Skills Development in South Africa

Identifying issues for further analysis

World Bank Group

Prepared by, Jutta Franz and Elizabeth Ninan Dulvy

July 2020

Content

Annexes

Abbreviations and Acronyms

ABET	Adult Basic Education and Training
APPETD	Association of Private Providers of Education, Training and Development
ATR	Annual Training Report
CBPEP	Capacity Building Programme for Employment Promotion
CET	Community Education and Training (College)
CHE	Council for Higher Education
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DOL	Department of Labour
EMIS	Education Management Information System
EU	European Union
FET	Further Education and Training (College)
FTE	Full-time Equivalent
GTAC	Government Technical Advisory Centre
HE	Higher Education
HEI	Higher Education Institution
HETMIS	Higher Education and Training Management Information System
HSRC	Human Sciences Research Council
HRDC	Human Resources Development Council
INDLELA	Institute for National Development of Learnerships, Employment Skills and Labour Assessment
LMIP	Labour Market Intelligence Partnership
MERSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
MIS	Management Information System
MSE	Micro and Small Enterprise
NAMB	National Artisan Moderation Body
NATED	National Accredited Technical Education Diploma
NBI	National Business Initiative
NC(V)	National Certificate Vocational
NDP	National Development Plan
NQF	National Qualifications Framework
NRF	National Research Foundation
NSDS	National Skills Development Strategy
NSF	National Skills Fund
NSFAS	National Student Financial Aid Scheme
PALC	Public Adult Learning Centre
PIVOTAL	Professional, Vocational, Occupational, Technical and Academic Learning
PSET	Post-School Education and Training
QCTO	Quality Council for Trade and Occupations
REAL	Centre for Researching Education and Labour (University of Witwatersrand)
RPL	Recognition of Prior Learning
SAIVCET	South African Institute for Vocational and Continuing Education and Training
SAQA	South African Qualifications Authority
SAR	South African Revenue Services
SDA	Skills Development Authority
SDL	Skills Development Levy
SETA	Sector Education and Training Authority
SSACI	Swiss-South African Cooperation Initiative
SSP	Sector Skills Plan
TVET	Technical and Vocational Education and Training
Umalusi	Council for Quality Assurance in General and Further Education and Training
WPBL	Workplace-based Learning
WSP	Workplace Skills Plan

1 Introduction

In common with many developing countries, South Africa is faced with growing problems of unemployed youth, many of whom have received an education that has not adequately prepared them for meaningful and sustainable absorption into the labor market, either as employees or entrepreneurs. This problem is worsening with the rapid change in the world of work where the fast pace of automation in many industries leads to a decline in demand for unskilled and semi-skilled labor, and corresponding growth in the demand for skilled labor. The global use of technology has broadened the scope of skills needed, a trend that has been further accelerated with the economic and social upheavals caused by the COVID-19 crisis. New skill sets for digital jobs in the manufacturing and service sectors are required to raise or maintain countries' global competitiveness and for job seekers to establish themselves in modern markets. But even in traditional occupations, tomorrow's labour market will require digital literacy and mastering of specialized technology (such as robotics) for adapting innovation.

The South African education and training system has not kept pace with those rapid economic and technological changes, with the result that many young people graduate with skills, competencies and knowledge which are not aligned to labor market needs. The number of Technical and Vocational Education and Training (TVET) institutions and student enrollments in various skills development programs have expanded, but the system is still struggling with considerable challenges including poor management, low funding levels, shortage of good and motivated teachers, outdated curricula, low training quality and correspondingly high drop-out rates, and limited interactions and partnerships between TVET institutions and the private sector. A recent World Bank study has furthermore pointed to critical shortage of digital skills at different levels, including basic digital literacy, professional digital skills as well as business digital skills (e-commerce) (World Bank 2019a). Besides the public TVET and skills development institutions, the system of Sector Education and Training Authorities (SETAs) represents another pillar of post-school education and training in South Africa (PSET) focusing on sector-specific training and workplace-based learning (WPBL) in companies. SETAs are not training providers themselves, but allocate their funds to employers or training service providers to facilitate the training in accordance with Sector Skills Plans. However, there are huge differences in the capacities and performance between the SETAs and there have been several instances, in which SETAs have reportedly not been functioning well (World Bank 2019a). More recently, the economic slowdown has also created difficulties for SETAs to secure sufficient opportunities to accommodate learners in apprenticeships, learnerships and internships, a trend that is likely to accelerate rapidly in the aftermath of the Corona-pandemic.

Against the background of pervasive youth unemployment - estimated at 55.2% among those aged 15 to 24 in 2019, improving the quality and relevance of skill development and increasing access remains a key focus of the South African government. Reflecting changing labour market realities and underpinned by a remarkable wealth of research studies and evaluations results, the Government has repeatedly adjusted its skills development policies and initiated significant modifications in the way SETAs are managed and involved, in quality assurance, and funding priorities. To address the urgent job crisis, the President in 2019 furthermore launched the *5by5 plan*, which focuses on five priority interventions to optimize delivery and youth employment outcomes in the next five years: (i) Pathway management network; (ii) Workforce solutions for growing jobs; (iii) Tech-enabled youth self-employment and township enterprise; (iv) Workplace-based experience; and (v) Opportunity to do service.

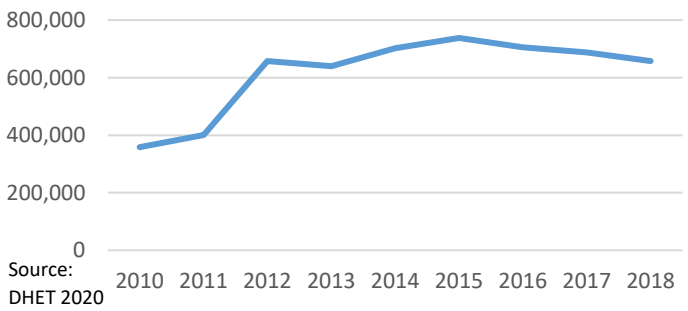
This paper aims to provide an overview about major patterns and issues in the South African system of skills development with a view to inform the dialogue between the World Bank and its South African partners about future areas of cooperation and potential starting points for interventions in the skills development sector. **It focusses on issues related to funding, workplace-based learning, and monitoring and evaluation,** areas that had been agreed initially as critical for the further development of an accessible, equitable and labour-market relevant skills development system.

2 The Skills Development Landscape

2.1 Overview

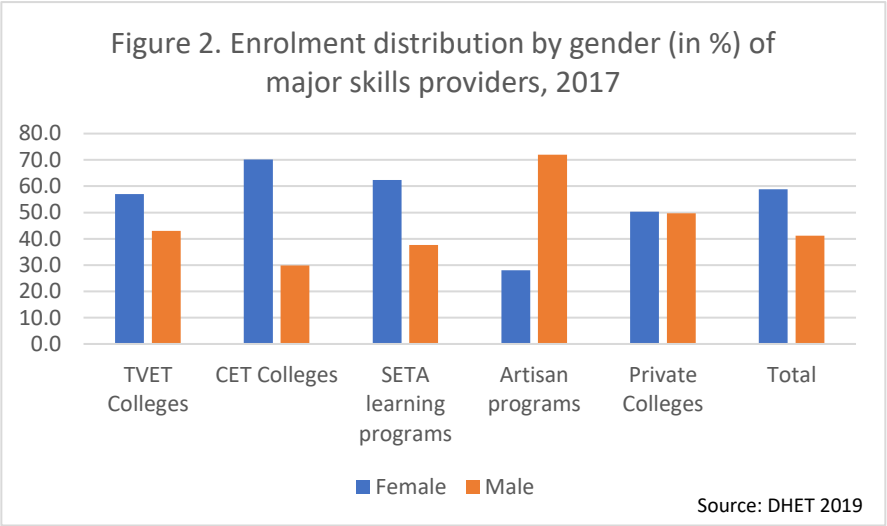
South Africa offers a considerable range of skills development options below tertiary education to its citizens, targeting young labour market entrants, workers and unemployed persons. Since the Department of Higher Education and Training (DHET) was established in 2009 taking over the responsibilities for skills from the Department of Labour, the federal government has focused its investments on the consolidation and expansion of public TVET. 50 TVET Colleges with 253 (2018) campuses throughout the country form the backbone of the public system offering the formal TVET programs National Accredited Technical Education Diploma (NATED) and National Certificate Vocational (NC(V)), as well as a range of shorter programs towards occupational qualifications and others. Since 2012 enrollment in public colleges has increased substantially (Figure 1). In 2018, a total of 657,000 students were enrolled in all programs. Workplace-based learning (WPBL) is another core pillar in the skills development space comprising learnerships, apprenticeships, internships and other (short) skills development programs facilitated by SETAs. In 2018/19 academic year, some 300,000 learners were accommodated in the different WPBL programs. Furthermore, in 2016, the more than three-thousand Public Adult Learning Centres (PALC) were clustered into nine Community Education and Training (CET) Colleges, catering for some 260,000 learners in 2017 undergoing mainly adult and general education programs and some non-formal and occupational programs. In line with the White Paper for PSET (DHET 2013), CET Colleges are supposed to be strengthened as providers of skills and occupational programs, assuming a key role in facilitating life-long learning at community level in the future.

Figure 1. Head-count Enrollment in Public TVET Colleges 2010 - 2018

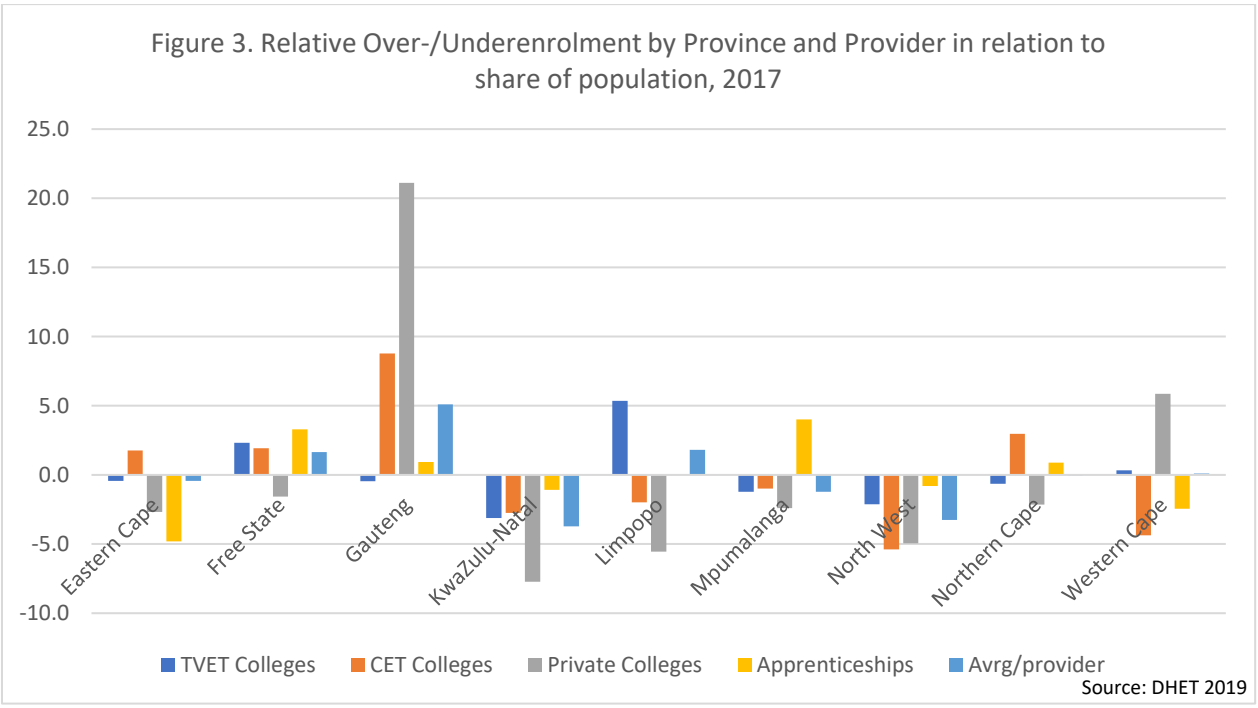


Source: DHET 2020

As in higher education, female learners are overrepresented in skills development programs. Across all programs 58,8% of all learners in the different programs (1.43 million in total in 2017) are female (see Figure 2). Male students are only in the majority (72%) in apprenticeships, which cover the artisan training programs.



