programmes, but discuss programmes with some success in Kenya, South Africa, Togo, and Uganda. The Mastercard Foundation (2020) argues that the Educate! Programmes in Rwanda and Uganda provide a model of entrepreneurship education in secondary schooling, but do not give data on labour market outcomes. Business-start up training also has mixed but in general modest results (Ngatia & Rigolini, 2019). Similarly, a meta-analysis of youth employment programmes (Kluve et al., 2017) found positive but relatively small outcomes. They argue that comprehensive programmes that include substantial training as well as work experience and support in accessing labour markets are more successful; a metareview in South Africa had similar findings (Altman & Marock, 2008). Cramer, Sender, and Oqubay (2020, p. 182) conclude that:

Diverting resources away from enhancing numeracy and literacy in schools to create entrepreneurial skills is a policy that has also failed to achieve employment or other economic benefits. A review of entrepreneurship training that focuses on evaluations in low- and middle-income economies—including some sub-Saharan African economies—argues that most interventions targeting micro-enterprises with up to five employees or aiming to enhance youth self-employment cannot be shown to have significant positive effects on employment, sales revenue, or profits.

Ngatia and Rigolini (2019) describe interventions aimed at *improving informal apprenticeships*, including such measures as introducing elements of classroom training; the training of workplace trainers (mastercraftsmen); measures to improve working conditions; and attempts to bring informal apprenticeships into certification systems. They argue that there has been little formal evaluation of such attempts, and in many cases they have been very small scale, with initial small interventions that never get scaled up.

As mentioned above, agricultural extension programmes are an important part of thinking about skills formation in Africa, given the large proportion of African people still working in agriculture. Ngatia and Rigolini (2019) argue that they have not lived up to expectations. One problem is that technological adoption to improve productivity is low, and many farmers have no access to improved technology let alone knowledge of how to use it. They also argue that programmes are small and limited. They usually fall under agriculture ministries, and have no or very weak linkages with education provision systems. They seldom address gaps in

foundational skills—literacy and numeracy—which are important for adoption of new technology.

2.5 Summary of findings and analysis of research gaps

Some points that are clearly established in this literature review are the following:

- The role and place of TVET in African education systems remains contentious; formal TVET are persistently small and weak. Formal apprenticeship systems are even smaller—a fraction of these small systems. What is classified as TVET in one country is not necessarily the same in another.
- Very few companies have formal relationships with TVET colleges. There are many examples of small-scale interventions, often supported by donors and development agencies, that attempt to improve relationships between employers and providers to enhance provision.
- There are insufficient jobs that actually require technical skills (particularly in the formal sector), although formal sector jobs have been increasing in some countries.
- Labour markets are predominantly informal; the share of employment in agriculture is still very high in most African countries, even in low- and middle-income countries, and is only low in upper middle-income countries—where it has almost disappeared
- There is limited insight into how much training formal sector firms provide, and what there is suggests that it is low. There are poor data for very small firms, and the available information suggests that such firms generally do little training, with some exceptions. The public sector, a major employer in the formal sector, does not appear to offer much in the way of on-the-job training.

Where more insight is needed from the perspective of social partners is the nature of training in companies—whether they train new entrants/existing employees, what kind of training they conduct, and the extent of their training, and whether it is formalized at all (against any kind of credential or formal curriculum) and in what way. Further, insight into which companies are conducting what kinds of training is needed—in particular, in relation to the size of companies and the extent to which the sector is part of a global value chain, or focuses on exports—as well as insights into the extent of relationships with TVET providers in terms of providing training. Insight into hiring patterns and how qualifications are used can also offer insights into perceptions of TVET and relationships with the TVET system. For example, insight is needed into which qualifications companies prefer at the point of hiring—high school and university graduates or TVET graduates (and at which levels), or, do they primarily value only company specific training, as well as whether there are any formal TVET programmes that are actually valued, and which they are. Other factors which could indicate TVET involvement from a social partner point of view are the ways in which and extent to which skills are or are not integrated into economic development policies, industrial policies, or sectoral trajectories, and importance of skills and training for unions and collective bargaining. The three surveys were designed to contribute to obtaining insights into these identified issues, by providing insights into the views of key stakeholders in the productive sectors—employers, unions, union federations, and employer associations.

► 3. Survey Findings

3.1 TVET involvement

Formal involvement in different aspects of TVET emerges as both important and a problem in the research literature. We therefore asked the social partners about their involvement in 12 different aspects of TVET and skills systems and policies. This section discusses the findings in this regard—which indicate most involvement at the level of national policy, and some involvement at the level of governance, skills anticipation, and occupational standards.

The 12 aspects that we surveyed social partners' involvement on are:

- The development of national policy or strategy on skills development / TVET
- Governance and management of the TVET or skills system.
- Processes to determine current and future skills demand.
- The design of occupational standards.
- The accreditation of TVET institutes and quality assurance.
- The governance and management of TVET providers.
- Offering formal TVET provision.
- The development of apprenticeship law, strategy and systems.
- The design and implementation of apprenticeship programmes.
- Training for teachers and lecturers and other forms of teacher upgrading.
- Work-based learning for trainees.
- Assessment of skills acquired by trainees and apprentices.

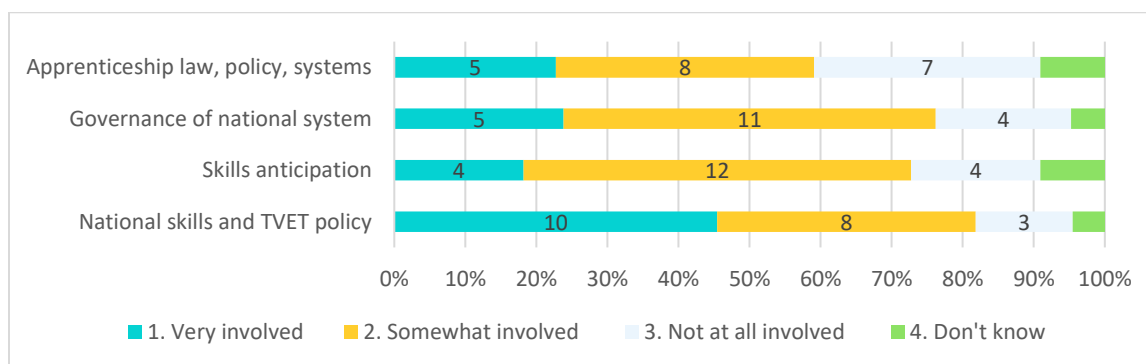
We did not mention sector skills bodies specifically, and this, in hindsight, was an error. Curriculum was also not mentioned separately, but was subsumed either into occupational standards or provision. Respondents were asked to rate their involvement as 'very involved', 'somewhat involved', or 'not at all involved', or 'I'm not sure about our involvement'. Very few responses fell into the last category (not sure about involvement). The numbers of respondents are shown on the graphs to make it easier to interpret the figures.

As discussed in the introduction on methodology, the respondents to the survey are likely to be those with a greater involvement in training. This means that the responses should not be seen as representative, but nonetheless revealing of some patterns and insights across a reasonable number of countries. It is possible that, given they chose not to complete the survey despite frequent requests and reminders, for the social partners in the remaining countries TVET and skills is less of a priority than for those who answered the survey.

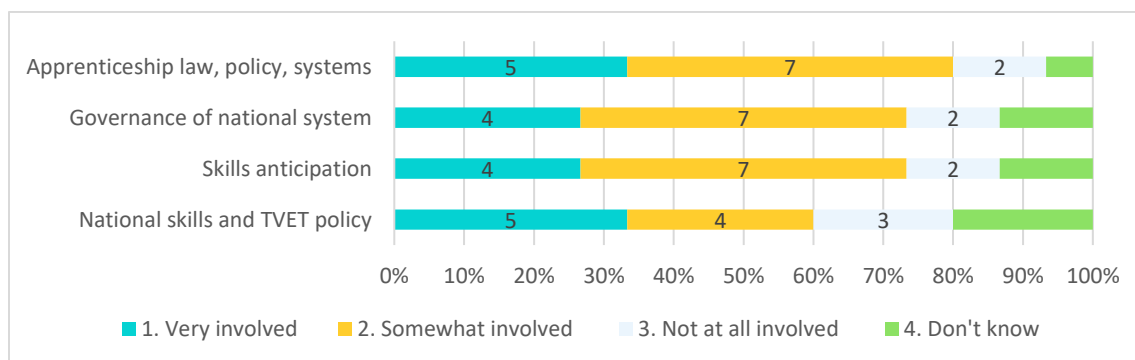
As would be expected, employer associations and union federations, to the extent that they are involved, report the most involvement at the level of national policy, followed by national governance, skills anticipation systems, and apprenticeship laws and systems; this last point is the same as national policy for the French employer associations.

We start by discussing employer associations, as the group for which we have the most representative figures. Figure 1 below shows the top four areas of involvement of employer associations from English-speaking countries, and Figure 2 from French-speaking countries. They are reported separately because of some differences, but hereafter employer associations are reported as a single category.

► **Figure 1: TVET involvement, Employer associations from English-speaking countries, top four areas of involvement**



► **Figure 2: TVET involvement, Employer associations, French-speaking countries, top four areas of involvement**



For the employer associations from English-speaking countries, involvement in national policy is the only category where we see lots of 'very involved' responses; in all other categories, where they report some involvement it is 'somewhat involved'. Other areas in which employer associations report high levels of involvement, although less than in national policy, are in governance and management of the TVET or skills system, involvement in skills anticipation, and involvement in apprenticeship law, policy, and systems. Interestingly while the same number of employers report that they are very involved in apprenticeship law, policy, and systems in both English and French companies and is as high as national policy in the French-speaking countries; however, the number of companies that say they are not at all involved is also highest amongst English respondents in this area as compared to the other 3 areas.

The following three figures show the contrast between employer associations collectively (Figure 3), union federations (Figure 4) and companies (Figure 5). The patterns of reported involvement are not dramatically different across these three different categories of stakeholders in terms of the areas in which they are most involved, but companies report substantially lower involvement in general.

Figure 3 shows that the area where the highest number of employer associations are very involved is national skills and TVET policy. Conversely, while a large number of employer associations are very involved or involved in apprenticeship law, policy, systems there were also the largest number of employer associations who indicated that they are not involved in this area.

► **Figure 3: Employer associations, TVET involvement, top four areas of reported involvement**

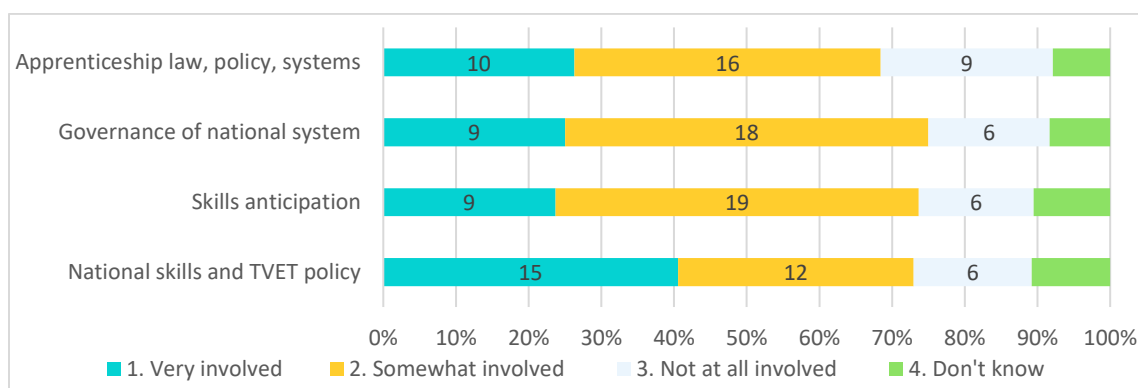
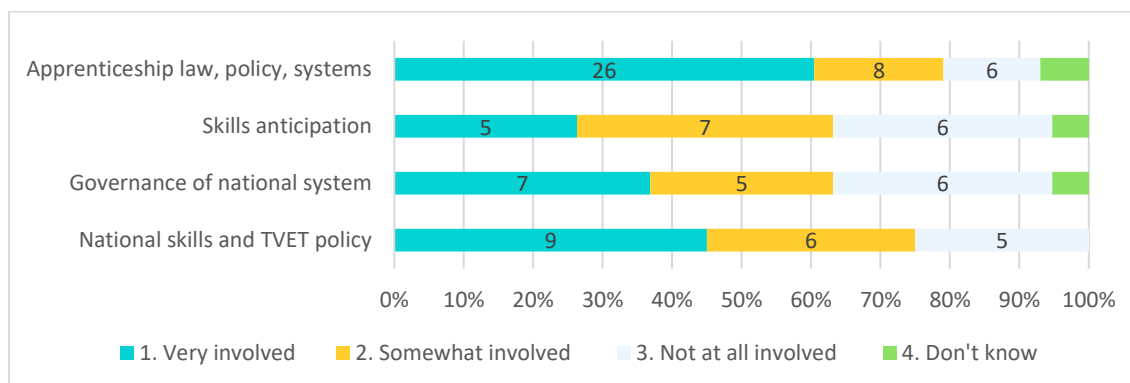


Figure 4 (below) highlights that by contrast with the views of employer federations, the largest number of union federations are very involved or involved in apprenticeship law, policy and systems. A reasonable number of respondents reported involvement in skills anticipation and national governance although as indicated above more than half indicated no involvement.

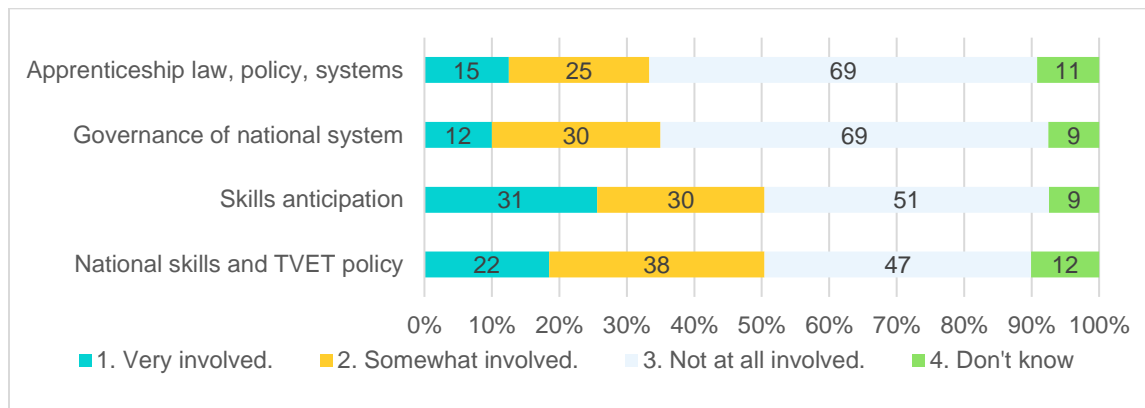
► **Figure 4: Union federations, TVET involvement, top four areas of reported involvement**



For companies, as shown in Figure 5 below, 60 respondents indicated that they were very involved or involved in national skills and TVET policy and 61 in skills anticipation. However, while these numbers are high it is worth noting that 47 and 51 companies reported no

involvement in these areas respectively. There are even higher numbers indicating no involvement for governance of national system and in apprenticeship law, policy and systems.