Access to skills development differs across provinces. As expected, enrollment in all skills development programs, irrespective of provider-type, is highest in Gauteng. The province accounts for around 30% of all enrollment, followed by KwaZulu-Natal (16%), Western Cape (11.6%) and Eastern Cape (11.1%). A comparison of the provincial share of enrollment - in total and for each provider type – with the provincial share in the total population in 2017 (Figure 3) suggests an undersupply with skills development opportunities in KwaZulu-Natal, North West Province and Mpumalanga. Access if best in Gauteng, where the share of total overall enrollment is 5% above the province's share in the total population. The good standing of Gauteng is driven by overproportionate activities of private colleges and CET colleges, whereas the Limpopo province has a relatively good supply with TVET College spaces. Mpumalanga and Free State, on the other hand, are relatively well supplied with apprenticeship opportunities.



Source: DHET: Statistics on Post-School Education and Training in South Africa 2017; www.southafricanmi.com/population-density-map.html

Data for further analysis of major characteristics of students participating in the different programs and provider systems are sketchy. Regular Information is published by DHET on gender and population group[1], but not on other relevant characteristics such as age, educational background, or socio-economic status, that would be relevant to better understand target groups, access barriers or demand structures for skills development. More detailed information about student characteristics are available in tracer and cohort tracking studies, but these data are usually limited in scope.

A review of the data collection system(s) in skills development may be instrumental to identify additional student information requirements and options to obtain such information in order to improve sector analysis and planning.

The institutional set-up for skills development in South Africa appears bold and complex, but - compared to many other countries - coherent and coordinated[2]. Since the amendment of the Skills Development Act (SDA) in 2008, all responsibility for the public provision, financing, regulation and quality assurance of skills development is vested in the Department of Higher Education and Training (DHET) executed directly by the department and through various autonomous and semi-autonomous statutory bodies that operate under DHET. These include the National Skills Authority (NSA) in charge of policy development and monitoring and research; the Quality Council for Trade and Occupations (QCTO) responsible for quality assurance (accreditation of providers, assessment and certification and development of occupational standards to be registered under the National Qualifications Framework) of artisan training and occupational qualifications; the National Artisan Moderation Body (NAMB)/Institute for the National Development of Learnerships, Employment Skills and Labour Assessment (INDLELA), which oversees artisan development and assessment and certification (trade testing) on behalf of QCTO; and the Council for Quality Assurance in General and Further Education and Training UMALUSI, which quality assures assessments for and certifies NCV, N3 and Adult Basic Education and Training (ABET) qualifications;. A key role as the custodian of the NQF lies with the South African Qualifications Authority (SAQA). The National Student Financial Aid Scheme (NSFAS) and the National Skills Fund (NSF) represent important funding mechanism for skills development[3].

A critical role in the system plays the network of 21 SETAs. Established under the Skills Development Act and operating - since 2009 - under the purview of the Skills Development Branch of DHET, SETAs are driven by labour market stakeholders (employers and union representatives). Funded through the Skills Development Levy (SDL)[4] SETAs are supposed to be the link to industry in the implementation of the national skills development strategies and policies. They are responsible for planning, promoting,

[1] These groups include African, Coloured, Indian/Asian, White and Others.

[2] Annex 2 includes a figure illustrating the various institutions involved in skills development and higher education.

[3] It is noteworthy that all relevant public skills development is regulated by the one entity DHET. Unlike in other countries, where other sector administrations (for example agriculture, tourism or health) often run their own sector-specific training schemes and administrations for labour and social affairs their own skills programs for vulnerable populations outside of the formal skills development system, these different segments are all regulated under the SAQA and through the SETA and NSF system under the auspices of DHET. Exceptions include special programs that also address skills needs, for example the National Jobs Fund.

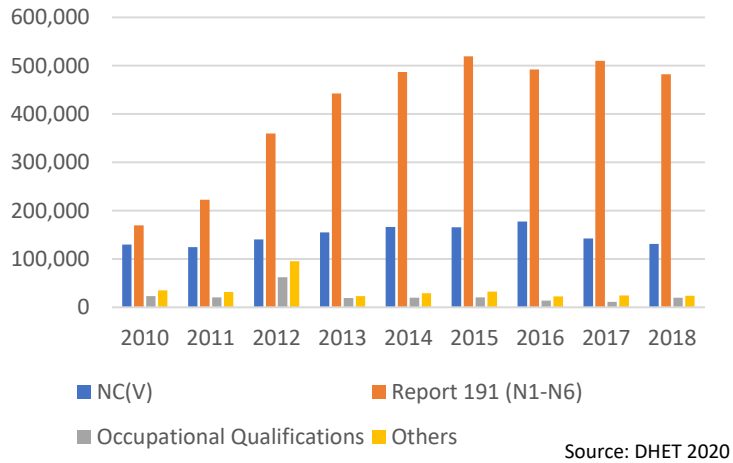
[4] The Skills Development Levy is an earmarked levy payable by employers to fund the operations of the SETAs and the NSF. The levy is 1% of the wage bill and only imposed on employers with a wage bill of R500,000 or above. The SDL is described in more detail in section 3.2.

facilitating and funding skills development in and for the sectors they represent and the pivot of workplace-based training and learning.

2.2 TVET as part of the post-school education and training system

NATED programs offered in TVET Colleges are in high demand. The NATED Report 191 Programs (also called N-Programs) are the oldest of all currently implemented formal TVET programs. Based on the Manpower Training Act of 1981, the NATED programs were traditionally linked to apprenticeship training. Until the early 1990s, NATED programs – 18 months theoretical learning complemented by 18 months learning on the job to obtain a national diploma[5] - were typically provided in blocks as part of sandwich-model apprenticeship programs. With the end of apartheid, apprenticeship training - perceived to be an elite apartheid system - lost importance. Instead, colleges were increasingly taking pre-employment students into the NATED programs, resulting, inter alia, in a gradual delinking of the college system from industry. By 2004, the number of apprentices in NATED courses had declined to 2,500 from 13,500 in 1985 (Papier et al 2018). Until today, the NATED program remains the dominant program in TVET colleges despite a drop between 2007 and 2009 following the introduction of the NC(V) programs. Measured in head-count enrollment, since 2014 NATED caters each year for around 500,000 students, outstripping enrollment in the other programs many times over (Figure 4).

Figure 4. Enrolment TVET Colleges 2010-2018



Source: DHET 2020

Among industry and students NATED programs have the best reputation of all TVET College programs, as indicated in different reports and impact assessments. However, evidence about the value of the programs for increasing employability shows mixed results. For example, the 2016 graduate tracer study of the Labour Market Intelligence Partnership (LMIP), the most recent completed study investigating employment outcomes of the NATED programs (Papier et al, 2018), found that on average 52% of completers had found employment, a rate similar to that established in 2003 (Gewer 2010). The results of the LMIP study showed that employment outcomes were better among male than female graduates, and for completers of engineering programs compared to the business programs. A 10% difference in graduate employment between N3 and N6 completers suggest a preference for higher level skilled technicians in the labour market. The 2016 study also revealed significant employment differences between fields of study ranging between 40% employment rate among graduates from the public relations course and 100% employment rate (albeit based on a relatively small number of cases) for manufacturing graduates. Only very few graduates opted for self-employment, and if so then to cope with the lack of employment opportunities. The study also

[5] The NATED programs differ slightly between engineering and business trades. In engineering trades, the programs stretch over the six levels N1 – N6. Each level requires 3 months of theoretical learning in a college and leads to an N-Certificate. Hence, the entire college program has a duration of 18 months. The end qualification, the NATED Diploma, is only awarded after the candidate has also completed 18 months of industrial training. The NATED business program stretches over three levels (N4 – N6) and requires six months of college learning for each level to obtain the N-Certificates. To qualify for the NATED Diploma, further 18 months of workplace-based learning is required.

demonstrated the still prevailing racial gaps in economic opportunities. While the overwhelming majority of NATED students are black Africans, their employment rate is just over 51% compared with 88% for white and 71% for colored graduates (Papier et al. 2018). So far impact assessments and tracer studies of NATED programs, however, did not systematically assess the relevance of WPBL for labour market success or failure of NATED graduates to get employment, which, would be important to understand the weaknesses and challenges of the program. As described before, NATED courses were originally designed not as stand-alone TVET programs, but to provide the theory part of apprenticeship training. Nowadays, however, apprentices only make up a small part of the NATED student population. For this reason, students have to accomplish the 18-months internship period in order to qualify for the national diploma certificate. With rising NATED enrollment, an increasing number of TVET College completers do not manage to secure such an internship with the result that they do not obtain the diploma qualification, and also, probably more important, miss out the important work experience[6].

In view of rising NATED enrollment and the renewed emphasis on artisan training a systematic analysis of NATED and the determinants of the labour market outcomes would be desirable, particularly looking at the importance of internships and factors influencing the likelihood that completers obtain an internship.

The National Certificate Vocational (NC(V)) program provides a technical route of senior secondary education, but encounters challenges to prepare completers for employment. The program was introduced in the then FET (Further Education and Training) Colleges in 2007 as an alternative to the NATED programs, which they were supposed to replace. The program offers three-year training covering 3 levels (NQF levels 2 to 4). Entry requirements for the program is Grade 9 completion, but there is evidence that the educational achievement of many entrants is much higher. A survey of NC(V) students in engineering subjects in North West Province of 2016 found that 58% of all students entered the program with Grade 12 complete and only 7% with a Grade 9 school leaving exam (Mashongoane 2018).

The NC(V) courses are offered in 18 different programs including engineering trades, office and ICT programs and services such as hospitality and logistics[7]. Overall, office administration faces highest demand accounting for 21.3% of the total enrollment across all NC(V) levels in 2017, followed by engineering and related design, electrical infrastructure and construction. As expected, gender-specific preferences can be observed, and enrollment is concentrated on a small number of programs. Male students show clear preferences in engineering trades, whereas females are more likely to opt for office and service occupational orientations. The five most demanded programs for male students (engineering/related design; electrical infrastructure/construction; office administration; civil engineering/building construction and IT/computer science) cover 67% of all students. The top five programs for female students - including office administration, electrical infrastructure/construction,

[6] While data on this phenomenon are not available, the lack of internship opportunities for NATED completers and the implications for qualification and employability are subject to public discussion at the moment. The subject and potential interventions to address the challenge also features highly in the Presidential 5by5 program. See also Van Staden/DHET 2015.

[7] Annex 3 includes details of programs and enrollment.

hospitality, finance/accounting and engineering/related design – account for 59% of all female students (DHET 2019).

From the outset NC(V) programs have always suffered from reputational problems. This is mirrored by low transition to work outcomes. The 2016 study of engineering graduates from the North West Province revealed that only 15% of all graduates turned out to be wage or self-employed, while 18% were unemployed. The study also suggests, however, that a considerable share of NCV graduates continue with education and training: 27% continue as students and 40%, the largest group in the survey, found themselves in some kind of workplace training (Mashongoane 2018). The SSACI/NBI tracer study of 2015, which traced 2010 graduates over five years post-graduation (SSACI et al 2016), confirmed the challenges of NC(V) graduates to find employment, although more than 60% had been employed at some stage between 2011 and 2015, which would include apprenticeships or internships. Employment was often part-time and low paid, with wages less than R3,000 per month. Alarmingly, a high share of NC(V) students do not complete their programs. The SSACI/NBI tracer study found that 44% of NC(V) students enrolled at Level 4 in 2010 had not completed their studies in 2015. In most of the cases this was due to financial problems of students. While 60% of the students had been receiving a government bursary in 2010, this financial aid was removed when students did not reach the required qualification in time (SSACI 2016).

Both TVET College programs, NATED and NC(V) programs suffer from low internal efficiency. Pass rates and certification rates are increasing, but from a very low base. Between 2013 and 2016, NC(V) pass rates increased from 33% to 46% at Level 2, and from 37% to 42% at Level 4. NATED pass rates increased even further, reaching 59% at N3 and 65% at N6 in 2016. Certification rates are usually 3 to 5% lower (and even 12% at NC(V) level 2). However, another cause of concern are the low throughput rates and the long duration it takes many students to finalize their programs if they do at all (DHET 2018). The GTAC Performance and Expenditure Review of the TVET sector analyzing data in the years 2014 and 2015 (DNA Economics 2016) estimated that not more than 2% of learners starting an NC(V) Level 2 course would complete the program within three years, and only 10% would complete the three-year program within six years. For other courses in TVET Colleges, the share of students estimated to finish the courses in the prescribed time ranged from about 12% to below 1%. "Throughput rates are especially low in more technically demanding programmes, such as engineering and IT-related courses" (DNA Economics 2015). As suggested above, the long training durations causing financial aid to be cancelled also lead to lower throughput rates, as students lack the financial means to complete their studies. These efficiency challenges represent significant cost-drivers, which need to be addressed to reach enrollment targets.

Further research aimed at better understanding student flows as well as the reasons behind low throughput rates in TVET would be instrumental to improve skills development planning, especially in view of the ambitious TVET enrollment target of the South African government.

South Africa's National Development Plan (NDP) envisages a dramatic increase in access to PSET by 2030 with the largest growth foreseen in the lower PSET levels of TVET and CET. To meet NDP targets, TVET enrollment in public and private colleges would need to increase by more than 1.6 million

students, or 185%, and CET College enrollment by 900,000 students, or 900%; compared to 500,000 higher education students, which would represent a 49% increase compared to 2018 (Table 1).

Table 1. PSET Enrollment targets according to NDP 2030

	Enrollment 2018	Target enrollment 2030	Increase in student numbers	Percentage increase 2018/2030
Higher Education	1,085,568	1,620,000	534,432	49.2
TVET (public and private)	876,970	2,500,000	1,623,030	185.1
Community Education and Training	100,286	1,000,000	899,714	897.1

Source: DHET Statistics on PSET in South Africa 2018; DHET 2013. White Paper for PSET.

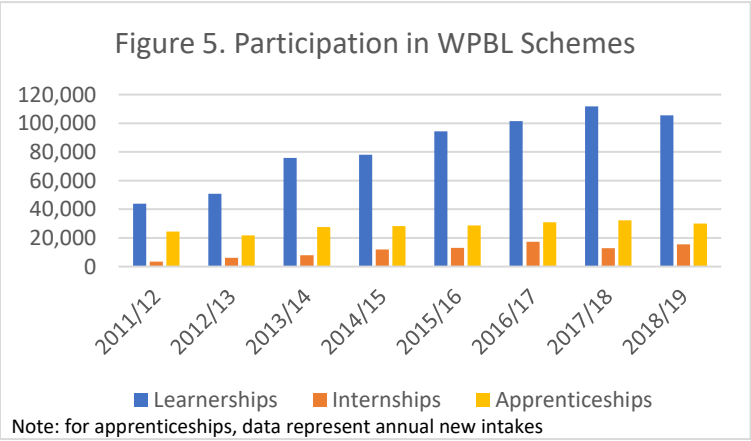
Notes:

(a) TVET enrollment targets given in NDP are 1.25 million. However, this target refers to Full Time Equivalent (FTE) students, rather than to head-count enrollments. DHET is therefore considering the target as 2.5 million FTE students. See White Paper for PSET, page 7, FN 4.

(b) Current TVET enrollments do not consider SETA learners, which account to around 270,000 in 2018. It is assumed that most of these learners are already counted in public and private TVET College enrollment, because WBPL programs, supported by SETAs, also include an institutional training share.

2.3 Workplace-based Learning

Globally, WPBL, notably apprenticeship training, enjoys increasing attention. In the context of rising youth unemployment challenges, there is mounting evidence about the effectiveness of WPBL in facilitating entry into jobs, specially of young labor market entrants. Delivered in companies usually under real workplace conditions, WPBL programs are considered to be particularly responsive to the skills needs in the labor market (including soft skills), particularly if compared to school-based vocational training programs. Especially in developing countries, where access to long-term TVET is often constrained by high training and opportunity costs, apprenticeship training provides an important source of affordable skills development for poor youth as apprenticeship contracts usually imply an entitlement to an apprentice allowance[8].



Note: for apprenticeships, data represent annual new intakes

South Africa has a long-established system of formal apprenticeship training, which was replaced by a new flexible concept of WPBL after the end of apartheid (Box 1). The apprenticeship program was associated with the apartheid education system; and with the institutionalization of the learnership program in 2001, the Government hoped to replace the old apprenticeships with a modern and inclusive system that allowed to cater for different target groups and accommodated a wide range of occupational qualifications at different levels. While learnerships have been well established in the meantime accommodating some 105,000 learners in 2018/19, the apprenticeship system was not replaced but continued to cater for the need for training of intermediate level artisans (Figure 5).

[8] See also Franz 2017.

Apprenticeship intake remains a small scheme with around 30,000 trainees annually in recent years, the most popular trades being electrician, plumber, bricklayer, welder, fitter, boilermaker and mechanic. Contrary to learnerships, where male and female participants are more or less on par, apprenticeship training remains a male domain. In 2017/18, the female participation rate in apprenticeship training (new entrants) was 28%, and even lower for apprenticeship completers (20.3%) (DHET 2018).

Box 1. Different types of workplace-based learning in South Africa

There are different types of WPBL program in the South African skills development system, all facilitated through SETAs and subject to the 2015 WPBL policy draft (Van Staden/DHET 2015):

Learnership: A learnership is a formal training scheme of usually one-year duration or less[9], combining workplace-based learning and institutional training to obtain an occupational qualification. Learnerships must be registered with a SETA and can potentially be obtained for qualifications at all NQF levels. Learnerships target workers already in the labor market as well as school-leavers (pre-employment training).

Apprenticeship: An apprenticeship is a training program comprising workplace-based learning and institutional training to obtain an artisan qualification (trade test), i.e. a qualification at intermediate skill level (NQF Level 5). Apprenticeships must also be registered with the relevant SETA and are usually pre-employment programs over two to four years targeting new labour market entrants with a minimum of Grade 12 completion, NC(V) Level 4 or N2 Engineering. While learnerships cover training across all occupational groups, apprenticeships are traditionally focused on engineering and construction occupations.

Internships for qualifications: Various formal TVET or professional qualifications require WPBL to obtain the full qualification, for example the National N-Diploma following completion of the NATED programs in TVET Colleges.

Graduate Internship: Exposure to the workplace in order to increase employability to recently qualified persons. These may be higher education graduates, or also NC(V) graduates.

The post-apartheid policy has made WPBL more accessible. Data show that learnerships are focused on NQF Levels 3 and 4, i.e. at or below Grade 12 equivalent, indicating that learnerships provide occupational qualifications for people that are not able to enter into higher education (Wildschutt/Kruss 2018)[10]. The share of black Africans across all WPBL programs has increased, especially in learnerships and apprenticeships. Relative to their proportion in the overall population they are overrepresented, and their average age is higher than that of learners from other racial groups, which may suggest that formal WPBL is not a first choice (Wildschutt/Kruss 2018).

A major challenge in WPBL schemes is their limited geographical spread. This is owed to the uneven distribution of industry among regions and reinforces the unequal access to opportunities in those constituencies that experience social discrimination. In 2010, almost 60% of learnerships and apprenticeships were concentrated in the three metropolitan areas of Gauteng, Western Cape and KwaZulu-Natal (Kruss, et al 2014).

Figure 5 also indicates a substantial increase in internships. In 2018/19 the number of annual interns reached around 15,500 representing an increase of 350% compared to 2011/12. The increase happened primarily at the relative higher NQF Levels 6 and 7 and is related to work-integrated learning

[9] But they can be longer if required by the program. Principally, a learnership lasts as long as it takes to acquire the skills.
[10] However, Rankin et al 2014 using the same data as the HSRC study also show that school-leaver with matric are more likely to join and complete apprenticeship training compared to those who do not complete secondary education.

requirements in higher education. While absolute figures are still moderate compared to learnerships and apprenticeships, from an equity point of view this trend appears noteworthy as limited industrial learning potential is increasingly used to improve chances of those who already have succeeded in the education system.

WPBL appears more effective than institutional learning schemes and prepares learners better for employment. Completion rates[11] appear relatively high, both for learnerships and apprenticeships. According to data analysed by Wildschutt and Kruss (2018), 86% of learnership participants and 92% of apprentices completed their programs after five years. Furthermore, most available impact and graduate tracking studies point to relative positive employment outcomes of WPBL. The impact assessment of learnerships and apprenticeships under the National Skills Development Strategy (NSDS) II (completed in 2012, see Kruss, et al. 2014) showed that 70% of apprenticeship completers and 86% of learnership completers experienced a smooth transition into employment, mostly in large private companies and the public sector. Summarizing different available sources Duncan (2016) estimates that 79% of all apprenticeship completers were employed, 74% of which within the first 6 months. Three-quarters were on a permanent contract, with earnings and promotion prospects better than for completers of other TVET programs. However, there are also indications that the positive employment outcomes of WPBL completers immediately after graduation fade away after some time. Especially for learnerships, Rankin et al (2014) found that completion is not associated with a better job, in terms of income or promotion, compared to those who did not participate in a learnership.

The South African government supports the further development of WPBL as a key strategy to enhance employment-relevant skills development. The South African skills development policy framework as well as most relevant national development documents[12] highlight the importance of workplace-based learning. The White Paper for Post-School Education and Training of 2013, which still represents the major blueprint to the further development of the PSET sector, aims at a "stronger and more cooperative relationship between education and training institutions and the workplace", and emphasises the importance of re-establishing a good artisan training (hence apprenticeship) system. In its NDP, government has set a high target of 30,000 artisan completing their program annually by 2030, which would represent a 50% increase over current outcomes. In 2015, DHET prepared a Draft WPBL Policy (Van Staden/DHET 2015) and in 2016, launched the Dual System Pilot Project, which is funded through NSF and supported by German Development Cooperation (NSF 2019).

Formal WPBL needs to expand into the small and micro enterprise sector. So far, the coverage of micro and small enterprises (MSE) in relation to WPBL is low. Most small companies are not involved in the SETA network. For example, only one-third of the 80,000 company in the manufacturing sector under MERSETA are levy-paying. Various factors hinder an increase of MSEs in WPBL schemes. Particularly smaller companies do not fully understand the benefits of participating in learnerships and apprenticeships; participation in formal WPBL schemes puts a heavy bureaucratic burden on firms that MSEs are not capable of shouldering; and QCTO requirements for eligibility of workplaces to receive learners in formal WPBL schemes are prohibitive. Suggestions to develop SETAs into apprenticeship accelerators still have to prove their feasibility. Pilot projects have suggested that established skills

[11] In South Africa, throughput rates for educational programs are most often measured as *graduation rates* (number of students graduating as a percentage of the total number of students enrolled in the same year). A more precise but methodologically more difficult measurement of throughput, however, is the *completion rate*, which express the number of graduations for a given cohort in a particular year as a percentage of the total initial enrollment for that cohort in its starting year. This means, completion rates are cohort specific, and can only be defined for a specific year (i.e. the completion rate after three years is likely to be lower than after six years). See also DHET 2018.