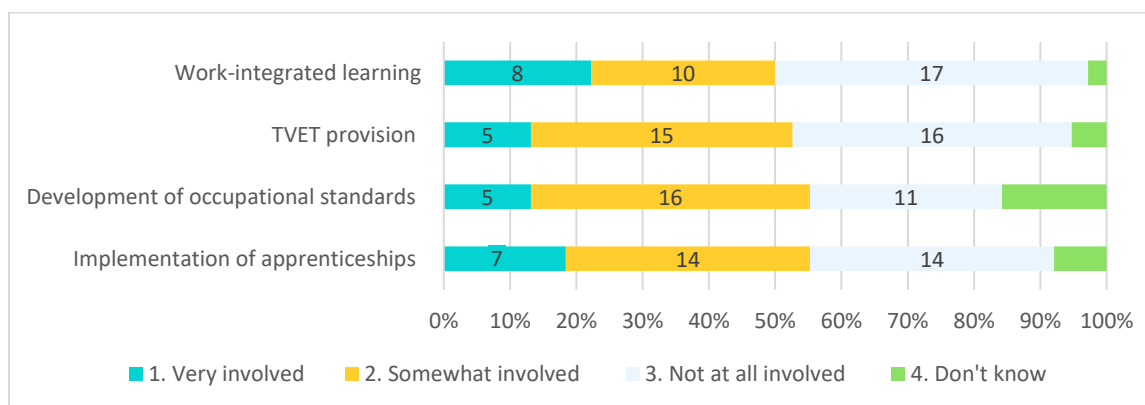
► **Figure 5: Companies, TVET involvement, top four areas of reported involvement**



Interestingly and surprisingly, only 20 of the 60 that report involvement in national policy are very large companies, while 15 are from medium-sized companies. The numbers are fairly spread across the countries that have substantial numbers of responses, with the largest number from Ghana (18), and the largest 'not at all involved' from Uganda; other than those, the numbers do not show strong trends from any one particular country.

Figure 6 below shows the four areas in which there is lower involvement from employer associations, but still some degree of involvement. Figure 7 and Figure 8 below that show the corresponding levels of involvement for union federations and companies for the same four areas of involvement respectively.

► **Figure 6: Employer associations, medium levels of reported TVET involvement**



Note that of these four areas, employer associations report most involvement in implementation of apprenticeships, development of occupational standards and provision of TVET programmes.

The lowest number of employer associations report involvement in work-integrated learning and, of concern, the largest number indicate no involvement in work-integrated learning. At the level of design and implementation of apprenticeship programmes, there is a slightly higher proportion from French speaking countries, which is not shown separately in Figure 6.

Much lower levels of union federations report involvement in these four areas, as shown in Figure 7 below. There is a reasonable number who report involvement in the design of work-integrated learning with fairly even responses in terms of occupational standards and TVET provision. The largest number of responses indicate that they are not involved in the implementation of apprenticeships.

► **Figure 7: Union federations, medium levels of reported TVET involvement**

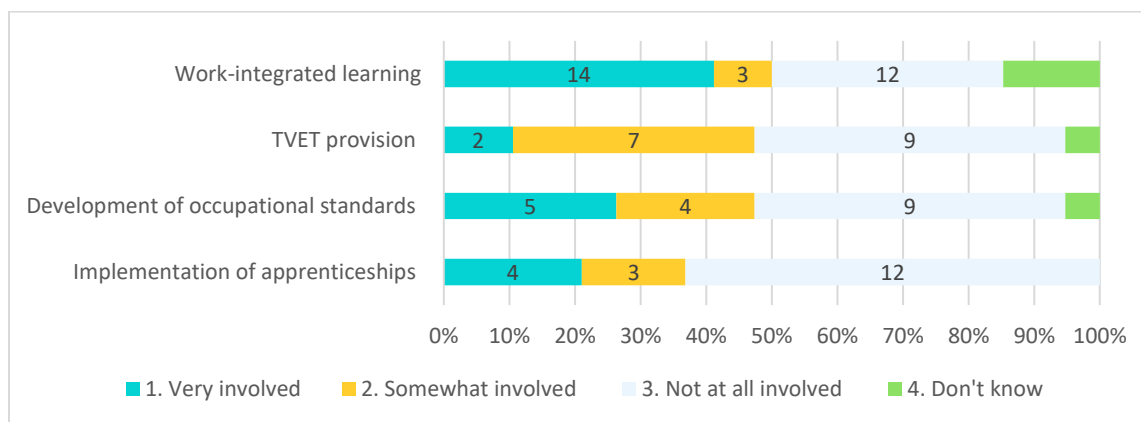
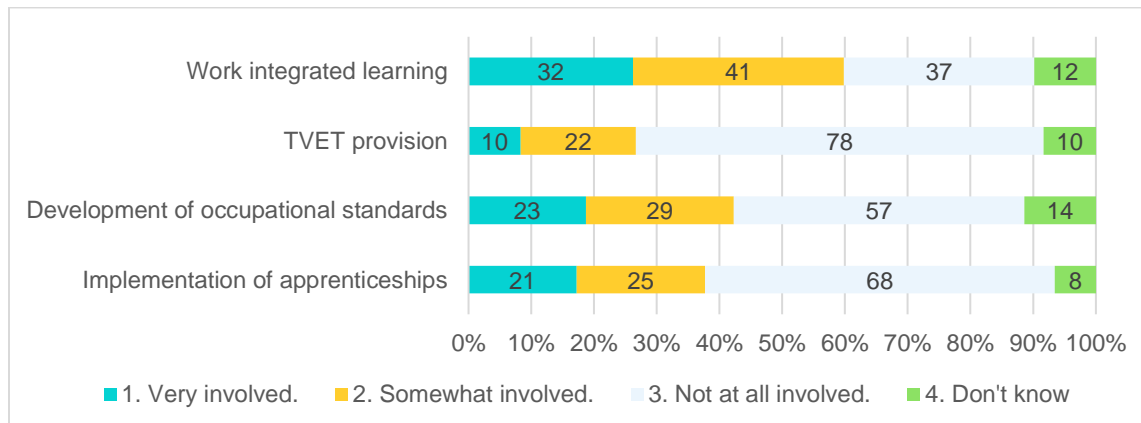


Figure 8 below shows that with companies, in slight contrast with employer associations, a small majority of companies report involvement in offering work-integrated learning opportunities, and 46 report some or considerable involvement in the design and implementation of apprenticeships. We see rather low levels of involvement in TVET provision with as many as 78 companies indicating that they are not involved in provision. Interestingly (not shown in the figure), only 11 of those involved in TVET provision are very large companies from English-speaking countries, and only 2 are very large companies from French speaking countries.

► **Figure 8: Companies, medium levels of reported TVET involvement**



What is evident from the respondents to this survey is that **the amount of involvement of employer associations, union federations and companies is strongest at the level of national policy, and declines as the areas of involvement become closer to provision of formal TVET programmes.**

This is further illustrated by the three graphs on the following page, Figure 9, Figure 10, and Figure 11 below, which shows lower levels of involvement in elements of provision.

Note that the order of reported involvement is not the same across stakeholders—for union federations, of these four areas, governance and accreditation of providing institutions is the area in which the highest involvement is reported. For companies, assessment of trainees is the highest area of involvement. As for the previous three graphs, the data is presented based on the areas in which employer associations reported higher levels of involvement.

Figure 9 shows the responses from employer associations. Of these four areas with lowest levels of involvement, the only one with a somewhat reasonable number of employer associations reporting involvement is assessment of trainees. What is not clear, however, is whether this assessment is ongoing assessment of specific skills, or, participation in the evaluation of the performance of learners in TVET programmes.

Employer associations report little involvement in the accreditation and quality assurance of TVET institutions and workplace experience for teachers/lecturers, and only slightly more in governance of providers.

► **Figure 9: TVET involvement, employer associations, areas of lowest reported involvement**

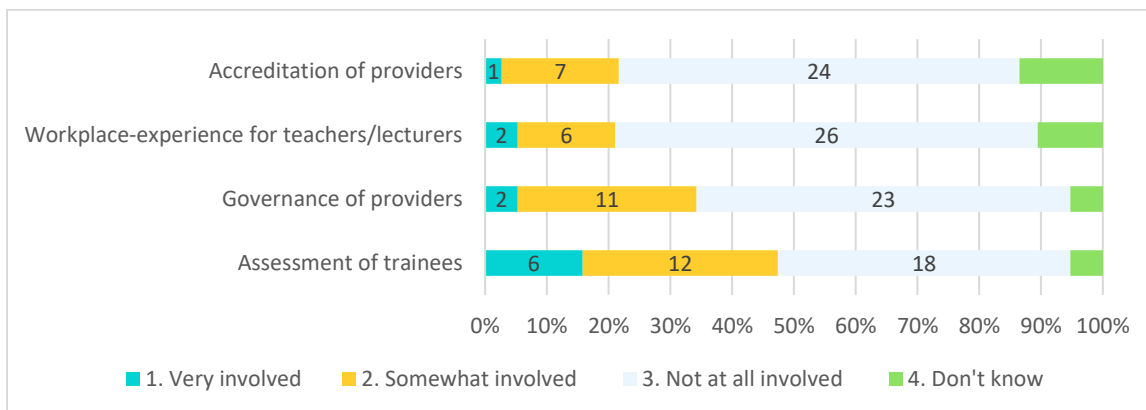
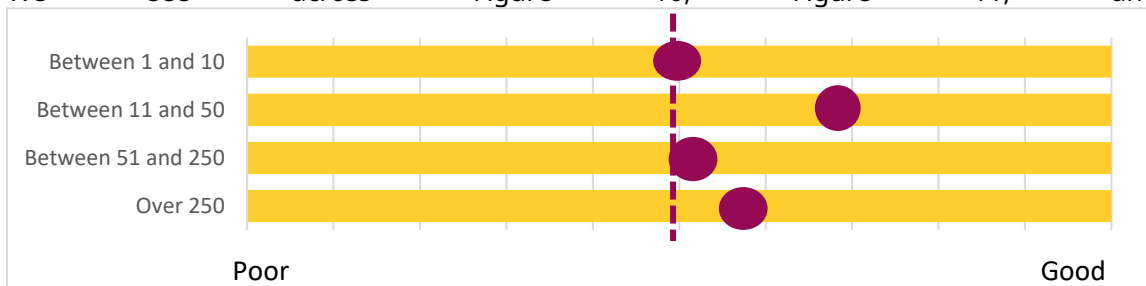
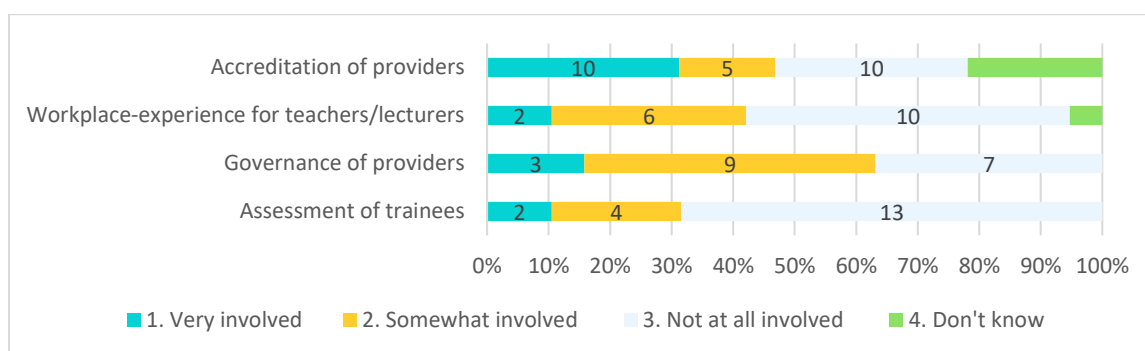


Figure 10 and Figure 11 show responses for union federations and companies respectively. We see across Figure 10, Figure 11, and

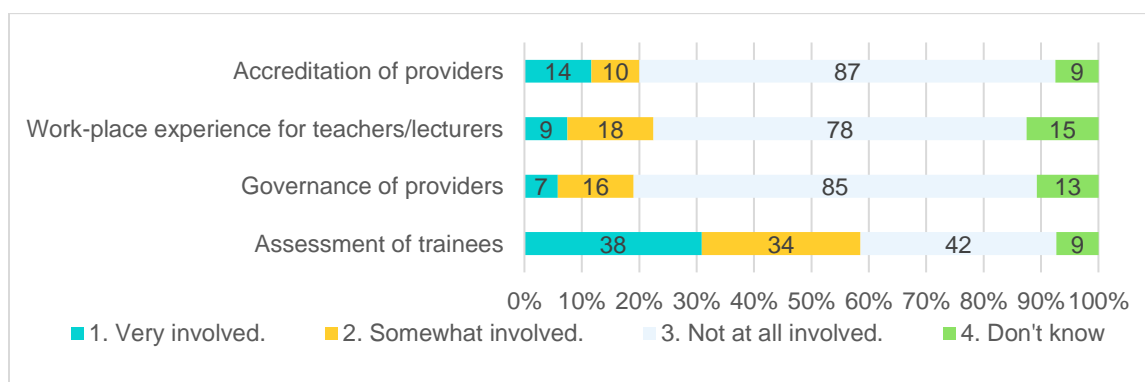


that in terms of involvement for training of TVET teachers and lecturers, and other forms of teacher upgrading, all three sets of stakeholders report low involvement. The proportion of union federations reporting involvement is higher than the proportion of employer associations, but the numbers are the same. This picture is similar for involvement in work-integrated learning for trainees, with a slightly larger proportion from French-speaking countries (not shown separately in the graphs). Union federations report higher levels of involvement in governance of TVET providers as well as accreditation of providers. We must bear in mind here the lower response rate from unions, however. In general, this set of areas is closer to different aspects of provision of TVET programmes, and areas in which involvement from social partners is necessary for TVET. The exception is that companies, similarly to employer associations, report more involvement in assessment.