[12] Such as NDP, New Growth Path, National Skills Accord, Youth Employment Accord, Industrial Policy Action Plan, and others. See also Van Staden/DHET 2015.

development institutions, notably TVET Colleges, are not prepared or adequately structured to productively cooperate with MSEs.

In many African countries apprenticeship training in the informal sector is by far the largest skills development sub-system effectively catering not only for large numbers of youth but also for the poorer segment of the population. So far, this potential training reservoir has not been systematically researched in South Africa. The township economy with its training needs and training potential should also be considered in the discussion on the further development of skills in South Africa[13].

In order to increase the quantity and broaden the scope of WPBL, especially in rural areas, and to better serve the training needs of the MSE sector and the township economy, a gradual integration of micro and small businesses into formal WPBL schemes would be desirable. This requires a better understanding about the potential and challenges of integrating MSEs into formal learnerships and apprenticeships, and furthermore, to analyze the space of informal apprenticeship training in the township economy and the potential to integrate informal apprenticeship training into the mainstream skills development system, i.e. strengthen informal apprenticeships and make them certifiable.

2.4 Private skills development

Skills development programs offered by private providers are increasingly crowded out by the public training system. Private providers are also regulated by DHET. According to official DHET Statistics (DHET 2019), private colleges accounted for a total enrollment of 220,000 students in 2018, notably in NATED programs (47%), occupational qualifications courses (22%) and other skills development programs and short courses (28%)[14]. However, these figures are likely to significantly underestimate real enrollment as DHET is just in the process of re-establishing a private provider registration system that had been suspended in 2011 (Ward 2018). The Association of Private Providers of Education, Training and Development (APPETD) estimates some 8,000 private providers in the PSET space, of which 1,000 (presumably the more established providers) are members of the association.

With the revision of the guidelines of SETA grant regulations in 2015, DHET (2015) initiated the process of SETA discretionary grant funding being shifted from private to public provision, aiming to better develop and utilize the public TVET Colleges and the same time protect skills development levy resources against misuse through sub-standard private training provision[15]. While relevant data were not available, stakeholder discussions suggest a substantial effective re-direction of SETA resources

[13] See also Mbatha, et al, 2014.

[14] The balance comprise Report 550/NSC courses (general education) with 3,2%, and NC(V) courses with 1,8%.

[15] From the Guidelines on SETA Grant Regulations of 2015: "One of the problems that the Grant Regulations are trying to address is the way that current grant disbursement is being done in a manner that disproportionately involves private education and training providers in delivery of skills development programmes. In general there is very limited use of universities, public TVET colleges and public CET colleges. (…)What is important is that the policies and procedures adopted by SETAs support public providers to become partners in building the skills required for our country to grow; SETAs have to design their delivery model and policies to ensure that where possible there is an increase in the participation of public education and training providers."

away from private providers into the public PSET system leaving mainly niches of industry-demand for training to private providers. Private providers are struggling with an unconducive quality assurance regime posing restrictions to market entry, limiting innovation and pushing up costs of training delivery. In his 2018 case study, Ward found that private providers that provide good quality training generally showed a substantial preparedness to work together with government in achieving national education and training goals, and to be subject of effective regulation and quality assurance, but found government to be rather unresponsive.

There is a need for improving the data collection about private providers and further policy-oriented analyses of the challenges and potential of private skills development provision. This should inform the preparation of a conducive regulatory and policy environment for private providers with the aim that the private training sector plays a more substantial role in the burgeoning need to expand post-school skills development.

3 Funding skills development

3.1 Overview

PSET in South Africa is funded by the government, employers and private households. Main sources to fund skills development below higher education comes from employers and from the national government budget through DHET. Employers contribute through the SDL and through directly paying staff training initiatives to training institutions. Government funds are channeled through subsidies and operational grants (previously conditional grants) directly to TVET Colleges and CET Colleges and through the NSFAS (Figure 6).

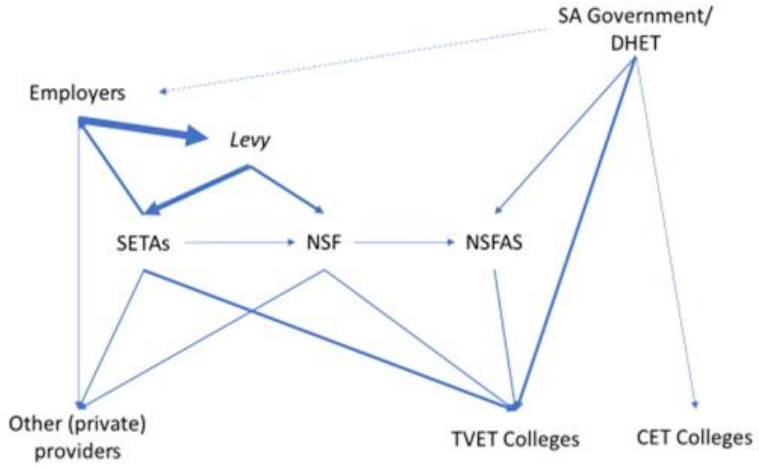
Table 2. Aggregated core spending on skills development 2018/19 (R'000)

DHET	TVET Colleges	9,993,719
	CET Colleges	2,180,065
	NFSAS (Share of TVET Colleges)	2,742,607
Levy Fund	SETAs	13,983,916
	NSF	3,495,979
Total		**32,396,286**
plus private funding to TVET Colleges and other, including private, training institutions, and flows of industry to private providers		

Source: DHET, 2020. Statistics on Post-School Education and Training in South Africa 2018.

During fiscal year 2018/19, some R17.5 billion were spent from the SDL, of which 14 billion were channeled through SETAs, while the balance of R3.5 billion was administered by the NSF. DHET mobilized R10 billion in subsidies and grants to the TVET Colleges and R2.2 billion to the CET Colleges, and NSFAS contributed some R2.7 billion to cover bursaries of students of the TVET Colleges (Table 2). In total, R32.4 billion were invested in skills development through the public budget and the SDL. This was supplemented by private spending on skills development, notably by (a) firms directly paying for training without cost recovery through the mandatory SETA grants; (b) families paying tuition fees to private training providers; and (c) families paying fees to TVET and CET Colleges for students not supported by NSFAS. Presumably, these contributions are substantial, but amounts (and even the dimension) are unknown. The private sector firms can claim parts of its training costs back through tax rebates, which are estimated to amount to around R2 billion annually (NSA, NSDS III Evaluation).

Figure 6. Main Flow of Funds in Skills Development



With the diversified funding sources for key public institutions, such as the TVET Colleges, and in view of weak and uncoordinated management information systems, it is difficult to obtain precise expenditure data. Main sources of funding of TVET Colleges include direct DHET transfers, NSFAS bursary funding, project funding through NSF and SETAS, as well as others, incl. private funding[16]. The GTAC Performance and Expenditure Review (DNA Economics 2015) estimated the total TVET College expenditure in 2013/2014 at R9.1 billion, of which 60% was from DHET subsidies, 20% from NSFAS, 5% project funding and 15% from other sources. More recent estimates were not available, but there are indications that, in real terms, spending has hardly increased.

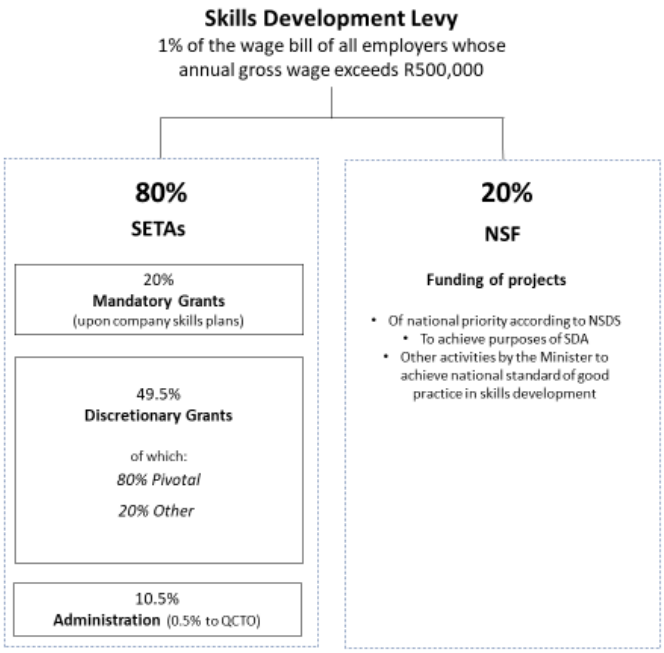
3.2 The Skills Development Levy

The Skills Development Levy (SDL) represents a significant contribution of employers to the publicly administered skills development system. The SDL, introduced through the Skills Development Levies Act of 1999, requires employers to pay 1% of their payroll into the Skills Levy Fund. The levy is collected monthly by the South African Revenue Service (SARS) and - through DHET - distributed to SETAs (80%) and to the NSF (20%)[17] (Figure 7).

[16] The Revised Norms and Standards for Technical Colleges of 2019 identify the following main funding sources: (1) Formula funding for programs (DHET); (2) Earmarked capital funding (DHET); (3) Earmarked recurrent funding (DHET); (4) College fees (students); (5) Student financial aid (NSFAS); (6) Fee for service income (SETAs); (7) Other private funding (SETAs, companies, others); and (8) Other earmarked grants (NSF, SETAs, other).

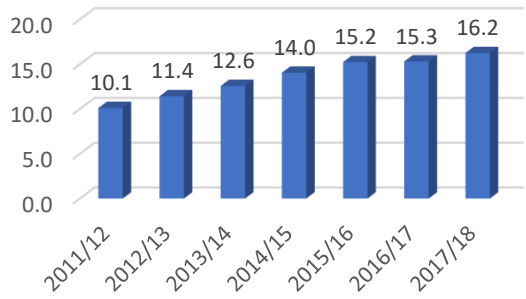
[17] The effective allocation may show marginally different percentages, as the collection fee to SARS, which is based on the full levy amount collected is deducted from the NSF share.

Figure 7. Skills Development Levy



The minimum threshold for companies that have to pay the levy is a R500,000 wage bill annually and this has remained the same over many years despite of inflation-induced pay increases. As a result, the number of companies paying the levy has grown, and the total levy amount collected has increased steadily over the years, from R10.1 billion in fiscal year 2011/12 to R16.2 billion in 2017/18 (Figure 8). This represents an average annual increase of over 8%; however, the growth rates have decreased since 2015 reflecting the economic slowdown since[18].