► **Figure 10: TVET involvement, union federations, areas in which employer associations report low involvement**



► **Figure 11: TVET involvement, companies, areas in which employer associations report low involvement**

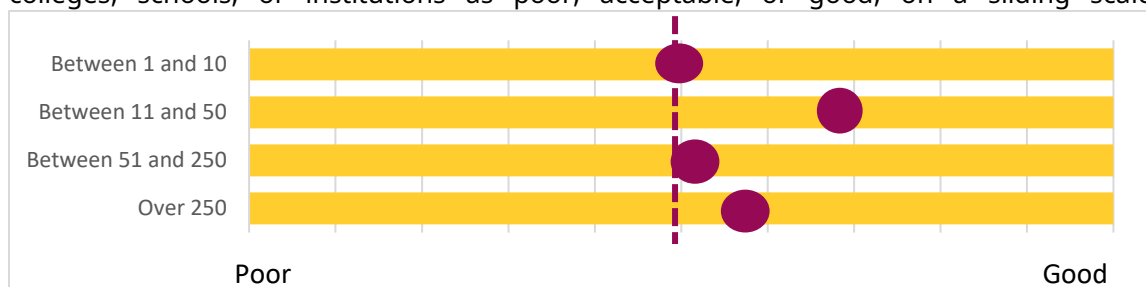


Declining levels of reported involvement in areas more directly related to provision of TVET is worrying because social partners at a national level will be able to input into the general direction of policy, and aspects of policy that might shape the system as a whole, but it is at the point of specific programmes and provision where partnerships can have a strong impact on the nature and relevance of programmes.

These findings suggest that more nuanced approaches to partnerships need to be developed, which separate out different aspects of partnerships and different levels at which

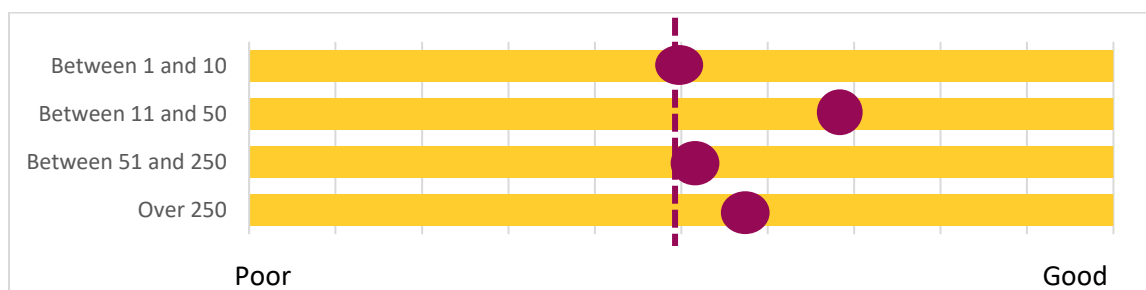
partnerships can and should be supported. The needs are likely to be different in different sectors.

Another way of testing involvement is company involvement with providing institutions. This does not make sense as a category of investigation for employer associations or union federations, so we only asked companies to rate the quality of their collaboration with TVET colleges, schools, or institutions as poor, acceptable, or good, on a sliding scale.



below shows a slightly positive response, based on composite figures—a slightly larger number of companies reported that relationships are acceptable; there were also large numbers between acceptable and good, and fewer, but still reasonable numbers of companies suggesting that their relationships are poor.

► **Figure 12: Company perceptions of relationships with TVET providers**



We asked companies what could be done to improve relationships with TVET. A majority of companies suggested that to strengthen these relationships there is a need to reinforce formal partnerships and relationships, with many comments such as:

by signing of MOUs to formalise the relationships

Dialogue and entering into partnerships or mous [memoranda of agreement]

TVET College management should make partnership with various firms the target to supply with their technicians

Targeted collaboration

Some of these comments suggested that partnerships would improve TVET institutions' ability to supply the required skills:

Through collaboration and consultations with what skills we require

Make frequent company visits to assess specific modern technology/ equipment used in various companies in order to tailor make the TVETs courses to suit our needs

Create a consultation framework made up of actors from the professional sector and training institutions to periodically review the technical education program according to the changing needs of businesses.

By TVET providing training in skills needed by employers and carrying out needs assessment of the market.

This is an area that was reiterated by employer associations and companies when they were asked to comment about involvement in the formal TVET system. Comments that focused on the importance of collaboration include:

We need to have more participation of the private sector in the formulation of these types of development and reinforcing the tripartite collaboration moving forward.

Industry involvement need to be strengthened.

Employers must be involved from the design of technical and vocational training policies, programmes, and projects.

Some suggested that it is strong, or that new policies mean it will be strong:

We play a key role in TVET projects according to the current situation.

As a body defending the interests of the private sector, the CNPB acts as the interface between its members and public authorities. As such, the CNPB has gained considerable knowledge in several areas including technical and vocational education and training.

We run a Project called Technical Skills Development Project (TSDP) in partnership with the Industrial Training Fund of Nigeria. The Project focuses on development of technical skills among youths.

An employer led TVET system is being developed in Uganda

Many suggested that it is weak or ineffective:

It is very minimal and indirect. We only get involved when ILO raise an agenda around the skill match, productivity of textile, etc.

There is no formal coordination between the state and the private sector to define or improve the system, which has an impact on the quality of training.

The Federation is a member of the TVET Coalition but have not been active participate in tripartite consultation.

We are a member of the partnership council but it is not operational.

We have already been involved for ten years but the results seem mixed, hence the desire for us to evaluate our participation in the process of skills development in line with the needs of the economy.

One respondent argued that 'we are involved but there is a challenge that final decision making is done by influence from the government'.

A company respondent argued that 'Involvement for corporates should be at both policy and operational levels. This will bridge the gap between industry and training institutions,' and another argued for involvement at an industry level as well as at the level of value chains. Another company respondent said, 'We would like to participate and get involved, should an opportunity arise.' Finally, one company respondent mentioned being involved in funding of TVET delivery.

Union and union federation respondents generally raised concerns about the lack of opportunities for involvement in the skills system in their open-ended comments. Some examples include:

Due to lack of support from employers, we find very difficult to achieve, though, our members are eager to be train but no support, especially from the road sector, formal and domestic area.

Whilst our Federation were the Skills System initiators, the State is gradually shifting us aside

as trade union federation we would like to see more involvement in the process of skills development

Government turn to invite bigger unions and ignore the smaller ones when it comes to decision taking

We are not consulted in most of these issues

Union need to build internal capacity for its participation and fully involvement in skills revolution

It is thought to be the responsibility of the Government Officials who are clueless of what is happening in TVETs.

To be involved would be of great help as our member are affected by all these some how.

We are not involved - it seems training is an individual decision because of the high unemployment rate in the country.

One positive comment was received from Ghana:

We are involved in the TVET policy formulation. We play advisory and monitoring role through representation TVET Boards and serving on sector skills councils being formed in various sectors such as Oil and gas, construction and finance in Ghana

In sum, the findings with regard to TVET involvement confirm that while there is formal involvement at a national level, many challenges remain. Key issues that require consideration is that while a substantial majority of respondents from employer associations, union federations and companies report being very involved or somewhat involved in the development of national TVET and skills policy, there is less involvement in apprenticeship development and provision as well as workplace learning. This pattern extends to other aspects of provision, where there seems to be very limited involvement. This is reinforced by company responses to the question of the quality of collaboration with TVET providers, which on average was only slightly higher than acceptable. The areas of involvement begin to provide clues about the challenges pertaining to these relationships as well as areas for possible interventions, as they appear to focus more on policy and occupational standards rather than on implementation and on interventions that support the integration of learning and work.

3.2 Types of Training

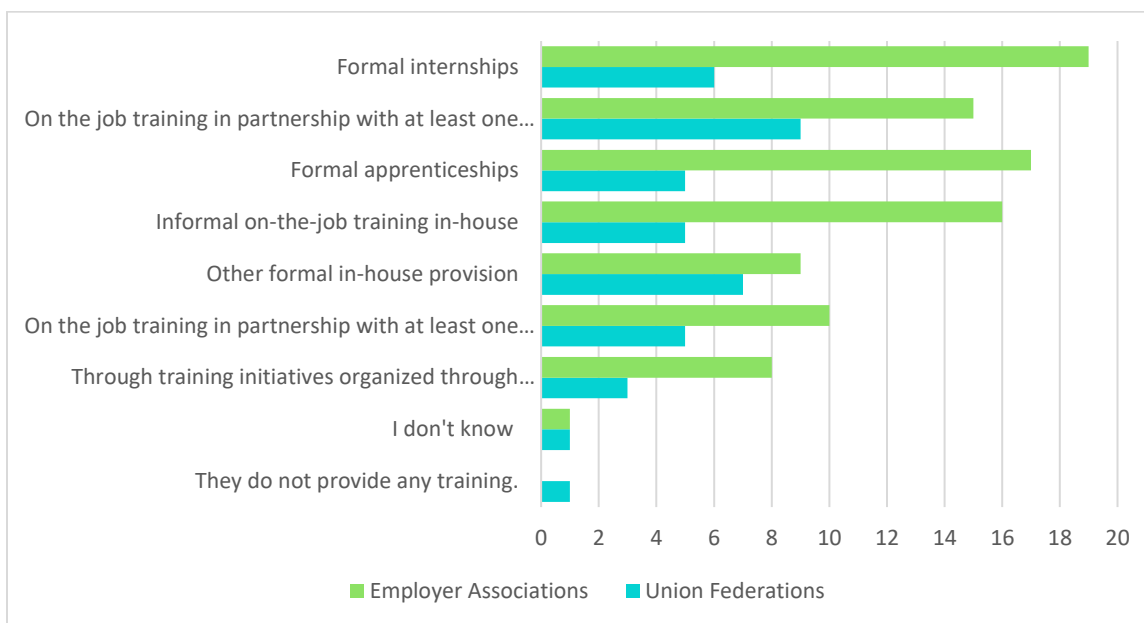
The nature of training, and the extent to which it is done in conjunction with the TVET system, is an important aspect of TVET linkages. We asked all three groups of respondents about the dominant forms of training for two categories of workers¹⁸.

- The first category is plant and machine operators and assemblers/clerical support workers/service and sales workers. While definitions and debates about defining skills and categorizing them into levels are complex and difficult to resolve, for ease of reading these workers are referred to as semi-skilled workers below.
- The second category is technicians and associate professionals. These are referred to as skilled workers below. We asked companies which of the three categories for semi-skilled, and the two categories for skilled workers the majority of their employees fall into.

Figure 13 shows the responses from employer associations and union federations for the first occupational level, plant and machine operators and assemblers/clerical support workers/service and sales workers.

¹⁸ We also asked companies for each occupational level which of the occupations are most important for the production of the product or service that the company provides. We asked this question as we wanted to gain insight into the training provided for the category of workers that is most core to the work of the company, and with the knowledge that historically in some countries TVET has focused most on manufacturing occupations.

► **Figure 13: Most frequent types of training, employer associations and union federations, semi-skilled workers**

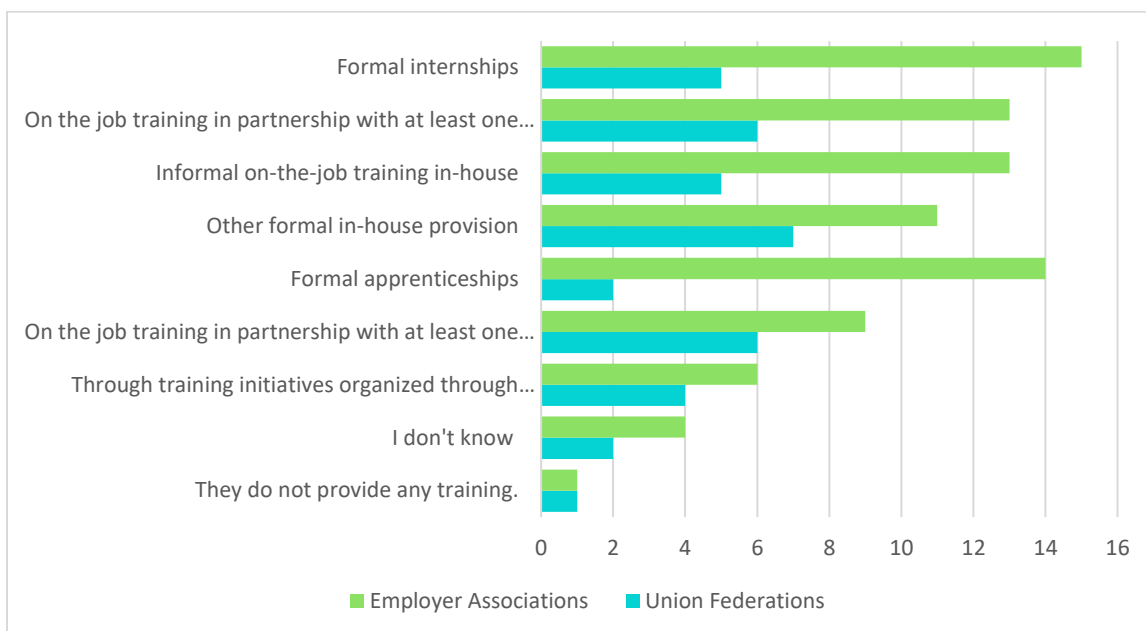


With regard to the first occupational level, or semi-skilled workers, we find that employer associations report a strong emphasis on formal internships and apprenticeships, followed by informal on-the-job training. Nonetheless, while not the top choice, employer associations also mention formal on-the-job training in partnership with a public TVET provider as a frequent method of training. Interestingly, this category is the one most emphasized by union federations, followed by 'other formal in-house provision'.

We found some differences in emphasis between employer associations from English and French-speaking countries for semi-skilled workers. The former responded that apprenticeships is the dominant form, followed by formal internships and informal on-the-job training and then on-the-job training in association with a public TVET provider. The employer associations from French-speaking countries, by contrast, report formal internships as the dominant form of training, followed by on-the-job training in conjunction with a private provider, followed by both on-the-job training in conjunction with a public provider and informal on-the-job training.

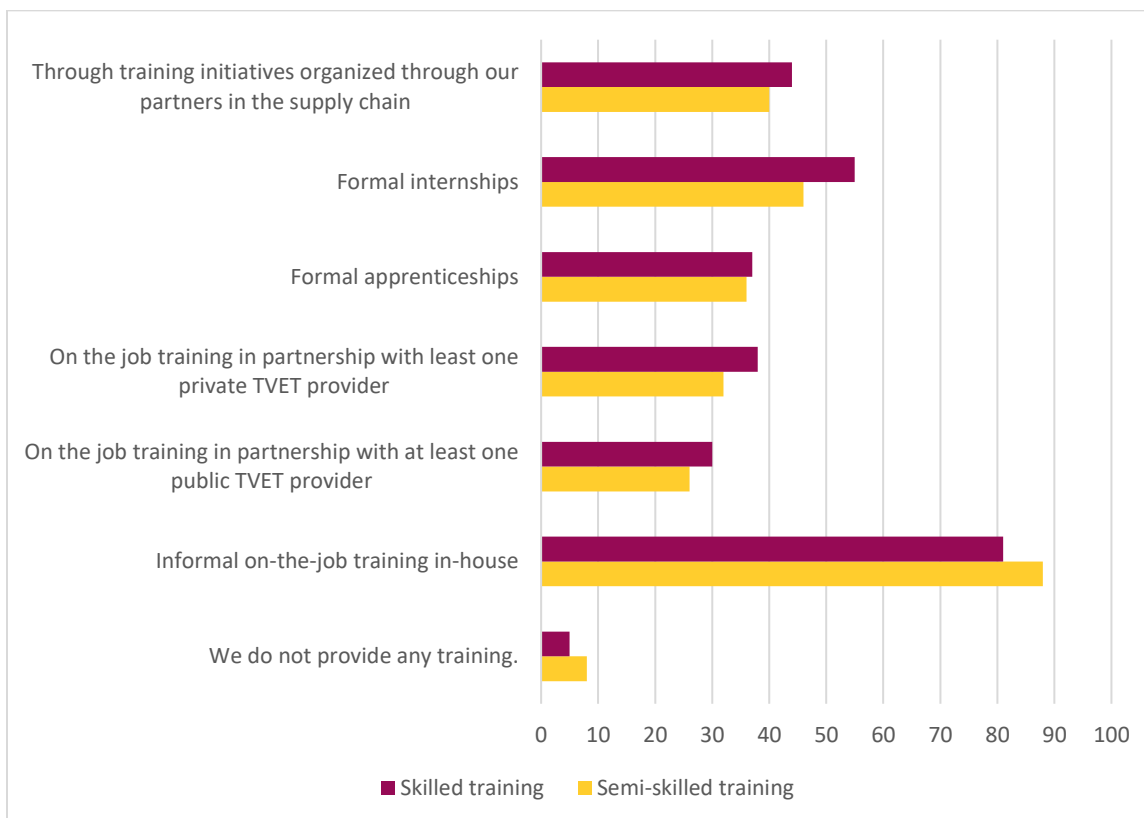
The picture with regard to training of technicians and associate professionals is very similar as shown in Figure 14 below. Again formal internships and apprenticeships come out tops, with apprenticeships being more reported from associations from English-speaking countries, and internships from French-speaking countries. Employer associations also mention other formal in-house provision, followed by formal provision in conjunction with a public TVET provider. French employer associations suggest again that formal internships are the dominant form of training, followed by formal training in conjunction with private providers and informal on-the-job training.

► **Figure 14: Most frequent types of training, employer associations and union federations, skilled workers**



Most interestingly, for both levels, these views are different from those presented by companies, who report informal on-the-job training as by far the dominant form of training for both categories of workers, shown in Figure 15 below. Formal apprenticeships and internships are mentioned for semi-skilled workers, but as a much smaller proportion, and apprenticeships are approximately the same as on-the-job training in partnership with a public TVET provider. The dominance of informal on-the-job training is expected, but, it should be remembered that these are companies that appear engaged with TVET in various ways—using it for hiring, and having positive impressions of it. There are similar proportions for formal training of skilled workers, in conjunction with TVET providers, apprenticeships, and internships respectively. There was a slightly larger role for formal on-the-job training in conjunction with public provision from companies from English-speaking countries and slightly larger with private providers in French-speaking countries. More than half of the employees at this level were reported to be technicians versus associate professionals.

► **Figure 15: Companies, most frequent types of training, skilled and semi-skilled workers**



It is generally supposed that larger companies provide more training, and certainly more formal training. Therefore, we checked the patterns of reported dominant forms of training against company size (based on number of employees).

Nearly a quarter of the semi-skilled workers were described as Plant and machine operators and assemblers, and a third as Services and sales workers, with only a tiny number of Clerical support workers, with a greater share of Clerical support workers reported by companies from French-speaking countries. Companies from French-speaking countries report less on-the-job training in conjunction with public TVET providers, and slightly more with private TVET providers, compared to companies from English-speaking countries. Also interesting to note is that while companies report fairly low levels of apprenticeships as a form of training their staff, when we asked them later if they offer formal apprenticeships and internships to young people, a majority (24 and 33 respectively of 36 respondents) from French-speaking countries responded in the affirmative. 64 of 92 respondents from English-speaking countries report that they offer apprenticeships to young people, and 82, indicated that they offer formal internships. Figure 16 below shows the percentage that reported offering apprenticeships and internships as a percentage of those who responded on this item.

► **Figure 16: Companies that report offering apprenticeships and internships to young people**

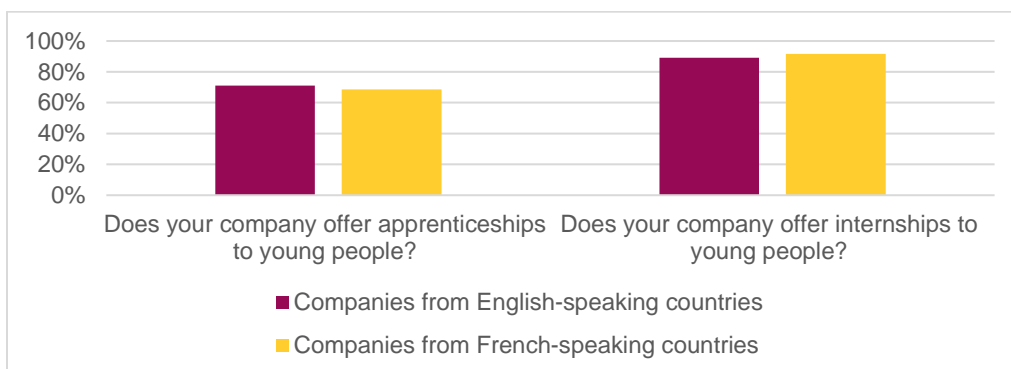
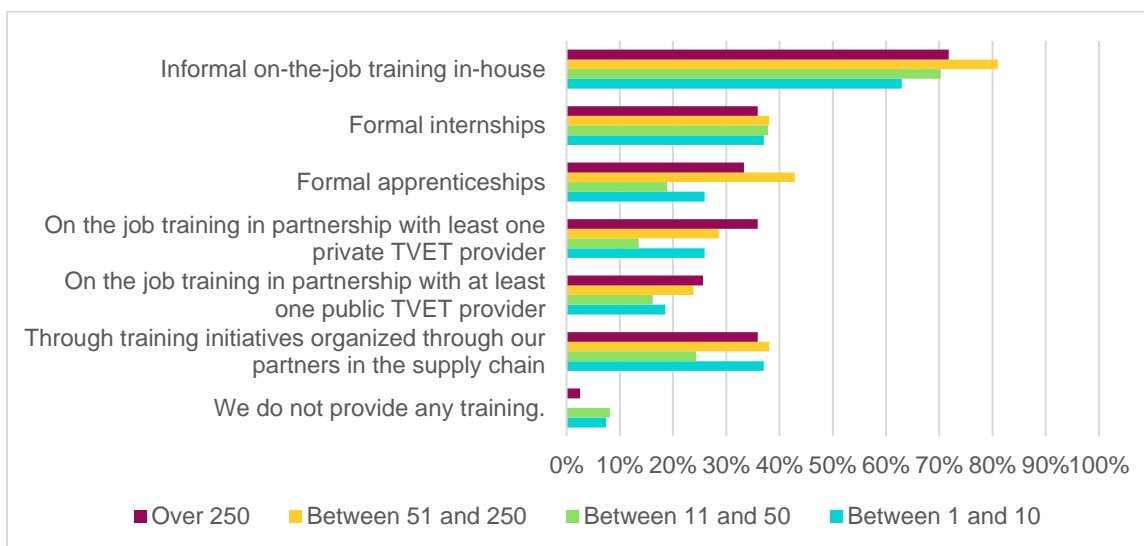
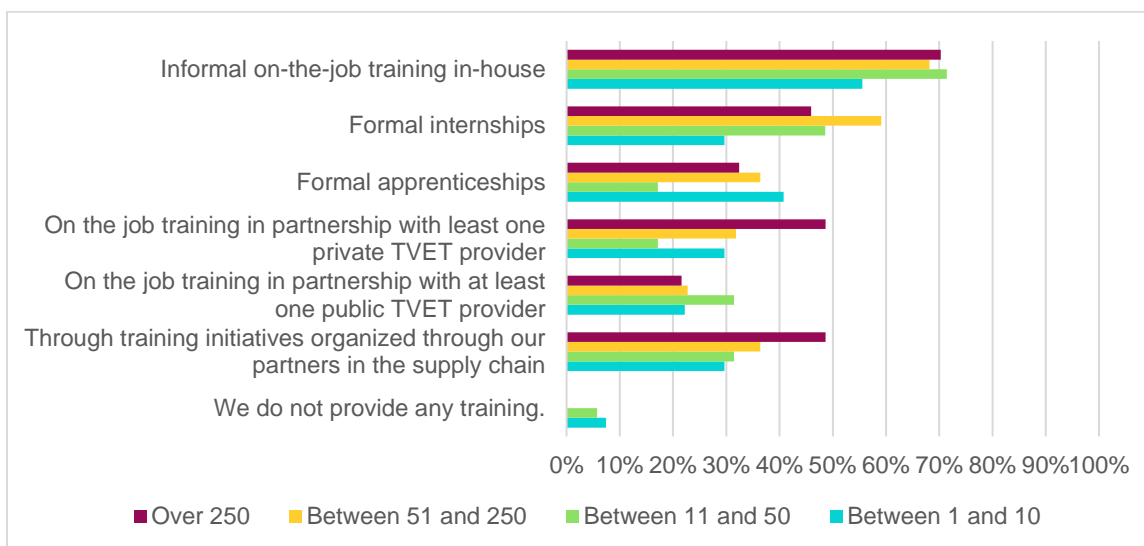


Figure 17 and Figure 18 below show that company size does not seem to be a major factor; while there are some minor differences, in general the reported trends for companies as a total group appear to hold for different sizes of companies. Recall that the numbers of responses are not the same for different groups—we obtained the most responses from very large companies, with more than 250 employees (39 responses) and medium-sized companies with between 11 and 50 employees (38 responses). We obtained 29 responses from small companies (fewer than 10 employees), and only 22 from large companies (between 51 and 249 employees). It is interesting that medium-sized companies, the second largest group, do not report dramatically different patterns to those from very large companies, the largest group in our sample.

► **Figure 17: Companies, relative percentages of most frequent types of training, semi-skilled, by company size**



► **Figure 18: Companies, relative percentages of most frequent types of training, skilled, by company size**



Related to company-based training is the question of designated training facilities: 63 of the 128 companies report having designated training facilities. When controlling for size, again we found it not to be a controlling factor. Roughly half of the companies reporting having designated training facilities were in the manufacturing sector.

Two overall points stand out. The first is that the national bodies have a different picture of what is happening in companies to that which companies report. Of course, the former groups are more representative in our study, and our group of companies is anecdotal, but the trends are nonetheless striking.

Secondly, what is of interest is that there is a focus on formal provision but that this is also coupled with a strong emphasis on informal on-the-job training, particularly from companies. This combination is explored further in the following section in terms of how this differs in terms of requirement for recruitment and for the training of employees.

3.3 Perception of TVET qualifications and hiring decisions

Perceptions are important. Negative perceptions can reinforce low levels of involvement and weak linkages, while positive perceptions can lead to positive cycles. We therefore explored social partners' perceptions of TVET.

We first asked company respondents to rate their perception of TVET qualifications, using a slider which could be dragged to different positions between strongly agree, not sure, and strongly disagree. Company respondents were asked about three ways in which TVET could be seen as important to them:

- whether having staff with TVET qualifications is an important factor when making decisions about introducing new technology;
- whether staff with TVET training are more productive; and
- whether staff with TVET are easy to train.

Companies overwhelmingly rated TVET qualifications positively with respect to all three issues, with some unsure responses, and very few disagreeing, as shown in Figure 19, Figure 20, and Figure 21 below. We consider each of the three points separately below, separated by company size (size of the labour force).

- **Figure 19: Company perceptions: having staff with TVET qualifications is an important factor when we are making decisions about introducing new technology**

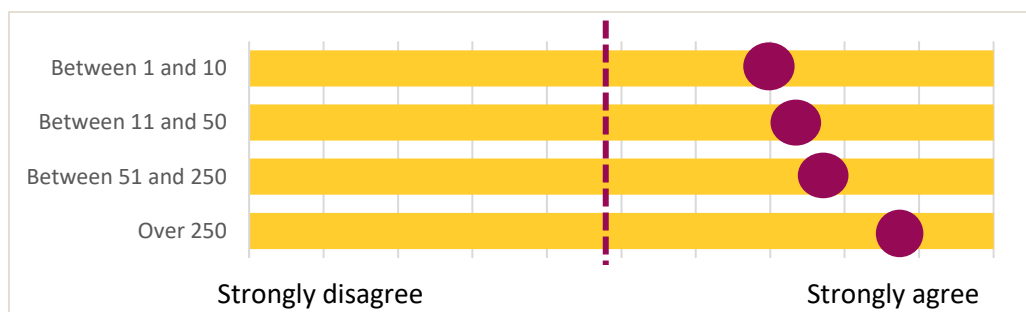
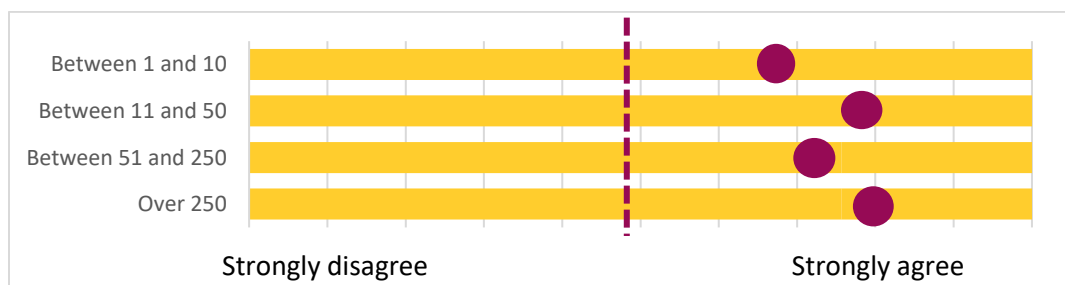


Figure 19 shows that the majority of company respondents rated TVET favourably, or as an important consideration, when making decisions about new technology, and that this is the case for all company respondents, but more strongly so for larger companies.

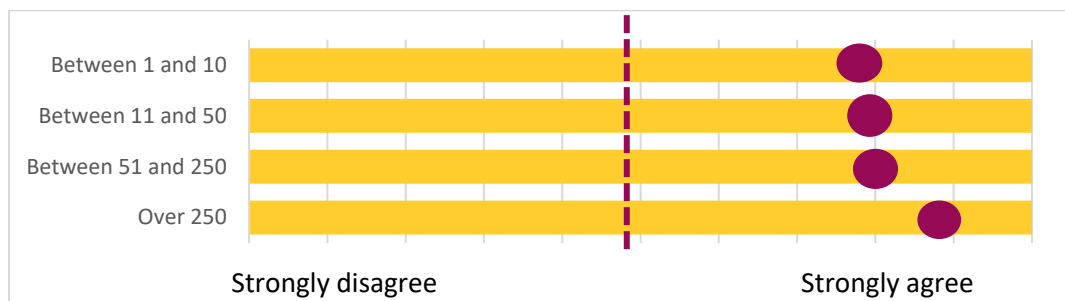
Figure 20 below shows a similar picture with regard to perceptions of TVET and the productivity of workers. While the large companies here show the strongest preference, it should be recalled that we had only a small number of respondents in this category, and the number of positive responses for medium-sized companies is similar to that of very large companies.