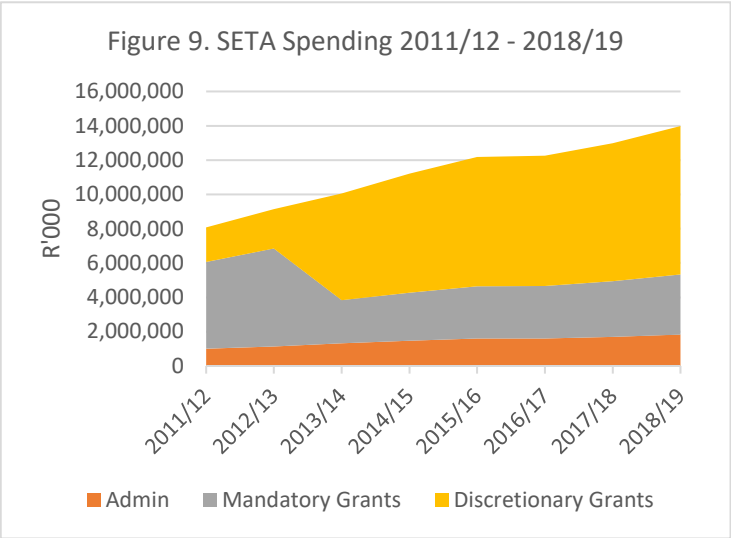
Figure 8. Total Levy Collected 2011/12 - 2017/18 in R billion



Through the SETA system, the bulk of the levy income is supposed to be passed back to industry and to training benefitting the individual sectors; however, SETA funding is subject to detailed regulations and guidelines regarding the use of levy funds. The 80% of levy income that is allocated to SETAs is divided into administrative costs (10% administration and 0.5% QCTO contribution), as well as mandatory and discretionary grants (Figure 7). Mandatory grants are provided to levy paying employers upon submission of a Workplace Skills Plan (WSP) and an Annual Training Report up to 20% of the levy amount paid by the employers[19]. 49.5% of their levy funds are supposed to be used by SETAs for Discretionary Grants. These grants are awarded by SETA Boards based on annual Sector Skills Plans (SSP) to employers and stakeholders according to defined criteria. Figure 9 shows the

[18] There will also be substantial revenue loss in 2020 in the course of the Corona-crisis, as the government has temporarily waived the obligations for companies to pay the SDL.

[19] Any unspent funds from the mandatory grant budget, i.e. funds that were not claimed by eligible companies, will be transferred to the discretionary fund budget.



development of aggregated SETA spending between 2011/12 and 2018/19. Total spending, including administration and (mandatory and discretionary) grants, increased nominally from R8.1 billion in 2011/12 to R14 billion in 2018/19. The distribution of funding between mandatory and discretionary funds changed abruptly in FY 2013/14, when the formula of SETA funding was changed, i.e. the discretionary grant funding increased substantially and the mandatory grant funding declined[20].

Source: DHET, Statistics on Post-School Education and Training in South Africa 2018.
Note: Not sure how reliable and precise the DHET data are. Division of spending between admin, mandatory and discretionary grants are too perfectly in line with formal requirements.

In recent years, SETA funds have increasingly been used to supplement resources for PSET development. According to the regulations, 80% of the discretionary grants need to be used to fund Professional, Vocational, Occupational, Technical and Academic Learning (PIVOTAL) programs, i.e. leading to formal NQF qualifications or to artisan qualifications (trade tests). The PIVOTAL discretionary grant window is used mainly to fund WPBL programs (apprenticeships, learnerships and internships) and short-term skills programs. Out of the 20% flexible discretionary grant budgets SETAs fund a variety of special projects (e.g. lecturer development, curriculum development, new learning strategies, etc.) as well as infrastructure and equipment for public TVET and higher education institutions. To discourage the accumulation of surplus funds, SETAs are only allowed to carry forward to the next year up to 5% unused discretionary grant funds. Any additional unspent funds have to be transferred to the NSF. Since 2015, when the new Guidelines on SETA Grant Regulation were issued, a significant share of SETA funding has been used to support the public PSET system. It should also be emphasized that SETA funds are not only used to fund skills development, but also higher education, through funding learning programs up to NQF level 10 and investments in HEIs. Data on the share of SETA funding directed towards TVET level and higher education are not available.

Through the National Skills Fund parts of the levy income is re-allocated from sectors to national skills development priorities of the South African government. Based on the Skills Development Act of 1998, the NSF receives 20% of the collected skills development levies to fund (i) skills development projects identified in the National Skills Development Strategy (NSDS) III as national priority; (ii) skills development projects related to the achievement of the purposes of the Skills Development Act; and (iii) any activity undertaken by the Minister to achieve a national standard of good practice in skills development. There are other potential sources of income of the Fund, including skills development levies of those employers or sectors for which there are no SETAs, money appropriated by Parliament for the Fund, donations and money received from any other source. Table 3 depicts the increase of revenues of the NSF over recent years, from R3.76 billion in fiscal year 2017/18 to an estimated R4.3 billion in 2019/20. This income is predominantly from the skills levy, finance income (interest) and

[20] Up to 2012/13, 50% of the SDL had to be reimbursed by SETAs to employers as mandatory grants.

some income from SETAs, which represent SETA contributions towards TVET College infrastructure development[21].

Table 3. NSF Actual Budget 2009/10 to 2019/20 (R'000)

	2009/10	2012/13	2017/18	2018/19	2019/20 (est.)
REVENUE					
Skills Development Levy			3 199 737	3 496 140	3 715 261
Income from SETAs			5 000	8 055	
Finance Income			551 016	503 458	589 759
Total Revenue	**1 996 101**	**2 698 910**	**3 755 753**	**4 007 653**	**4 305 020**
EXPENDITURE					
Skills Development Grant Disbursements			7 026 411	2 290 780	4 270 583
Administration			120 979	154 908	279 786
Levy collection fee to SARS			48 353	48 578	54 000
Total Expenses	**558 793**	**636 373**	**7 195 743**	**2 494 266**	**4 604 369**
Surplus/Deficit			-3 439 990	1 513 387	-299 349

Source: NSF, Annual Report 2018/19; DNA Economics 2014. Expenditure Performance Review, National Skills Fund

The NSF has significantly improved its operational performance from 2010/11 onwards, when considerable efforts were undertaken to improve its grant application and adjudication processes, financial management and monitoring capabilities in the course of being transferred to DHET and subject to the more precisely formulated objectives in the NSDS III. Expenditure has risen steadily, funded partly from accumulated reserves. In FY 2017/18, the Fund disbursed R7.2 billion, up from 480 million in 2009/10 and 2.6 billion 2012/13[22]. The expenditure decline in 2018/19 compared to the previous year was caused by delays in the implementation of infrastructure projects in TVET colleges, centre of specialization and rural development projects. Accordingly, expenditure is expected to rise again in the years to come.

The rise in expenditure of the NSF has partly been used to fill funding gaps in PSET responding to the mounting financial pressure related to access increases and the "no student fee increases" policy. In 2018/19, the NSF funded a total of 297 skills development projects with 59,051 beneficiaries, the majority of which were at provincial level. However, significant parts of the skills development grant budget was allocated for infrastructure development in TVET Colleges[23] and core projects of regulatory authorities. Some of the key national projects included in 2018/19 support to the NAMB, support to Recognition of Prior Learning (RPL) development by INDLELA, capacity building of chief accountants of TVET Colleges, and support to centres of specialization in TVET Colleges and to the South African Institute for Vocational and Continuing Education and Training (SAIVCET). Furthermore, the budget includes a substantial window (R789 million) for university bursaries and scholarships for scarce and critical skills, which are used for NSFAS undergraduate bursaries, National Research Foundation (NRF) postgraduate bursaries and scholarships and international scholarships (NSF 2019).

[21] SETAs are required to contribute 4.8% of their estimated discretionary grant towards TVET college infrastructure development. Cp. NSF Annual Report 2018/19.

[22] DNA Economics 2014. EPR National Skills Fund. Final Report; and NSF Annual Report 2018/19.

[23] Of the approved budget for skills development grant disbursements, 28.1% were allocated for infrastructure development, and 14.3% for PSET system development and capacity building. The remainder was allocated for education and training grants (55.1%) and for skills development research, innovation and communication (2.5%).

3.3 Public expenditure on skills development under PSET

Public (voted) funding to PSET through the DHET budget is predominantly directed to higher education institutions (HEI). Between 2011/12 and 2018/19, the Government spent R274 billion for approved PSET programs, of which 76.5% went into higher education, 18.2% to TVET Colleges and 5.2% to CET Colleges. It should be noted that the share allocated to TVET Colleges, which stayed around 17 to 18% during the last decade, markedly increased recently reaching 20.4% in 2018/19. The differences in spending to the PSET sector are driven by enrollment and differences in per student spending (Table 4). Universities account for almost 60% of all public PSET enrollment, followed by TVET Colleges with 35% and CET Colleges with 5%. Furthermore, per student spending differs significantly between the different sub-sectors. The average student spending of R15,208 for each TVET College student is less than half of that in higher education (R33,989) and still lower than the average allocation per CET College student (R21,738). Differences between per student spending in higher education and TVET, though, are less pronounced if calculated on the basis of full-time equivalent (FTE) students. Due to the high share of NATED students in TVET colleges, which increased from 2012 onwards and account for 73% of all students in 2018, enrollment measured in FTE students is much lower that head-count enrollment, because NATED students only spend parts of their training in college[24]. Therefore, enrollment measured in annual FTE students reveals a much lower utilization of TVET Colleges than the student headcount enrollment figures suggest. Using the FTE measurement, annual FTE unit per student allocation rises to R32,700, compared to R47,560 for higher education[25].

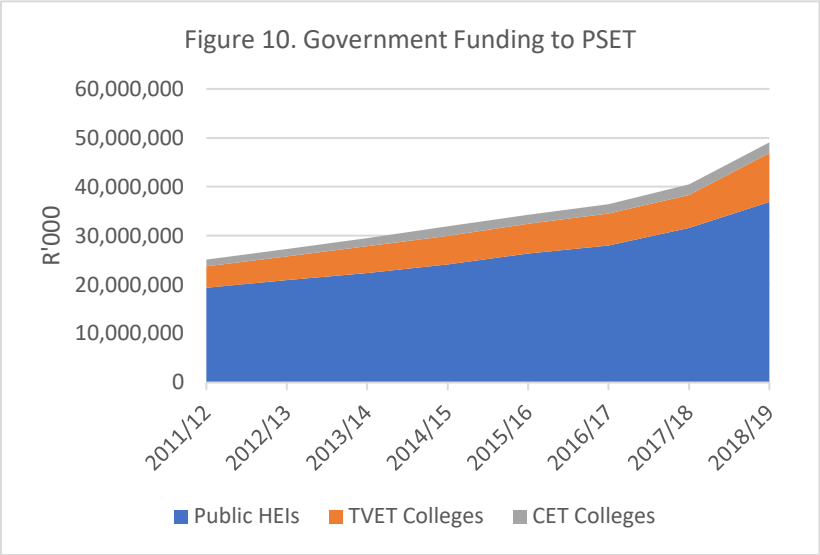


Table 4. Government allocation to PSET 2018/19 per student

	Total spending (R'000)	Enrollment	FTE student enrollment	Per student spending (R)	Per FTE student spending (R)
Higher Education Institutions	36 896 878	1 085 568	775 808	33 989	47 559
TVET Colleges	9 993 719	657 133	305 659	15 208	32 696
CET Colleges	2 180 065	100 286		21 738	

Sources: Data from DHET 2020

While public funding for TVET has increased during the past decade, it has not kept pace with funding requirements. DHET allocations to TVET Colleges more than doubled in nominal terms from R4.4

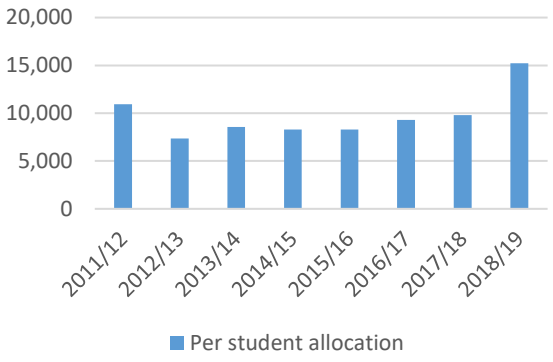
[24] As described before, NATED students have to spend 18 months of their three-year program in WPBL. If a student does not go for WPBL and instead registers for more than one level per year, he is counted as enrolled for each level. The FTE enrollment measurement takes this into account.

[25] It should be considered though that almost a third of all university students (measured in FTE students) are distance education students.

billion in 2011/12 to R10 billion in 2018/19. The considerable increase during fiscal year 2018/19 has now nominally offset the fall in per student allocation that had occurred after 2012 in the wake of increasing enrollment (Figure 11). In real terms, however, per student expenditure continues to go down. The DHET *Investment in PSET*-report of 2018 has calculated the dramatic drop in real per FTE student spending in public TVET Colleges from R73,400 to R14,900 thousand between fiscal years 2008/9 and 2018/19 (DHET 2018).

According to the National Norms and Standards for Funding TVET Colleges[26] DHET is supposed to allocate subsidies and fund operational costs to TVET Colleges to cover 80% of the cost of running the nationally approved programs NC(V) and NATED/Report 191 (N1-N6). Actual allocations to colleges, however, may not meet this target. For the year 2013/14, the Expenditure Performance Review (DNA Economics 2016) found that actual allocations to TVET Colleges were only 50% to 80% of the amounts implied by the stipulated funding formula (DNA Economics 2016). Furthermore, non-staff funding, which is essential in good quality TVET to cover costs involved in practical training, remains very limited. Of the total public funding to TVET Colleges, some 80% is allocated to cover staff costs, and only 20% is directly transferred to colleges to be used for goods, services and operational costs (DHET 2018).

Figure 11. Nominal per student expenditures of DHET for TVET Colleges



3.4 NSFAS funding to the TVET sector

An important source for PSET funding is the National Student Financial Aid Scheme (NSFAS). The scheme, established on the basis of the NSFAS Act of 1999, aims to enable young people from poor households to participate in TVET and higher education and is responsible for allocating and managing financial aid to students of the 26 universities and 50 TVET Colleges[27]. For this purpose, NSFAS receives public funding through DHET and also manages funds from other public organisations and entities, including the NSF. The scheme provides loans for university undergraduate students[28], grants to students in TVET Colleges (TVET grants) as well as other bursary and grants under special schemes.[29] In case of TVET Grants the funds are given directly to the TVET colleges. As such, for TVET Colleges, NSFAS funding takes the form of institutional funding. NSFAS TVET grants are only available for full-time students with South African citizenship enrolled in NC(V) and NATED programs (Cornerstone 2016). NSFAS support is needs-based

Table 5. NSFAS-aided Students in TVET Colleges, 2011-2018

	Number of TVET College students supported	% of NCV and NATED students supported
2011	114 968	33.1
2012	188 182	37.6
2013	220 978	37.0
2014	228 642	35.0
2015	235 988	34.5
2016	225 557	33.7
2017	200 339	30.7
2018	239 797	39.1

Source: DHET, Statistics on PSET in South Africa, 2018.

[26] The Norms are from 2006 but were subject to revision in 2019.
[27] The scheme is not available for CET students.
[28] Following the presidential announcement of *"fully subsidized free higher education and training for poor and working-class South Africans"* of December 2017, these have been converted into grants in 2018.
[29] For example, the special bursary and scholarship schemes funded through NSF, which are described above.

and awarded to students from families with an annual combined household income of R350,000 and below.

Over the years an increasing number of TVET students benefitted from bursaries. The number increased significantly between 2011 and 2015, fell thereafter absolutely as well as in relation to higher education students and rose again thereafter. In 2018, almost 240,000 TVET students received financial aid, representing 39,1% of all NCV and NATED students compared to 33.1% in 2011 (Table 5).

Figure 12. NSFAS allocation to HE and TVET Colleges

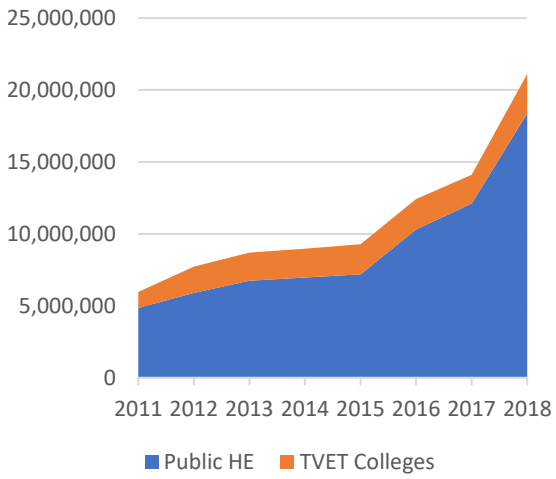
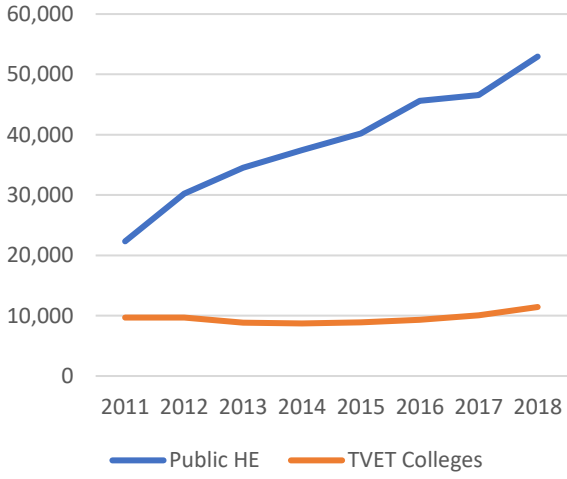


Figure 13. Development of per student NSFAS grant



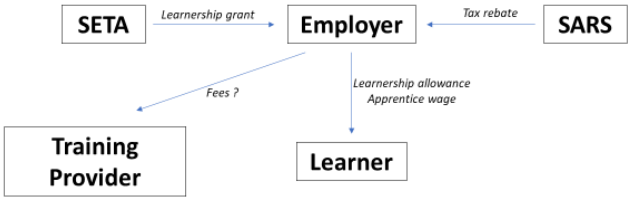
The largest share of NSFAS funding goes into the higher education sub-sector, driven mainly by the different average value of support given to HE students as compared to TVET students. In 2018, NSFAS allocated a total of R21,1 bn, an increase of almost 50% compared to the year before, responding to the "fully subsidized free higher education and training"- promise of former President Zuma in 2017. 87% of these funds went to higher education students, and only 13%, or R2.7 billion in absolute figures, to students in Technical Colleges representing a 36% increase from 2017 (Figure 12).

While the number of TVET students supported through NSFAS is lower than the number of university students, the hugely unbalanced distribution of funding between the two sub-sectors is essentially driven by the amount of assistance. While per student allocation from NSFAS in TVET increased only marginally from R9,712 to R11,437 between 2011 and 2018, the allocation for university students more than doubled during this time, from R22,323 to R52,954.

3.5 Financial arrangement to incentivize and finance WPBL schemes

The involvement of employers in formal learnerships and apprenticeships is financially incentivized by SETAs and the public budget. Learnership and apprenticeship agreements entail a contract between an employer, a learner and a training provider and must be registered with the relevant SETA.

Figure 14: Flow of Funds in WPBL Schemes



Employers who register a learnership or apprenticeship with a SETA are entitled to a learnership grant, which varies between R4,000 and R40,000 per learnership upon the discretion of the SETA Board. In addition, they are entitled to a tax incentive under Section 12H of the Income Tax Act (Box 2). Since 2016, the allowance differs depending on the NQF level of the registered learnership/apprenticeship with the aim to specifically incentivize lower level learnerships[30]. Accordingly, the allowance amounts to R40,000 annually for learnership/apprenticeship agreements up to Level 6 and to R20,000 annually for agreements leading to a qualification at Level 7 to 10. On top of this annual allowance[31] the learner receives a one-off completion allowance of the same amount in the year in which the learnership/apprenticeship is completed. Firms quality for an extra tax allowance in case of a learner with disabilities (SARS 2017).

Box 2. Finding from a Review of the Learnership Tax Incentive Scheme

The learnership tax incentive scheme in accordance with section 12H of the Income Tax Act represents an additional deduction for expenditure on learnerships to the normal cost deductibility. Claiming this additional deduction requires the registration of the learnership agreement with a SETA, which may represent a critical bottleneck in case of weak SETAs.

The National Treasury conducted a review of the Incentive Scheme in 2016. The review found that in 2014, the biggest number of learnerships, for which the tax incentive was claimed, was in the finance and real estate sector. In total, 613 firms claimed in that sector, followed by wholesale and retail trade, catering and accommodation (462), and manufacturing (379). The total value of all claims in 2014 was R1.9 billion. Mainly large firms claim the tax incentive with the exception of the finance and real estate sector, where firms of all sizes claimed. Data are only available for the number of firms that claimed, not for the number of learnerships for which the incentives were claimed. The review estimated that in 2014 the number of learnerships for which there were claims were around 63,000. This would represent a significant share of agreements registered under SETAs in that year.

Between 2009 and 2014, a total tax deduction of R19.9 billion was claimed representing a tax expenditure (foregone tax) of R4.7 billion.

As part of the review a survey of employers was conducted. The survey by and large revealed that, indeed, the policy does incentivize learnerships. Training is perceived by companies as a cost, and the incentive is seen to help reduce this cost. Companies specifically indicated that the scheme would incentivize employing inexperienced people. In some sectors, notably the motor industry, the incentive supports firms to train in excess of their demand. On the other hand, particularly in accounting and at higher qualification levels there were indications of free-riding, i.e. companies would have trained in any case irrespective of the incentive. Limited administrative capacities of SETAs appear to be the biggest bottleneck in the implementation of the incentive scheme. Furthermore, many companies lack information about the scheme.

Among others, the report recommended to re-focus the incentive scheme on lower level qualification learnerships. This has been addressed with the 2016 amendment.

[30] Before, a large number of learnerships, for which a tax allowance was claimed, represented training at higher level. See National Treasury 2016, and Box 2.

[31] Calculated pro rata in case the learnership was less than 12 months in the given year.

Source: National Treasury 2016. Learnership Tax Incentive Review

Financial arrangements for learnerships and apprenticeships also create incentives for learners. While receiving financial support, employers on their part pay training fees to the training provider who delivers the training as well as an allowance/wage to the learner. Learnership allowances are stipulated by the Department of Labour in the Sectoral Determination 5; they increase progressively with number of NQF credits already completed by the learner and the NQF level of the learnership. In 2015, for example, this translated into monthly allowances between R1,139 and R6,440[32]. Minimum apprenticeship wages are negotiated in sector collective agreements and accordingly, vary from sector to sector. Wages in the Motor Industry, for example, ranged from R6,430 to R9,800 per months in 2019, depending on the year of apprenticeships[33].

3.6 Developing a more efficient funding system for skills development

Meeting the high TVET enrollment targets of the NDP may require re-consideration of the funding regime. Under the current fiscal conditions, the ambitious enrollment targets formulated in the NDP and the White Paper on PSET, appear unrealistic (DHET 2018; World Bank 2019). As shown before, real per capita spending for students of TVET Colleges went down considerably when enrollment started to increase, signaling concerns of lower quality of training. There is also an urgent need to address the low efficiency rates in TVET as a result of high drop-out incidence and low completion and throughput rates in TVET. Low private rates of return to TVET, as calculated by the World Bank (2019b), furthermore, will have an effect on the attractiveness of TVET, especially if not subsidized by government, for example through the NSFAS scheme. There are indications that participation in TVET, notably among poorer households, is sensitive to financial constraints[34]. To increase efficiency and attractiveness of TVET, policies need to be geared to (a) improve the market responsiveness of programs and curricula; (b) increase the quality of practical training to make students employable; and (c) reform the financial aid scheme to better target students from poorer households. Improving the quality and relevance of TVET in parallel with increasing enrollment requires an in-depth analysis of different options, looking at different delivery alternatives, diversification of funding sources, spending efficiency and performance incentives.