- **Figure 20: Company perceptions of TVET: Staff with TVET training are more productive**



Finally, Figure 21 confirms the picture with regard to trainability: a considerable majority of company respondents saw TVET as contributing to the trainability of staff with respondents from very large companies reporting the strongest trend in this regard.

► **Figure 21: Company perceptions: Staff with TVET training are easy to train**



We also gave respondents space for additional comments. Many company respondents emphasized the importance of work ethic and soft skills, with comments such as: 'Experience, character and maturity', 'Attitude is also key', 'Discipline is key, irrespective of one being a genius or talented', 'SELF DISCIPLINE' [sic], 'Design thinking and innovative ideas', 'Seriousness', 'Attitude to work'. A few argued that TVET providers should focus more on soft skills in the curriculum.

Employer emphasis on personal attributes and soft skills is a strong trend in literature considering employer perspectives on skills, and is not surprising here. However, the strongly positive view of the role that TVET qualifications play did surprise us.

To cross-check these responses, we investigated the use of TVET qualifications in hiring decisions. Hiring decisions are a potentially important indicator of the seriousness with which employers regard the TVET system. We asked company respondents about hiring preferences for the two occupational levels described above (plant and machine operators and assemblers/clerical support workers/service and sales workers, referred to in the discussion as semi-skilled workers, and technicians and associate professionals, referred to below as skilled workers).

We gave a set of seven options for the level of semi-skilled workers. We had a set of eight options for the skilled level (technicians and associate professionals), because we included university qualifications, assuming that many technicians and associate professionals might obtain a post-secondary certificate or diploma from a tertiary institution, or even a bachelors' degree. Respondents were asked to select a maximum of three responses for each category. We were surprised by the high number of responses suggesting TVET qualifications are important in hiring decisions, as shown in Figure 22 and Figure 23 below, although admittedly work experience is, predictably, as strongly mentioned.

► **Figure 22: Most important qualifications considered when hiring plant and machine operators and assemblers/clerical support workers/service and sales workers**

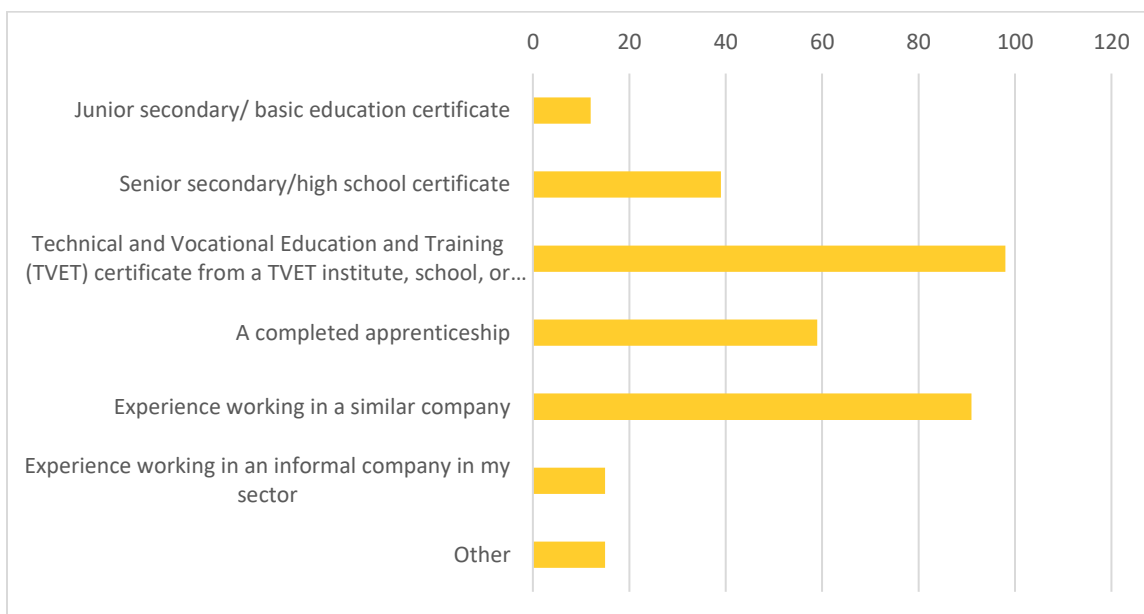


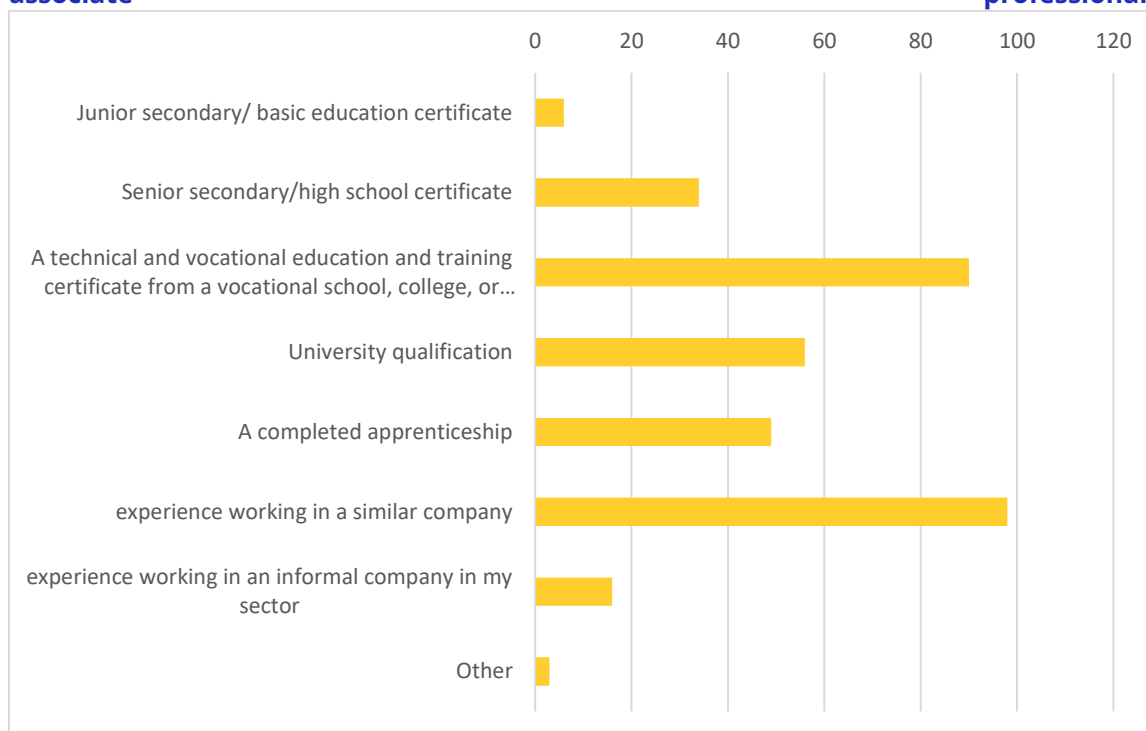
Figure 22 above shows that companies which responded to our survey report a strong preference for TVET qualifications and completed apprenticeships when hiring plant and machine operators and assemblers/clerical support workers/service and sales workers. Work experience is also strongly emphasized. When this is disaggregated into companies from English and French-speaking countries, the former have a stronger preference for TVET qualifications, with work experience as second, while the latter emphasize work experience slightly more than TVET qualifications, which came in second. Nonetheless, the relatively high responses in favour of TVET go against not only the literature discussed above, but also the wide-spread negative perceptions of TVET qualifications. This could indicate a preference for TVET qualifications because it is they see it as the best option in the available pool of candidates for certain types of occupations, and that workers with a TVET background are easier to be trained, and does not mean that TVET is sufficiently up-to-date or of the right quality. Future research should explore these issues in more depth, in particular what work-related knowledge and technical skills are provided by the company after hiring, who provides them, how the trainers are trained, and, although this is difficult to establish, what they value about TVET qualifications.

The relatively (and surprisingly) high mentions of TVET qualifications persisted for the next occupational level, technicians and associate professionals, as shown in Figure 23 below. Interestingly, company respondents rated work experience more highly at this occupational level—something we did not expect, as formal training for technicians at least is very important.

A reasonable number selected university qualifications. Here we see an even higher proportion mentioning work experience as the first choice, followed by TVET qualifications, and then university qualifications and apprenticeships.

The pattern was similar when we considered the hiring priorities only for companies in which the majority of semi-skilled workers were described as plant and machine operators and assemblers as for those for whom the majority of workers were described as service and sales workers; similarly, controlling for whether the majority of skilled workers were technicians or associate professionals did not have a strong effect on the pattern of prioritization from respondents. For companies from French-speaking countries, there was a slightly stronger prioritization of completed apprenticeships for plant and machine operators and assemblers, and slightly stronger prioritization of TVET qualifications for technicians, while work experience was more strongly emphasized for both sales and service workers and associate professionals.

Figure 23: Most important qualifications considered when hiring technicians and associate professionals



We gave companies options for elaboration if they did not use TVET qualifications for hiring. Bearing in mind that the selections of 'other' were very small at both occupational levels, it is nonetheless interesting that of those who did not select TVET qualifications at the semi-skilled level, the majority of companies from English-speaking countries (7) gave as a reason, that they prefer to hire candidates who have completed secondary school and train them. The majority from French-speaking countries (4) selected that the programmes are too theoretical and do not provide learners with practical skills.

When we gave companies space for additional comments on hiring, they again strongly emphasized work experience, as well as soft skills. For example: 'behaviour is critical, ability to learn'; 'la volonté d'apprendre et la patience de gravir les échelons'; and 'work ethics, professionalism, honesty and truthfulness of the employees'. Some emphasized technical

skills, but did not explain what they would regard as an indicator of technical skills—perhaps companies test prospective employees; one respondent indicated that this should be done. Some mentioned misalignment of training and employers' needs; for example: 'TVET technical training lack to the technological training equipment & staff to training technicians on the current technology demands' [sic]. One argued that there is a need to review artisan salaries to attract more youth into the sector, and another argued that there is 'Need for more coaching and mentoring since labor turnover is high among the professional technicians since they focus on which company pays more not career development.' A few companies mentioned that background checks and reference checks are important in hiring decisions. A few mentioned adaptability or versatility: 'Fluidity of the person to readily take up other assignments' and 'Versatility in the performance of certain technical functions (Machinists).

As a final cross-check of company TVET perception, we asked respondents who selected TVET qualifications for semi-skilled workers, and TVET or university qualifications for skilled workers, to list the specific qualifications. This question was included to attempt to get more fine-grained insight into the valuing of qualifications, and in particular, we were interested to see whether respondents would mention particular institutions or particular qualifications. We also wanted to check the extent to which potential selection of TVET and university was a genuine choice, and not just a pragmatic response to a survey. Disappointingly, no respondents indicated specific institutions—which would have been an indication of a strong relationship. Very few respondents even listed types of qualifications. The few that did include:

A S.4 Certificate, a certificate/diploma from a technical college in mechanical/Electrical engineering or water/plumbing

Ordinary Diploma or Higher Diploma in Electrical studies, with practical skills for hands on for the Technical side, while the sales we look at Bachelors in business administration with customer focus

Degree in Banking and Finance, Degree in Insurance and Risk management, Diploma in Banking and Diploma In Insurance. Degree in Business management.

Theoretical graduates with at least N1 & N2 with 4 subjects in each with Motor Trade Theory as the key subject to be trained as an apprentice to become an artisan/technician. We employ our own trained and qualified artisans/technicians.

N4 motor mechanic

Form 5 for the non- skilled positions and exposure in water management. For skilled position we require a degree from a recognized University

Engineering Diploma / Degree; N6 for Apprentices

Technician's certificate, Engineer

Technician, HND and First Degree

A3, A2, A1 & Engineering

Technician: bac +5

Malawi School Certificate of Education (MSCE);
Recognized College or University diploma/degree

Some listed occupational types, such as 'Fitter, Welder, electrician, auto electrical, Machine operators', and 'Mechanics, Electromechanics, Electricians, Automation Technicians'. Presumably, in those countries there are regulated qualifications that allow entry into these occupations. Some other examples include:

1. A qualified experienced Machinist
2. A qualified experienced mechanic
3. A qualified experienced cutter
4. Patternmaker
5. Quality professional
6. Workstudy professional

Despite the fact that this question asked specifically for TVET and university qualifications, many respondents gave answers related to soft skills or answers that did not relate to qualifications, with responses such as 'soft skills'; interpersonal and human relation skills'; 'communication skills'; 'agility, curiosity, rigor', ability to synthesize; 'experience and passion'; and 'a spirit of team work'. Another said they are looking for 'Personal qualities such as motivation to learn.' No respondents mentioned how they screen for such characteristics—perhaps in interview processes. Some mentioned language and maths proficiency, but not sizeable numbers.

Some mentioned more technical skills, but did not say what they would regard as a signal of these skills: 'Information and Communication, including use of computer and the internet' and 'Advanced/modern technical/automated/work processing skills', and

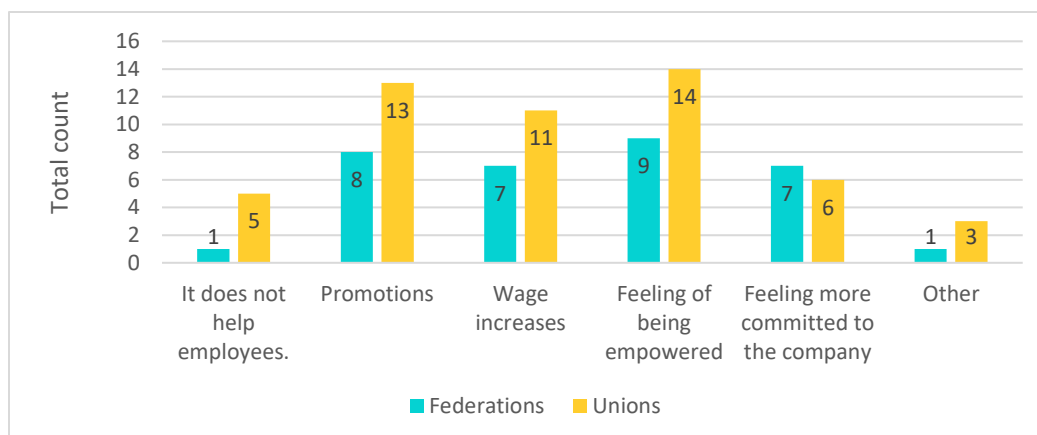
Operation of specialized machines and software - knowledge of the different machines on the production line, know how to use the control panels, knowledge on the safety, hygiene and quality standards, know how to carry out dosage and use measuring means, know how to use testing, measuring and other types of tools, handle manual tooling for processing as well as adjusting production machines and devices.