To underpin further dialogue on options to expand TVET and increase its quality and efficiency, more detailed and disaggregated information and data on costs and expenditure of TVET disaggregated by different programs, as well as the impact of the current funding regime is required.

[32] See Ruth Castel-Branco (2016). National Minimum Wage Coverage for Workers in Learning Programmes. University of Witwatersrand, Policy Brief #4.

[33] Bargaining Council for the Motor Industry (MIBCO), 2017. Extension for non-parties to the collective agreement. Government Gazette No. 40771 of 7 April 2017.

[34] Branson and Kahn (2018) report that social status, among others, influence whether young people transition from school into PSET. Compared to school leavers that do not continue in education, TVET students perform better in numeracy tests, have parents with higher education levels and come from households with marginally higher incomes. Furthermore, household income during the year of matric is highly important in university or TVET college enrollment decisions. Finding show that short-term funding constraints are an important factor explaining why matric holders do not opt for further education, indicating that current student support mechanisms are not effective to overcome financial constraints.

Effectiveness and efficiency of funding arrangements for WPBL need to improve. WPBL is indisputably a skills development option in South Africa that promises better results in terms of labour market relevance and increasing employability of graduates. However, the NSDS III Evaluation undertaken by NSA also points to cost and efficiency concerns of WBL schemes resulting in high unit cost for graduates, envisaging substantial challenges for government to meet the goal of an annual output of 30,000 artisans by 2030. A rough calculation of unit expenditure for apprenticeships indeed suggests that artisan training, while relatively successful in terms of employment outcomes, is the most expensive training mode at TVET level. This finding is at least noteworthy in the light of international evidence suggesting that apprenticeship training can be a rather cost-effective mode of TVET-level skills development. The rationale is that it involves less public investment compared to school-based TVET solutions, as significant parts of the training - and mainly the costly practical modules - are delivered by companies, and that the costs borne by companies for apprenticeship training are partly recovered through the productive work of the apprentice in the company.

It is recommended to undertake a detailed assessment of the funding mechanism for skills development and its effectiveness for learnerships and apprenticeship training in South Africa to underpin the discussion on efficiency of WPBL and option to raise enrollment and output in a sustainable manner. The analysis should evaluate costs and benefits of different WPBL approaches for the participating parties (employers, learners and the government), effectiveness of incentives, and the free-rider risk, among others.

Private provision may need to be supported. As shown before, since 2015, DHET policies have acted to weaken the private training market and with this a potentially important supply resource of TVET provision. The World Bank (2019b) points to the importance, and success in other countries, of a diversified provider landscape and a strong private training market, not least to ease the burden on government initial investment on building new supply capacities. This will require stringent quality assurance mechanisms and regulation by the state, including outcome-based funding arrangements.

4 Monitoring and Evaluation of Skills Development

Availability and quality of data have been identified as a critical shortcoming in the skills development system for a long time, but the knowledge base is improving. Addressing the challenges in labour market research and planning has been a strong focus in the NSPS III, and, in fact, there seems to be agreement that progress has been substantial during the last decade. During the five-year period 2011-2016, SETAs and DHET had commissioned over 273 research projects (NSA, NSPS III Evaluation). In 2011, a Labour Market Intelligence Partnership (LMIP) was formed, which represents a partnership between the South African government and a national research consortium, aiming to build a credible institutional mechanism for skills planning. For the partnership, DHET has contracted the Human Sciences Research Council (HSRC) to be lead in a consortium with the Development Policy Research

Unit at the University of Cape Town and the Centre for Researching Education and Labour (REAL) at the University of Witwatersrand[35]. The objectives of the LMIP include (1) information and knowledge advancement; (2) labour market intelligence; (3) research capacity development; (4) institutional capacity development; (5) research dissemination, and (6) skills forecasting capacity (NSA, NSDP III Evaluation). The launching of six research chairs in the broader field of PSET in 2017/18 by the NRF and the SETA-funded Research Chair Initiative, which facilitated over 20 research chairs at South African universities between 2011 and 2018 is another indication of an increased emphasis of knowledge creation in the field of skills development (NSA, NSPS III Evaluation). Another major step was the creation of a Skills Planning Unit (SPU) in DHET. The SPU is supposed to focus on labour market analysis, PSET planning and monitoring PSET performance and funding and create relevant analytical capacities to support skills planning within government instead of relying on external resources. Despite of these institutional developments, one of the main challenges remains translating information and knowledge into planning.

The SETAs are another key stakeholder of labour market intelligence. SETAs are supposed to undertake research to develop the Sector Skills Plans (SSPs), which form the basis of the training activities of each SETA. Challenges of data quality, and significant differences in data collection and analytical capacities between the individual SETAs have been an ongoing concern, and DHET has constantly worked with the SETAs to strengthen their research capacities and improve procedures for data collection. Following the 2015 Guidelines for the Implementation of Grant Regulations by DHET, mandatory grants are now used to mainly incentivize levy-paying employers to provide data on their workforce and skills needs to the SETAs. To be eligible for a Mandatory Grant, the employer must submit a Workplace Skills Plan (WSP) and Annual Training Report (ATR) in a format prescribed by DHET.

There has been a substantial focus on graduate tracking and impact monitoring, and efforts are ongoing to develop efficient strategies for continuous and institutionalized monitoring of labour market outcomes of skills development programs[36]. Over the years, a considerable number of studies were undertaken to analyze the effectiveness and impact of TVET programs in South Africa[37]. However, the dynamics in the PSET sector with its ongoing and repeated adjustments in programs and implementation arrangements on the supply side, and non-linear career patterns among students[38], require a permanent impact monitoring mechanism capable of tracing student pathways and graduate destinations, and timely identifying constraints and imbalances. In partnership with the EU-financed Capacity Building Programme for Employment Promotion (CBPEP), DHET has initiated a process to develop a policy and standard methodology for tracer surveys in the skills development sector and to institutionalize regularly conducted tracer studies as a key tool in sector monitoring[39].

South Africa requires consolidated M&E structures for its skills development system. At the moment, there is no nationally consolidated database encompassing important and comprehensive student data and supply information at one place. Management information is collected across various separate entities in the education and training sector, including by DHET, Indlela, SAQA, the SETAs, individual higher education and TVET institutions, and others. DHET alone maintains various management information sub-systems (MIS): the *Education and Training Management Information*

[35] See www.lmip.org.za

[36] See the comprehensive discussion in Michael Rogan (Ed.) 2018: Post-school education and the labour market in south Africa by HSRC Press; especially the contributions in this volume by Papier, et al and Branson and Leibrandt.

[37] The table in Annex 4 lists some of the graduate tracking and impact assessments conducted since 2008.

[38] Post-school learning pathways in South Africa are usually not linear but characterised by "zigzagging" between different education and employment situations. Looking more comprehensively at the continuum of school to post-school education to labour market transition is important. See also Papier, et al 2018.

[39] The tracer study of TVET College Graduates is one of the first outputs. See Govender and Rogan 2019.

System (CETMIS); *Higher Education Management Information System* (HEMIS); *Higher Education Quality Committee Information System* (HEQCIS); *Private College Education and Training Management Information System* (PCETMIS); *Skills Education and Training Management Information System* (SETMIS); or the *Technical and Vocational Education and Training Management Information System* (TVETMIS). A consolidated Higher Education and Training Management Information System (HETMIS), which is just being rolled out, aims to provide for an integrated central information system on PSET and outside data, such as from SETAs, to create a central system for strategic reporting[40].

Further efforts to address critical monitoring, research and planning challenges are required to improve systemic and strategic skills development planning, program design and targeting.

5 Moving Ahead

The analysis presented in this paper points to three - partly interrelated - thematic areas that are key for shaping the future reform process of skills development in the spirit of the While Paper for PSET (DHET 2013), as well as boldly implementing the Presidency's 5 by 5 Plan: (1) cost and financing of skills development; (2) workplace-based learning; and (3) monitoring and evaluation. Building on the substantial global experience and expertise in these fields, further analytical engagement of the Bank is suggested, with a focus each as outlined below.

(I) Study on cost and financing of skills development in South Africa

As discussed before, Government will urgently need to address funding challenges if it wants to keep the ambitious NPD enrollment targets for PSET within reach. In the realm of skills development, especially the formal TVET system, future financial requirements will not only reflect the expected increase in student numbers, but also the additional resources needed for quality increases. Options to enhance efficiency in funding arrangements including performance-based funding, changing the mix of programs and delivery modes with a view of strengthening more cost-effective forms of skills development, diversifying funding sources, or improving the targeting of student aid must all be discussed alongside justified calls for an increase of public allocation to skills development. To better inform such strategic funding discussions, the suggested analysis would focus on the following:

- assessment of **unit costs and actual unit spending** in various skills development programs and sub-systems emphasizing on PSET TVET programs (including NC(V), NATED, (short-term) occupational qualifications), but also different WPBL schemes (incl. learnerships and apprenticeships) – the latter will also inform the analytical work under (II) described below. This would create transparency about cost differences across programs and delivery modes, and improve the understanding of cost drivers;
- Skills development **costs in the private training market** with a view of identifying major cost differences as compared to the public system;
- Analysis of **unit cost against actual spending** across different skills development schemes;

[40] https://webapps.dhet.gov.za/

- Stocktaking of **funding flows and actual funding volumes** across programs in recent years. This includes identification of different funding sources (who pays for what?) and relative importance of funding sources in different training sub-systems;
- Analysis of **institutional funding arrangements** and **options for performance-based funding**;
- Cost **implications of internal efficiency challenges** (low throughput rates; long average training duration);
- Analysis of funding flows and regulations in the **NSFAS engagement in TVET** focusing on access and equality issues;
- Identification of major **constraints and options to increase cost-effectiveness** in skills development.

(II) Analysis of barriers and opportunities of company participation in workplace-based learning with emphasis on option to increase involvement of small and micro enterprises

The importance and effectiveness of WPBL (apprenticeships, learnerships and internships) is undisputed in South Africa. Labour market outcomes of apprenticeship and learnership completers tend to be better than those of completers of college-based skills development programs, and the strengthening of WPBL enjoys special attention in all relevant recent policy documents and discussions. With the aim to improve and standardize support to apprenticeship and learnership development, DHET is currently bringing a comprehensive analysis of key processes and systems used by SETAs and NSF to manage and fund the different WPBL schemes on the way. Complementing this assessment, further analyses of critical determinants of companies to participate in WPBL, especially of micro and small businesses, appears important to shape upcoming policies aimed at broadening the scope of sectors and types of companies involved in WPBL provision. Such an analysis would be suggested to look at

- the **preparedness and motivation of firms to participate in WPBL** informing the further design of financial and non-financial incentives;
- **costs and cost-drivers of apprenticeship training, learnerships and internships** under the current funding regime[41]. The relative high public costs of apprenticeship training in South Africa would need to be analyzed against international evidence suggesting that WPBL can be rather cost-effective for governments because a significant share of the training services is delivered by employers;
- **cost and benefits of participation in WPBL for companies**. Training youth under well designed WPBL schemes do not only represent a cost for companies, but also generates a return because of the grants and tax incentives, the production value of the learners and other potential benefits (e.g. getting the right fit of employees). Studies in other parts of the world have shown that such returns can offset parts of or even the entire costs initially occurring in companies in relation to taking on learners in WPBL scheme. Analyzing the cost-benefit relationship for WPBL in South Africa[42] may help identifying constraints in the system preventing companies to invest in WPBL, and at the same time may assist SETAs in advertising WPBL among their companies;
- Special **constraints for micro and small companies to participate in WPBL schemes**;
- Potential and opportunities of strengthening **informal apprenticeships** in the township economy;

[41] There would be an overlap at this point with the analytical work on costs and financing skills development suggested before.

[42] This would build on a previous study undertaken by MERSETA.

- Constraints specially of **NATED program completers** to access internship places, which are critical to complement theory-based learning in TVET Colleges and a precondition to acquired a formal qualification certificate.

(I) Assessment of options to increase effectiveness and comprehensiveness in the monitoring and evaluating skills development

The lack of timely and comprehensive data and information on key indicators represents a critical challenge for planning and strategic development of the skills development system. Data across the different segments of the PSET system are yet to be integrated and data collection systems harmonized. The scope of data collected is not aligned with the requirements of outcome monitoring and socio-economic targeting. Different attempts to improve M&E and coordinate its different sub-systems, including the establishment of the LMIP, SPU and HETMIS, have not achieved the needed breakthrough. The impressive stock of research covering a wide range of topics including graduate tracking studies have contributed substantially to understanding various characteristics and limits of the system, but are not comprehensive enough to facilitate informed sector planning. It is therefore suggested to support the ongoing reform and data alignment processes with an initial diagnostic of the overall space of skills management information data collection and analysis, with a view of

- taking stock of the various **data collection systems**, their scope and methodologies, and articulation with other systems;
- identifying the most critical **data gaps**;
- identifying **options to increase efficiency, quality and relevance of the management information** in the skills system, addressing challenges in scope and type of data collected, integration of different data sources, methodologies and technology for data collection and analysis, capacity constraints and data policies, etc.

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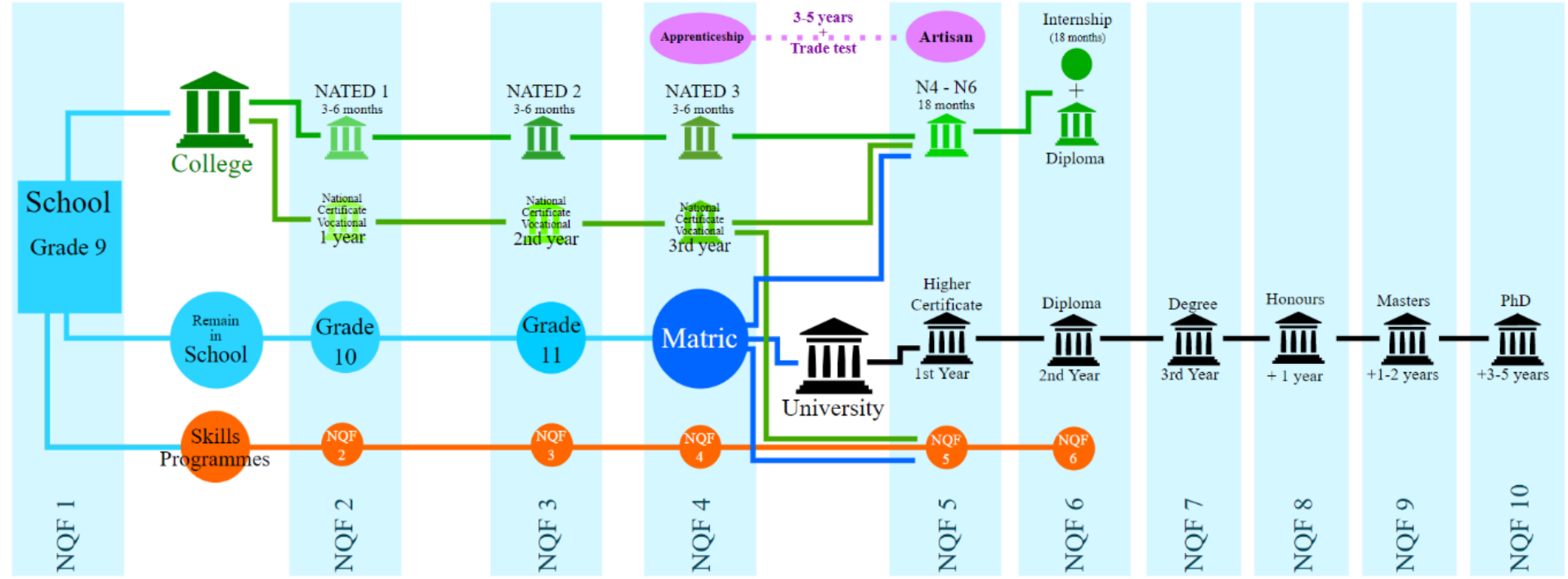
Annex 1

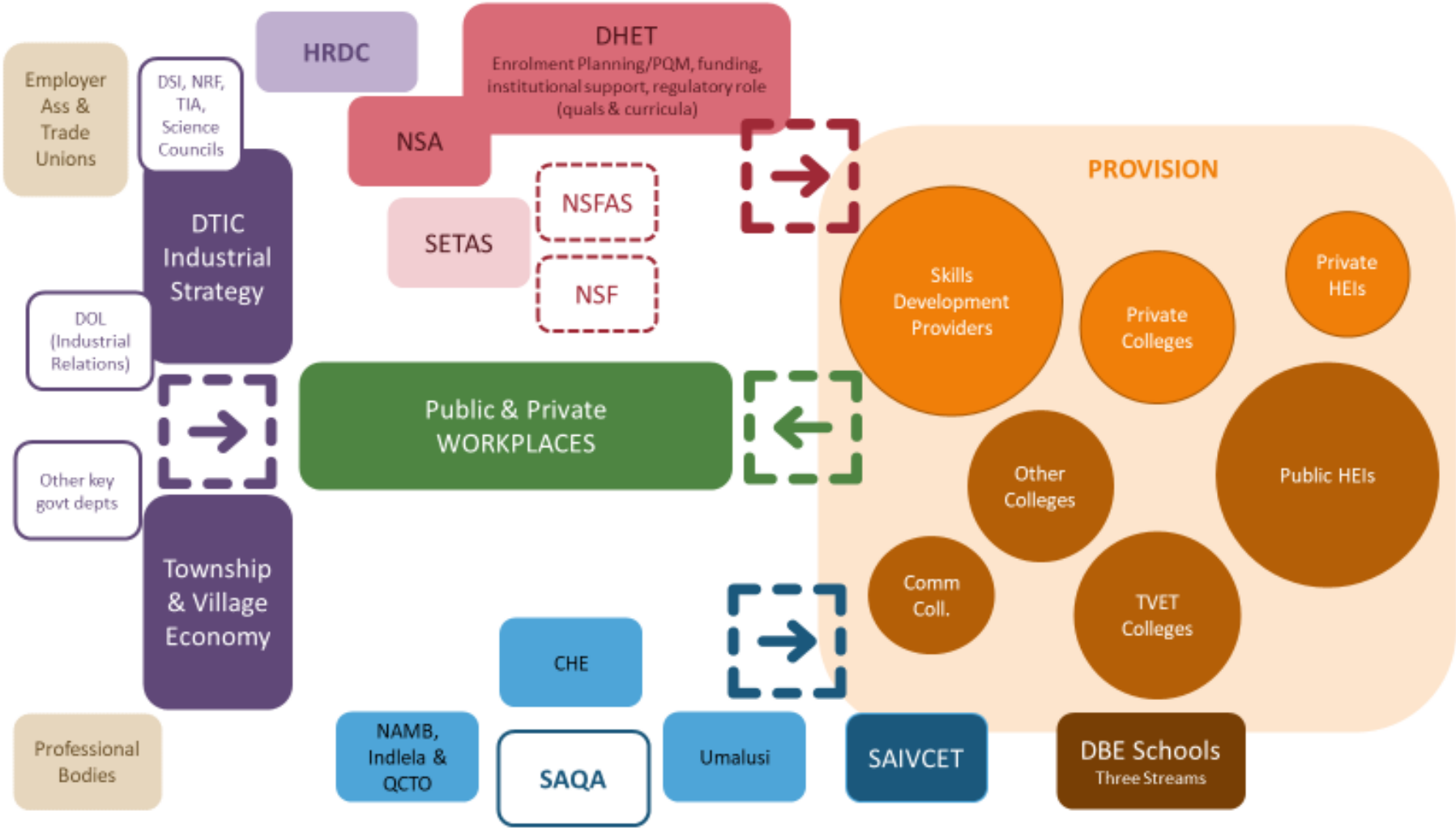
PSET Programs and NQF Levels



Source: By Discott - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=56736043

Annex 2

Institutional set-up for PSET and Skills Development (Source: REAL, Wits University 2020)



Annex 3

NC(V) Enrollment by Program and Gender, 2017

Program	Total number			in %		
	Female	Male	Total	Female	Male	Total
Civil Engineering/Building construction	4520	5094	9614	5,0	9,7	6,8
Drawing Office Practice	49	132	181	0,1	0,3	0,1
Education/Development	3062	300	3362	3,4	0,6	2,4
Electrical Infrastucture and Construction	8238	8765	17003	9,1	16,8	11,9
Engineering/Related Design	6000	11639	17639	6,7	22,3	12,4
Finance, Economics, Accounting	6779	2245	9024	7,5	4,3	6,3
Hospitality	7084	1963	9047	7,9	3,8	6,4
Information Technology/Computer Science	3694	3734	7428	4,1	7,1	5,2
Management	4785	2003	6788	5,3	3,8	4,8
Marketing	4384	2315	6699	4,9	4,4	4,7
Mechatronics	485	564	1049	0,5	1,1	0,7
Office Administration	24803	5589	30392	27,5	10,7	21,3
Primary Agriculture	2869	1450	4319	3,2	2,8	3,0
Primary Health	1817	212	2029	2,0	0,4	1,4
Process Plan Operations	490	155	645	0,5	0,3	0,5
Safety in Society	3125	2098	5223	3,5	4,0	3,7
Tourism	5975	2739	8714	6,6	5,2	6,1
Transport and Logistics	1940	1277	3217	2,2	2,4	2,3
Total	90099	52274	142373	100,0	100,0	100,0

Source: DHET. Statistics on Post-School Education and Training in South Africa: 2017.

Memo: Top Five Programs in %

Male: 66.6%

Female: 58.7 %

Total: 58.8%

Annex 4

Selection of tracer surveys and impact assessments in the field of skills development

Year	Study	Institution/Project	Characteristics
2019	Destinations of TVET College Graduates	DHET/CBPEP	Large-scale tracer survey, still in progress Source: Govender/Rogan 2019.
2016	Survey of TVET College Graduates enrolled in NATED programmes	LMIP	Sample: 4050 NATED graduates from 2013. Source: Papier et all 2018.
2016	NC(V) Tracer Study	SSACI/NBI	Source: SSACI, Jet Education Services and NBI 2016.
2016	Impact assessment of artisan training	SSACI (?)	Based on evaluation of NADSC/INDLELA records, a tracer study on newly qualified artisans and tracking study of progression of apprentices Source: Duncan 201?
2016	Exploratory research project on pathways of NC(V) engineering graduates in the North West Province	??	Study based on interviews with 120 (of total population of 600) graduates who completed between 2009 and 2012. Source: Mashongoane 2018
2014	Impact of Learnerships	UNU-WIDER	
2012	Impact of Learnerships and apprenticeships under the NSDS II	DoL/DHET and HSRC	Kruss et al 2014.
2010	Transition from school to work of FET College graduates	DHET	Study does not aggregate between NC(V) and NATED graduates Source: Gewer 2010
2008	Impact Assessment of Learnerships and Apprenticeships	MERSETA	Source: MERSETA 2008