Technical skills, knowledge of the profession industry and business skills, knowledge of the organization of production, knowledge of manufacturing machines, knowledge of general mechanics, methodical problem-solving skills.

While one mentioned the need for degrees for administrative staff, they also emphasized experience. The same respondent said, 'Basic education and creativity for production lines, Experience and physical fitness for operators'. Another said that while they were looking for candidates who have 'an apprenticeship certificate but with basic skills needed for the required work., they would also accept someone with no qualifications but who understands the knowledge required for the work.

Finally, we asked union and union federations whether training benefited employees. Again, we got a rather positive response, as seen in Figure 24 below.

Figure 24: How does training help employees? Does it assist with any of the following:



Respondents indicated that they felt that training benefited employees. There is a fair spread across benefitting employees in terms of promotions, wage increases, feeling empowered, and feeling committed to the company, although in terms of the last category, it is noticeable that higher numbers of union federations selected it as compared to unions. Only 3 union respondents, and no union federation respondents, suggested that training was of no benefit to employees.

In short: the findings in this section pull in different directions. Regardless of company size, company respondents rated TVET favourably in terms of three important ways in which it could be a factor in workplaces. The fact that TVET qualifications were seen as a significant factor in hiring decisions also counteracts the general perception that companies are dissatisfied with TVET. However, the small number of specific qualifications mentioned, together with the strong emphasis on soft skills and personal attributes in open-ended comments, confirm that TVET is important but that there continues to be an emphasis on other factors such as workplace experience. This despite the finding, highlighted in the previous section, which suggests that many companies are not focused on either apprenticeships or workplace learning.

3.4 Factors that could shape TVET involvement

The final set of issues which we explored is a set of issues that could shape the ways in which social partners and companies engage with TVET provision and skill formation. Given the need to keep the surveys short, these were not probed in any detail, but rather attempted to gain some initial insights into whether or not these areas would be worth pursuing in

subsequent research into linkages with TVET and the productive sector. A short-coming in the survey is that sector skills councils were not focused on specifically, and this is certainly an issue for future research.

The first issue is industrial policy. We asked respondents whether industrial policy incorporates skills policy in their countries/sectors. In terms of employer associations, 11 agreed that skills policy is incorporated into industrial policy. Seven disagreed—all from English-speaking countries—and 18 were not sure. More unions agreed with the statement that skills are a part of industrial policy—9 versus 6—and it should be noted here that the vast majority of our small group of union respondents were from industry or sector-based unions. Union federations were fairly even, with 10 saying skills are integrated, and 7 that they are not. The issue is a tricky one to explore in a survey, as there are different ideas about what industrial policy is, as well as what it means for skills to be incorporated into industrial policy is complex. A cursory analysis of industrial policies from a number of African countries suggests that skills are mentioned in the policies, but usually listed as an add on, or, as a necessary ingredient, but it is not easy to find examples of specific policy levers within industrial policy incorporating skills in an embedded way.

Most of the countries have an official industrial policy or what is described as an 'export policy', although some have only broader national development plans (a list is available of the policies considered). Some policies are quite old, and we could not find newer ones, but this may be remedied through interviews; with the older policies we were also not able to gain any insight into the extent to which they were implemented.

What we focused on was how these policies address education and skills. This led us to debate about what counts as integration of skills into industrial policy. In general, our analysis was that even those policies which foreground education and skills do so in a way that sees skills as an 'add on', or an 'input' and not something to be developed as part of the industrial strategy. This could, of course, be a result of only looking at high level policy documents, which don't have, for example, detailed descriptions of incentives.

One dominant theme in terms of how skills are mentioned is generic statements about 'fixing' or aligning' VET.

For example, the Namibian Vision 2030 says it will 'link and align skills development with the envisaged Vision 2030 industrial structure'. Ghana's industrial policy emphasizes 're-orienting' vocational, technical and commercial education to 'put more emphasis on skills development to address the needs of industry' and to 'strengthen existing training institutions to deliver training programmes that better meet the existing and future STI needs of industry'. Similarly, the Senegalese policy states that strengthening 'human capital' will promote the economic and social integration of human resources and will support long-term growth.

The Nigerian policy states that 'Reforms will be instituted to reduce the lack of focus, coordination, the duplication of efforts by some skills acquisition institutions such as the National Directorate of Employment (NDE), Industrial Training Fund (ITF) and the National Poverty Eradication Programme (NAPEP).'

Egypt's strategy says that the Government of Egypt will partner with the European Union to implement a comprehensive policy for the reform of technical and vocational education and

training in industry, building and construction, and tourism. The Mauritian policy says they will establish a ‘forum between the demand side and the supply side to address the skills mismatch’, and Mauritius and Egypt both say they will help companies with ‘skills audits’. Kenya says it will encourage ‘youth to sign up for technical courses’.

Some policy documents (Egypt, Nigeria) mention public private partnerships as some kind of magic bullet ‘to help provide the skills, core competencies and best practices needed to deliver high standards of services, products and other public goods.’ Some (eg Egypt, Ethiopia) specifically mention partnerships between TVET providers and industry.

Many of the policies mention the importance of short-term training programmes to meet immediate needs—but don’t provide any more specificity. Many of the policies emphasize management skills, and some social skills. Many focus on the role of universities and research and development.

However, none of these points are integrated into the actual policies and trajectories for building specific industrial sectors, other than, for example, a mention in the Ghanaian policy of incentivizing employers to create training facilities. Nigeria’s Industrial Revolution Plan (2014) talks about ‘Enterprise Zones’ aimed at incorporating the informal sector into the organised private sector, by enabling them to feed their products into the value-chain of large-scale industries. The centres are intended to accommodate ‘mechanics, block makers, small-scale furniture manufacturers, timber merchants, welders/metal fabricators, garment makers, and other categories of artisans and vocational workers’, and, each centre will have a Skills Acquisition/Training Centre. The policy also mentions incubators, and says that ‘Government will foster entrepreneurial knowledge and skills in students of Polytechnics and Technical and Vocational Colleges Government by encouraging their involvement in local manufacturing capacity for basic water supply and sanitation equipment and control devices’. Ethiopia’s Ethiopian Industrial Development Strategic Plan (2013-2025) mentions the importance of creating a ‘conducive working environment to retain and motivate the existing skilled labour force’.

However, even these points about the relationship between TVET and industrial development, which are more specific and targeted, are presented in a generic way, with no mention of how it will be done or in which sector.

More alarming is when education and/or skills are presented as a specific part of industrial policy, but in a ‘stand alone’ manner. For example, Cameroon’s Vision 2035 promotes the manufacturing sector, development of infrastructure, and ‘human capital formation’, which places an emphasis on all levels of skills from high level R&D skills and technical skills. There is no sectoral analysis of skills. Similarly, a Kenyan policy states that ‘industrialization can only take place when there is a strong and well-trained workforce from all levels of training’. It goes on to say that the policy takes into consideration the importance of high-level, intermediate to low level technical and also highlights the communication skills required in fostering industrialisation in Kenya. South Africa’s National Development Plan similarly presents education as the factor which will lead to economic development. By contrast Senegal’s Plan Emergent positions education more as social welfare, although there is some mention of human capital development.

Another indicator of strong relationships or of industry coordination which could lay the basis for better relationships is training within supply chains. We asked companies whether they train workers from other companies, both formal and informal companies within their supply chains. The yes responses were higher than expected. In terms of formal supply chains, 55 companies report training workers from other companies, and in terms of informal supply chains, 56 companies. While this response would be more expected within manufacturing companies, recall that only 30 of our total list as being in manufacturing.

87 companies reported having invested in new technology in the 3-year period before March 2020; interestingly, the numbers from the companies in English-speaking countries reflect a strong majority that has invested in new technology, while the French speaking countries were more split. 95 companies reported having made changes to work organization in this period. 87 companies reported having introduced new products or services. However, when controlling for new technology, new work organization, and new products, we do not find substantially different patterns for dominant types of training, nor for hiring.

Another issue that could affect TVET linkages is collective bargaining. Literature on skill formation systems suggests that industry-level collective bargaining could support stronger training systems.

Unions report a stronger role for national and sectoral collective bargaining, and almost no company level collective bargaining; the employer associations report a mix, but with much more at company level in Anglophone countries, and more at national level in Francophone countries. A possible issue for follow up interviews is the extent to which skills related issues are included in collective bargaining agreements. Respondents (employer associations and unions) reported a fairly mixed picture, with the largest number of company-based collective bargaining reported by employer associations from English-speaking countries (16), with 10 each for sectoral and national bargaining. Employer associations from French-speaking countries had slightly more at a national level (12), with 10 each for company and sectorally-based negotiations. The picture from the unions was also mixed, with company-based negotiations slightly dominating. We did not have sufficient responses to really probe for different patterns here, but it may be something worth pursuing in future research.

► 4. Conclusions

4.1 Overall analysis

The overview of research literature suggests there are, in many countries, systems for engagement with employers on skills needs; systems for engagement with employers on standards, qualifications, curricula and assessment; partnerships for provision of training; and aspects of skills development incorporated into economic development strategies. However, there is little research into how well they are functioning and the extent to which they are contributing to meeting skills needs.

Our survey shows that in terms of formal involvement in TVET systems, the findings are indicative of many remaining challenges. On the positive side, social partners report that they are involved in the development of national policy, as well as, to a lesser extent, governance of TVET systems, skills anticipation, and the development of occupational standards. However, in the open-ended comments, in a number of the different questions, there is an overwhelming sense that partnerships are either absent or very limited.

As would be expected from previous research findings, the weakest involvement is seen from the unions and union federations—even to the extent that we struggled to get a reasonable number of union federations to complete the survey. Unions also feel the least involved in the formal systems. However, the weakness and fragmentation of unions in many countries will inevitably mean that involvement continues to be weak. This undermines the extent to which social partners are collectively engaging in determining the priorities for skills development, which is a concern as collective engagement is highlighted as important for realizing the intentions of skills development systems.

Across social partners, one point that is clear is that involvement gets weaker in areas that are closer to provision—in other words, there is more participation at national policy levels, and least in terms of offering actual TVET programmes. This corroborates the existing research that suggests that partnerships for provision is a weak point. It also perhaps explains why involvement, collaboration, and partnerships are formally present but not seen as effective—particularly if relationships with colleges are weak. It also does not bode well for something highlighted as a challenge by respondents to this survey and elsewhere in the literature: that theoretical training and practical experience in workplaces are poorly integrated. It also raises questions about the extent to which employers can support adaptations to the curricula at the point of provision. This is a real concern given the rapidly changing nature of the world of work. One partial exception to this is that many employers suggest that they are involved in assessment. The possibility of building on this engagement to support improved involvement in the actual provision could be useful to consider.

Companies that responded to this survey suggest TVET qualifications are a relatively significant consideration for hiring; this was unexpected. It could reflect the nature of the companies which self-selected into answering the survey. Nonetheless, it offers some more hopeful perspectives about employer-perception of TVET, in relation to the usual litany of woes. Further, and even more interesting, the companies rate TVET qualifications as important when introducing new technology, as well as perceiving TVET training as making

staff more productive and easier to train. This contradicts the wide-spread view that TVET systems in African countries are viewed as irrelevant and out-of-date, although critical comments were also received along these lines. The extent to which these views are corroborated with data from tracer studies about whether TVET learners transition into related workplaces and how they perform in these workplaces would strengthen this analysis. The capacity to undertake this analysis so that it is possible to then distinguish more finely as to which programmes, and in which sectors, are performing better this would support more targeted interventions in the TVET environment.

4.2 Further research

The review of published research highlights how little robust and peer-reviewed research there is about vocational skills development in Africa, and the urgent need for more research. Many respondents of the surveys indicated that they would be open to further engagement. Targeted in-depth interviews with ministries, employers, employer associations could yield further valuable insights.

In terms of the survey findings, what is interesting and important to attempt to gain more insight into is why involvement is not valued at all levels and why the general perception of VET being weak still persists. Research into the ways in which sectoral skills bodies are functioning, and the extent to which they are bringing education and training provision closer to the productive sectors is also important. Further, we did not ask unions questions about their skills policies, and the ways in which they engage with skills issues in collective bargaining, and these are issues which could be pursued in future research.

As indicated above, the research reinforces the need for better tracer systems for TVET graduates, as well as for company interviews, to gain more insight into where TVET graduates are hired, and in what kinds of jobs. There is need for more research into systems for developing qualifications and curricula for the world of work, and the role of social partners in these, as well as systems for skills anticipation coupled with mechanisms for increased levels of responsiveness.

This research finds that while employer associations perceive that formal training is prioritized this is not confirmed by companies. We know very little about the relationship between formal and on-the-job training and how these reinforce each other—or could do so more effectively.

It is interesting that the vast majority of companies report that they do conduct training, but also that a majority report that they are not involved in TVET provision—suggesting that companies see the training they provide as completely separate from the TVET system. We have also noted that even less is known about how skills is used in sectors that are not formal—which this research does not touch on. All of these, as well as more insight into the extent and nature of curriculum flexibility at the point of provision, are important for future research.

4.3 Policy implications

Our research findings point to rather superficial links between skills and industrial policy and development. Yet, it is in sectoral economic strategy that more nuanced skills policies can be developed. Clearly, finding ways of building more meaningful partnerships between providers and employers, that build on the training which is happening in companies, is a key challenge for policy makers and development partners in Africa. It is also important to start developing policies and funding frameworks that are more cognizant of the full picture of different types of training. This would require policy that is highly specific to different industrial sectors.

While formal systems for engagement around skills are important, and are emerging in different countries, education providers as well as representatives of education and training systems need to be supported to be more embedded into economic planning processes. For example, where there are industrial planning processes, policy makers from education systems, educational providers, or labour market intermediaries should be involved in these as well as other processes around building the economy. This can ensure that decisions related to industrial transformation both support and are supported by skills provision.

Skills planning needs to be built into ongoing process of engagement, in different ways, and at different levels of economic and education and training systems. This means that instead of skills being seen as an 'add on' at the end, or a list of projected skills to be produced in order to support an industrial development strategy, crucial decisions such as about changing work organization and changing technology need to incorporate a focus on skills. And it means that providers and employers need to develop better insight into each other's needs and capacities. This can be developed through working together on provision and delivery of specific programmes, and by ensuring that formal programmes and on-the-job training complement each other. Planning in this manner would entail matching or integrating both the policy and incentive environment for industrial policy and economic development, as well as TVET and skills development incentives and funding mechanisms. Where employers take training seriously, they balance most or all of these different kinds of training, which complement each other. However, policy and funding mechanisms often look at individual interventions, and do not see them as part of a bigger picture. This can aggravate weaknesses of TVET provision—because it is not integrated into a bigger package of vocational skills development. Support from donors and development agencies should, by implication, support skills and TVET interventions as part of broader economic development and demand creation interventions, as opposed to stand-alone reform of TVET systems.

Curriculum flexibility is another key area for both future research and policy support. Curricula in TVET tend to either be completely centrally prescribed or completely decentralized. Centralized curricula can deter employer involvement because they feel they can't input into the nature of training—and in this survey, the fact that there is some involvement at the level of assessment suggests that they are concerned with knowing what trainees can do and have learnt.

Finally, there is a major need for better data and information management systems, as well as coordination of data across the range of different types of vocational skills development provision; this is an area where countries need considerable support.

► References

- Adams, A. V. (2010). The Mubarak Khol Initiative-Dual System in Egypt. An assessment of its impact on the school to work transition [Report of the Cooperation between the Arab Republic of Egypt and the Federal Republic of Germany]. Egyptian Ministry of Education and GiZ.
- Adams, A. V., Johansson, S., & Razmara, S. (Eds.). (2013). Improving Skills Development in the Informal Sector: Strategies for Sub-Saharan Africa. The World Bank.
- ADB. (2020). African Economic Outlook. Developing Africa's Workforce for the Future. Abidjan.
- African Union. (2007). Strategy to Revitalize Technical and Vocational Education and Training (TVET) in Africa. African Union.
- African Union. (2018). Continental Strategy for Technical and Vocational Education and Training. African Union.
- African Union. (2020). Mapping Report: Towards the African Continental Qualifications Framework. The African Union and the Africa-EU partnership.
- Aggarwal, A., & Gaskov, V. (2013). Comparative Analysis of National Skills Development Policies: A guide for policy makers [Decent Work Technical Support Team for Eastern and Southern Africa]. International Labour Office.
- Aggarwal, A., Hofman, C., & Phiri, A. (2010). A study on informal Apprenticeship in Malawi [Employment Sector Report No. 9, ILO]. International Labour Organization.
- Ahadzie, W. (2009). The Traditional Informal Apprenticeship System of West Africa as Preparation for Work. In R. Maclean & D. N. Wilson (Eds.), UNESCO-UNEVOC International Handbook of Education for the Changing World of Work: Bridging Academic and Vocational Learning (pp. 261–276). UNESCO/UNEVOC/Springer.
- Akoojee, S., Gewer, A., & McGrath, S. (2005). Vocational education and training in southern Africa. HSRC Press.
- Allais, S. (2003). The National Qualifications Framework in South Africa: A democratic project trapped in a neo-liberal paradigm. *Journal of Education and Work*, 16(3), 305–324.
- Allais, S. (2007a). Education Service Delivery: The disastrous case of outcomes-based qualifications frameworks. *Progress in Development Studies*, 7(1), 65–78.
- Allais, S. (2007b). Why the South African NQF Failed: Lessons for countries wanting to introduce national qualifications frameworks. *European Journal of Education*, 42(4), 523–547.
- Allais, S. (2010). The Implementation and Impact of Qualifications Frameworks: Report of a study in 16 countries. International Labour Office.
- Allais, S. (2011). The Changing Faces of the South African National Qualifications Framework. *Journal of Education and Work*, 24(3–4), 343–358.

- Allais, S. (2013). Understanding the persistence of low skills in South Africa. In J. Daniels, P. Naidoo, D. Pillay, & R. Southall (Eds.), *New South African Review* 3 (pp. 201–220). Wits University Press.
- Allais, S. (2014). *Selling Out Education: National Qualifications Frameworks and the neglect of knowledge*. Sense.
- Allais, S. (2017). Labour market outcomes of national qualifications frameworks in six countries. *Journal of Education and Work*, 30(5), 457–470. <https://doi.org/10.1080/13639080.2016.1243232>
- Allais, S. (2019). TVET reform and qualifications frameworks: What is known about what they can and can't do? In S. McGrath, J. Papier, M. Mulder, & R. Stuart (Eds.), *The International Handbook of Education for the Changing World of Work*. Springer.
- Allais, S. (2020a). Skills for industrialization in sub-Saharan African countries: Why is systemic reform of technical and vocational systems so persistently unsuccessful? *Journal of Vocational Education and Training*, 455–472. <https://doi.org/10.1080/13636820.2020.1782455>
- Allais, S. (2020b). Vocational education and inequalities in transitions from education to work in three African countries. In D. Francis, I. Valodia, & E. Webster (Eds.), *Inequality: Studies from the Global South* (pp. 141–160). Routledge.
- Allais, S., & Marock, C. (2020). Education for work in the time of COVID 19: Moving beyond simplistic ideas of supply and demand. *Southern African Review of Education*, 26(1), 62–79.
- Allais, S., Marock, C., & Ngcwangu, S. (2017). Planning, plumbing, or posturing? Explaining the weakness of human resource development structures and policies in South Africa. *Journal of Education and Work*, 30(1), 3–25. <https://doi.org/10.1080/13639080.2015.1122183>
- Allais, S., Schöer, V., Marock, C., Kgalema, V., Ramulongo, N., & Sibiya, T. (2021). Rethinking “supply and demand” of technical and vocational education and training: Insights from a company survey in three manufacturing sectors in South Africa. *Journal of Education and Work*. <https://doi.org/10.1080/13639080.2021.1967302>
- Allais, S., & Wedekind, V. (2020). Targets, TVET and Transformation. In A. Wulff (Ed.), *Grading Goal Four: Tensions, Threats and Opportunities in the Sustainable Development Goal on Quality Education* (pp. 322–338). Brill | Sense.
- Altman, M., & Marock, C. (2008). Identifying appropriate interventions to support the transition from schooling to the workplace [Discussion Paper: Centre for Poverty, Employment and Growth]. Human Science Research Council.
- Amani, J. (2017). Prevalence of, and Factors Associated with, Unemployment among Graduates: Evidence from Tanzania. *Africa Education Review*, 14(3), 230–244.
- Amin, S., Khalid, I., Waheed, E., & El Ashmawi, A. (2016). *A Tracer Study of Technical Vocational Education and Training Institute Graduates in Khartoum State*. International Labour Organization.

- Arias, O., Evans, D. K., & Santos, I. (Eds.). (2019). *The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusivity, and Adaptability*. The World Bank. <https://doi.org/10.1596/978-1-4648-1149-4>
- Arndt, C., McKay, A., & Tarp, F. (Eds.). (2016). *Growth and Poverty in Sub Saharan Africa*. Oxford University Press.
- Bashir, S., Lockheed, M., Ninan, E., & Tan, J.-P. (2018). *Facing Forward. Schooling for Learning in Africa*. The World Bank.
- Bhorat, H., Cassim, A., & Tseng, D. (2016). Higher education, employment and economic growth: Exploring the interactions. *Development Southern Africa*, 33(3), 312–327.
- Billetoft, J. (2016). *Technical and Vocational Education and Training in Sub-Saharan Africa* [Background paper prepared for the regional report "The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusion and Adaptability"]. The World Bank.
- Bohlinger, S. (2007). Competences as the core element of the European Qualifications Framework. *European Journal of Vocational Training*, 2007/3-2008/1(42/43), 96–112.
- Bohlinger, S. (2012). Qualifications frameworks and learning outcomes: Challenges for Europe's lifelong learning area. *Journal of Education and Work*, 25(3), 279–297.
- Bouder, A. (2003). Qualifications in France: Towards a national framework? *Journal of Education and Work*, 16(3), 347–356.
- Breier, M. (1998). Three Questions for the Designers of the NQF. In Centre for Education Policy Development, Evaluation and Management (Ed.), *Reconstruction, Development, and the National Qualifications Framework* (pp. 68–76). Centre for Education Policy Development and Education Policy Unit.
- Broecke, S. (2012). *Tackling Graduate Unemployment through Employment Subsidies: An Assessment of the SIVP Programme in Tunisia* [Working Paper Series No 158]. African Development Bank Group.
- Brown, A. (2011). Lessons from Policy Failure: The Demise of a National Qualifications Framework Based Solely on Learning Outcomes in England. *Journal of Contemporary Educational Studies*, 62(5), 36–55.
- Brown, E. K., & Slater, H. (2018). *The Future of Work in Africa Implications for Secondary Education and TVET Systems* [A Background Paper for Master Card Foundation Study on Secondary Education in Africa]. Mastercard Foundation.
- Campos, F., Goldstein, M., McGorman, L., Munoz, A. M., & Pimhidzai, O. (2015). *Breaking the Metal Ceiling: Female Entrepreneurs Who Succeed in Male-Dominated Sectors* [Policy Research Working Paper 7503]. The World Bank.
- Centre for Researching Education and Labour. (2021). *Coordination and dialogue for skills*. Department of Higher Education and Training and the EU Capacity Building Programme for Employment Promotion CBPEP.
- Chang, H.-J. (2003). *Kicking Away the Ladder. Development Strategy in Historical Perspective*. Anthem Press.

- Cloete, N., Bailey, T., & Maasen, P. (2011). Universities and economic development in Africa Pact, academic core and coordination [Synthesis report]. Centre for Higher Education Transformation.
- Colclough, C. (1989). The higher education paradox in African development planning. *International Journal of Educational Development*, 9(4), 271–281. [https://doi.org/10.1016/0738-0593\(89\)90020-5](https://doi.org/10.1016/0738-0593(89)90020-5)
- Cramer, C., Sender, J., & Oqubay, A. (2020). *African economic development: Evidence, theory, policy* (New edition). Oxford University Press.
- Darvas, P., Gao, S., Shen, Y., & Bawany, B. (2017). *Sharing Higher Education's Promise beyond the Few in Sub-Saharan Africa*. The World Bank.
- Department of Higher Education and Training. (2012). *Green Paper for the Post-school System*. Department of Higher Education and Training.
- DHET. (2012). *Ministerial Task Team on Seta Performance [Report for the Minister of Higher Education and Training]*. Department of Higher Education and Training.
- Docquier, F., & Iftikhar, Z. (2019). Brain drain, informality and inequality: A search-and-matching model for sub-Saharan Africa. *Journal of International Economics*, 120, 109–125. <https://doi.org/10.1016/j.jinteco.2019.05.003>
- Elder, S., & Koné, K. (2014). *Labour market transitions of young women and men in sub-Saharan Africa*. International Labour Organization.
- El-Shahat, S. (2007). Power and firms' learning in the Egyptian furniture cluster of Domiat. In *Industrial clusters and innovation systems in Africa: Institutions, markets and policy* (Geneva).
- Filmer, D., & Fox, L. (2014). *Youth Employment in Sub-Saharan Africa*. Agence Francaise de Développement/World Bank.
- Fleisch, B., Gultig, J., & Allais, S. (2019). *Background Paper on Secondary Education in Africa: Curriculum Reform, Assessment and National Qualifications Frameworks [Report commissioned by the Mastercard Foundation]*. University of the Witwatersrand.
- Forster, P. (1965). The Vocational School Fallacy in Development Planning. In A. A. Anderson & M. J. Bowman (Eds.), *Education and Economic Development*. Aldine.
- Fox, L., Senbet, L. W., & Simbanegavi, W. (2016). Youth Employment in Sub-Saharan Africa: Challenges, Constraints and Opportunities. *Journal of African Economies*, 25(suppl 1), i3–i15. <https://doi.org/10.1093/jae/ejv027>
- Fox, L., & Thomas, A. (2016). Africa's Got Work To Do: A Diagnostic of Youth Employment Challenges in Sub-Saharan Africa. *Journal of African Economies*, 25(suppl 1), i16–i36. <https://doi.org/10.1093/jae/ejv026>
- Franz, J. (2017). *Apprenticeship Training in Africa [Background paper prepared for the regional report "The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusion and Adaptability"]*. The World Bank.
- French, E. (2005). *Vocational harassment: Recovering the vision of the NQF and the FET College Sector*. HSRC FET Curriculum Project.

- Gamble, J. (2020). 'Occupation', labour markets and qualification futures. *Journal of Vocational Education & Training*, 1–22. <https://doi.org/10.1080/13636820.2020.1760336>
- Ghose, A. K. (2003). Jobs and incomes in a globalizing world. International Labour Organization. http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_PUBL_9221127176_EN/lang--en/index.htm
- Gössling, B. (2015). All new and all outcome-based? The German qualifications framework and the persistence of national governance approaches. *Journal of Education and Work*, 1–22. <https://doi.org/10.1080/13639080.2014.998181>
- Granville, G. (2004). The National Qualifications Framework and the Shaping of a New South Africa: Indications of the impact of the NQF in practice. *SAQA Bulletin*, 6(1), 3–19.
- Haan, H. (2002). Training for work in the informal sector: Fresh evidence from West and Central Africa. International Training Centre of the ILO.
- Haan, H. C. (2006). Training for Work in the Informal Micro-Enterprise Sector: Fresh Evidence from Sub-Sahara Africa. Springer.
- Heitmann, W., & Mummenthey, C. (2009). The South African NQF Reform 2001—2008: From a single, integrated framework towards a tracked and linked NQF structure. South African - German Development Co-operation. Employment & Skills Development Services Programme.
- Hilsenrath, P., & Pogue, T. (2017). Distributed dynamic capabilities in South Africa's mineral resource-finance network. *Technology in Society*, 49, 57–67. <https://doi.org/10.1016/j.techsoc.2017.03.006>
- Hofman, C., & Okolo, W. (2014). Transitions in informal apprenticeship: Results from ILO Research in several African countries. In M. Maurer & P. Gonon (Eds.), *The challenges of policy transfer in vocational skills development* (Vol. 12). Peter Lang.
- Horne, R., Khatiwada, S., & Khun, S. (2016). *World Employment and Social Outlook: Trends 2016*. International Labour Organization.
- Human Resource Development Council of South Africa. (2014). Evaluation of the 5 Year Targets of the Human Resource Development Strategy 2010-2030. Terms of Reference.
- Hupfer, B., & Spöttl, G. (2014). *Qualifications Frameworks and the Underlying Concepts of Education and Work—Limits and Perspectives*. Institut Technik und Bildung.
- ICQN/TVSD. (2014). Providing Africa's Youth with Skills and Training for Jobs [Summary Conclusions on the ICQN/TVSD Country Reports for the Inter Country Quality Node on Technical and Vocational Skills Development Ministerial Conference, Abidjan, 21-23 July 2014]. ICQN/TVSD Ministerial Conference.
- ILO. (2012). *Upgrading Informal Apprenticeships: A resource guide for Africa*. International Labour Organization.
- ILO (Ed.). (2018). *Women and men in the informal economy: A statistical picture* (Third edition). International Labour Office.

- ILO. (2021). A Resource Guide on Sector Skills Bodies. International Labour Office, Skills and Employability Branch.
- ILO and World Bank. (2021). Skills development in the time of COVID-19: Taking stock of the initial responses in technical and vocational education and training. International Labour Organization.
- Johanson, R. (2009). A Review of National Training Funds [Social Protection Discussion Paper]. The World Bank.
- Johanson, R., & Adams, A. V. (2004). Skills Development in sub-Saharan Africa. The World Bank.
- Keevy, J. (2006). A Foucauldian Critique of the Development and Implementation of the South African National Qualifications Framework [Unpublished doctoral thesis]. University of Pretoria.
- Kiggundu, R. (2007). Learning to change: Why the fish processing clusters in Uganda learned to upgrade. In B. Oyelaran-Oyeyinka & D. McCormick (Eds.), *Industrial clusters and innovation systems in Africa: Institutions, markets and policy* (pp. 158–188). United Nations University Press.
- King, K. (2013). The Year of Global Reports on TVET, Skills & Jobs. Consensus or Diversity? Norrag.
- King, K. (2014). Youth, skills development, and work in the Education for All Global Monitoring Report 2012: Learning from Asia or for Asia? *Prospects*, 44(2), 141–158.
- King, K. (2020). Comparison of VET approaches through history, with a particular focus on Africa. In M. Pilz & J. Li (Eds.), *Comparative Vocational Education Research Enduring Challenges and New Ways Forward* (pp. 313–325). Springer.
- King, K., & Palmer, R. (2010). Planning for technical and vocational skills development [UNESCO International Institute for Educational Planning report]. UNESCO.
- Kinyanjui, M. N. R., & McCormick, D. (2007). Industrializing Kenya: Building the productive capacity of micro and small enterprise clusters. In B. Oyelaran-Oyeyinka & D. McCormick (Eds.), *Industrial clusters and innovation systems in Africa: Institutions, markets and policy* (pp. 63–80). United Nations University Press.
- Kluge, J., Puerto, S., Robalino, D., Romero, J. M., Rother, F., Stöterau, J., Weidenkaff, F., & Witte, M. (2017). Interventions to Improve Labour Market Outcomes of Youth: A Systematic Review of Training, Entrepreneurship Promotion, Employment Services, and Subsidized Employment Interventions [Campbell Systematic Review 2017-12-04]. Campbell Collaboration. campbellcollaboration.org/library/improving-youth-labour-market-outcomes.html
- Kraak, A. (2004). The National Skills Development Strategy: A new institutional regime for skills formation in post-apartheid South Africa. In S. McGrath, A. Badroodien, A. Kraak, & L. Unwin (Eds.), *Shifting Understandings of Skills in South Africa. Overcoming the Historical Imprint of a Low Skills Regime*. (pp. 116–157). HSRC Press.
- Kraak, A. (2008a). The education–economy relationship in South Africa, 2001–2005. In A.

- Kraak & K. Press (Eds.), *Human Resource Development Review 2008. Education, employment and skills in South Africa*. (pp. 1–25). HSRC Press.
- Kraak, A. (2008b). *Review of Report: Human Resources Development Strategy for South Africa: 2009/10–2013/2014*. Authored by Bobby Soobrayan, Singizi Consulting.
- Kraemer-Mbula, E., & Wunsch-Vincent, S. (Eds.). (2016). *The informal economy in developing nations: Hidden engine of innovation?* Cambridge University Press.
- Lall, S., & Kraemer-Mbula, E. (2005). *Is African Industry Competing?* [Working Paper Number 121, Queen Elizabeth House Working Paper Series 122]. University of Oxford.
- Lassnigg, L. (2012). 'Lost in translation': Learning outcomes and the governance of education. *Journal of Education and Work*, 25(3), 299–330.
- Lester, S. (2011). The UK Qualifications and Credit Framework: A critique. *Journal of Vocational Education and Training*, 63(2), 205–216.
- Lugg, R. (2007). *Making different equal? Social practices of policy-making and the National Qualifications Framework in South Africa between 1985 and 2003*. University of London.
- Mano, Y., Iddrisu, A., Yoshino, Y., & Sonobe, T. (2012). How Can Micro and Small Enterprises in Sub-Saharan Africa Become More Productive? The Impacts of Experimental Basic Managerial Training. *World Development*, 40(3), 458–468. <https://doi.org/10.1016/j.worlddev.2011.09.013>
- Marock, C. (2011). The NQF in Mauritius. *Journal of Education and Work*, 24(3–4), 409–427. <https://doi.org/10.1080/13639080.2011.584700>
- Mastercard Foundation. (2020). *Secondary Education in Africa*. Mastercard Foundation. <https://doi.org/10.15868/socialsector.35972>
- McGrath, S., Lugg, R., Papier, J., Needham, S., & Neymeyer, S. (2013). *Status of TVET in the SADC Region: Assessment and Review of Technical and Vocational Education and Training in the Southern African Development Community Region and of the Development of a Regional Strategy for the Revitalisation of TVET*. United Nations Educational, Scientific and Cultural Organization.
- McGrath, S., Ramsarup, P., Zeelen, J., Wedekind, V., Allais, S., Lotz-Sisitka, H., Monk, D., Openjuru, G., & Russon, J.-A. (2019). Vocational education and training for African development: A literature review. *Journal of Vocational Education & Training*, 72(4), 465–487. <https://doi.org/10.1080/13636820.2019.1679969>
- McKinsey & Company. (2012). *The World at Work: Jobs, Pay, and Skills for 3.5 billion people*. McKinsey & Company.
- Méhaut, P., & Winch, C. (2012). The European qualifications framework: Skills, competences or knowledge? *European Educational Research Journal*, 11(3), 369–381.
- Meschi, E., & Vivarelli, M. (2009). Trade and income inequality in developing countries. *World Development*, 37, 287–302.

- Ministère de la Formation Professionnelle, de l'Apprentissage et de l'Artisanat. (2018). *La Formation Professionnelle au Sénégal. Analyse de la mise en oeuvre des réformes*. IPE-Pôle de Dakar-Unesco.
- Muller, J. (2004). Assessment, qualifications, and the NQF in South African Schooling. In L. Chisholm (Ed.), *Changing Class: Educational and social change in post-apartheid South Africa*. Human Science Research Council.
- Mzalabazo and REAL. (2018). *Evaluation of the National Skills Development Strategy 2011-2016*. National Skills Authority and Department of Higher Education and Training.
- Newman, C., Page, J., Rand, J., Shimeles, A., Söderbom, M., & Tarp, F. (Eds.). (2016). *Manufacturing Transformation—Comparative Studies of Industrial Development in Africa, and Emerging Asia*. Oxford University Press.
- Ngatia, M., & Rigolini, J. (2019). Addressing Skills Gaps: Continuing and Remedial Education and Training for Adults and Out-of-School Youths in Sub-Saharan Africa. In O. Arias, D. K. Evans, & I. Santos (Eds.), *The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusivity, and Adaptability* (pp. 303–346). The World Bank. <https://doi.org/10.1596/978-1-4648-1149-4>
- Nübler, I., Hofman, C., & Greiner, C. (2009). Understanding informal apprenticeship – Findings from empirical research in Tanzania [Employment Working Paper No. 32. ILO]. International Labour Organization.
- OECD and ILO. (2019). *Tackling Vulnerability in the Informal Economy*. OECD.
- OECD/ILO. (2018). *How Immigrants Contribute to Developing Countries' Economies*. OECD Publishing.
- Ogege, S. (2011). Education and the paradox of graduate unemployment: The dilemma of development in Nigeria. *African Research Review*, 5(1), 253–265.
- Oketch, M. (2007). To vocationalise or not to vocationalise? Perspectives on current trends and issues in technical and vocational education and training (TVET) in Africa. *International Journal of Educational Development*, 27, 220–234.
- Oketch, M. (2014). Education policy, vocational training, and the youth in Sub-Saharan Africa [WIDER Working Paper, No. 2014/069]. United Nations University, World Institute for Development Economics Research.
- Oliver, D., Yu, S., & Buchanan, J. (2019). Political economy of Vocational Education and Training. In D. Guile & L. Unwin (Eds.), *The Wiley Handbook of Vocational Education and Training* (pp. 115–136). Wiley Blackwell.
- Oyelaran-Oyeyinka, B., & McCormick, D. (Eds.). (2007). *Industrial clusters and innovation systems in Africa: Institutions, markets and policy*. United Nations University Press.
- Palmer, R. (2007). Skills development, the enabling environment and informal micro-enterprise in Ghana. *Compare: A Journal of Comparative and International Education*, 37(4), 565–565. <https://doi.org/10.1080/03057920701541927>

- Palmer, R. (2009). Formalising the informal: Ghana's National Apprenticeship Programme. *Journal of Vocational Education and Training*, 61(1), 67–83. <https://doi.org/10.1080/13636820902820048>
- Palmer, R. (2020). An Assessment of the Skills Development Levy Systems in Southern African Development Community Countries. Report commissioned by the International Labour Organization.
- Palmer, R., Wedgwood, R., Hayman, R., King, K., & Thin, N. (2007). *Educating out of Poverty? A Synthesis Report on Ghana, India, Kenya, Rwanda, Tanzania and South Africa* [Report for DFID]. Centre of African Studies, University of Edinburgh.
- Perotti, V. (2019). Training, skills and firm productivity in formal African firms [Background paper prepared for the regional report "The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusion and Adaptability"]. The World Bank.
- Pheko, M., & Molefhe, K. (2017). Addressing employability challenges: A framework for improving the employability of graduates in Botswana. *International Journal of Adolescence and Youth*, 22(4), 455–469.
- Pilcher, N., Fernie, S., & Smith, K. (2015). The impact of National Qualifications Frameworks: By which yardstick do we measure dreams? *Journal of Education and Work*, 30(1), 1–12. <https://doi.org/10.1080/13639080.2015.1122178>
- Powell, M. (2015). *Mapping Sector Skills Development Across the Commonwealth. Analysis, Lessons and Recommendations*. The Commonwealth Secretariat.
- Raffe, D. (2003). "Simplicity Itself": The creation of the Scottish Credit and Qualifications Framework. *Journal of Education and Work*, 16(3), 239–258.
- Raffe, D. (2011). Are 'communications frameworks' more successful? Policy learning from the Scottish Credit and Qualifications Framework. *Journal of Education and Work*, 24(3–4), 283–302. <https://doi.org/10.1080/13639080.2011.584687>
- Raffe, D. (2013). What is the evidence for the impact of National Qualifications Frameworks? *Comparative Education*, 49(2), 143–162. <https://doi.org/10.1080/03050068.2012.686260>
- Reddy, V., Bhorat, H., Powell, M., Visser, M., & Arends, A. (2016). *Skills supply and demand in South Africa* [A report of the Labour Market Intelligence Project of the Department of Higher Education and Training]. Human Science Research Council.
- Loi portant loi 'orientation de la Formation professionnelle et technique., Pub. L. No. n° 2015-01 (2014).
- Robertson, H. (2017). Occupations, work, and work-oriented education in Ghana. 10th Researching Work and Learning Conference, 6th to 8th December 2017, Grahamstown.
- Rose, M. (2015). *Education in North Africa since independence* [Paper commissioned for the Hammamet Conference]. British Council. <https://www.britishcouncil.tn>
- SADC. (2017). *The Southern African Development Community Qualifications Framework*. The Southern African Development Community.

- Samson, M., & Vally, S. (1996). The NQF: critical questions for labour. *South African Labour Bulletin*, 20(5), 23–29.
- Santos, I., Alonso Soto, D., & Sosale, S. (2019). Building Skills for the School-to-Work Transition in Sub-Saharan Africa. In O. Arias, D. K. Evans, & I. Santos (Eds.), *The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusivity, and Adaptability* (pp. 175–232). The World Bank. <https://doi.org/10.1596/978-1-4648-1149-4>
- Singizi. (2020). Analysis of PSET trends towards NDP 2030 [Final Report to NPC]. Singizi Consulting Africa.
- Singizi. (2021). Training Needs Assessment for Sector Skills Councils in Tanzania [Prepared for the Tanzania Private Sector Foundation By Singizi Consulting Africa 03 February 2021]. Singizi.
- Singizi Consulting. (2007). Seta Review. Employment Promotion Programme, Presidency, Republic of South Africa.
- Tau, D., & Modesto, S. T. (2011). Qualifications frameworks: Implementation and impact in Botswana. *Journal of Education and Work*, 24(3–4), 359–373. <https://doi.org/10.1080/13639080.2011.584697>
- Thorsen, S. M. (2014). The Spread of National Qualifications Frameworks. Tracing and Examining its Prospects in the East African Region [Masters Thesis]. Institute of Education, University of Oslo.
- UNESCO, IIEP and IFEF. (2020). Competency-based approach to technical and vocational education and training in Africa Study based on seven African countries: Benin, Ethiopia, Ghana, Morocco, Rwanda, Senegal, and South Africa. [Synthesis report]. IIEP- UNESCO.
- von Maltitz, D. (2018). Apprentice to Artisan. Trials and Tribulations of Apprentices in a Dual System Apprenticeship Programme in South Africa [Masters Research Report]. University of the Witwatersrand.
- Walther, R., & Boukary, H. (2016). A Compendium of African Experiences in Promoting Investment in Skills and Competencies Acquisition by Trainers and Entrepreneurs: A state of the art cross-national analysis of policy and practice in 13 countries [A publication of the Inter-Country Quality Node on Technical and Vocational Skills Development (ICQN / TVSD) and coordinated and produced by NORRAG]. Association for the Development of Education in Africa and Ministere D'Etat Ministere De L'Emploi, Des Affaires Sociales et de la Formation Professionnelle, Republique de Cote D'Ivoire.
- Walther, R., & Carton, M. (2017). From the education-training continuum to the education-training-work continuum: Prospects for future developments based on the analysis of schemes in 18 African countries [A publication of the Inter-Country Quality Node on Technical and Vocational Skills Development (ICQN / TVSD) and coordinated and produced by NORRAG]. Association for the Development of Education in Africa and Ministere D'Etat Ministere De L'Emploi, Des Affaires Sociales et de la Formation Professionnelle, Republique de Cote D'Ivoire.

Walther, R., & Filipiak, E. (2007). Vocational Training in the Informal Sector or How to Stimulate the Economies of Developing Countries? Conclusions of a Field Survey in Seven African Countries. Agence Française de Développement.

Walther, R., & Uhder, C. (2014). The Financing of Vocational Training in Africa. Roles and Specificities of Vocational Training Funds. AfDB and ADEA.

World Bank. (1991). Vocational and Technical Education and Training [A World Bank policy paper]. World Bank.

World Bank. (2020). TVET Systems' response to COVID-19: Challenges and Opportunities. The World Bank.

Young, M. (2005). National qualifications frameworks: Their feasibility for effective implementation in developing countries. International Labour Organization.

Zinabu, S. R. (2019). Education and Economic Development in Ethiopia, 1991—2017. In Fantu Cheru, C. Cramer, & A. Oqubay (Eds.), *The Oxford Handbook of the Ethiopian Economy* (pp. 428–446). Oxford University Press.