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## LIST OF ACRONYMS

ABET	Adult Basic Education and Training
ACOA	Advisory Body for Education and Labour Market
AET	Adult Education and Training
CBE	Competency-Based Education
CEFET	Federal Centres for Technological Education
CETC	Community Education and Training Colleges
CLC	Community Learning Centres
CNFP	National Council for Vocational Education and Training
DG	Director-General
DHET	Department of Higher Education and Training
DoE	Department of Education
EEA	Employment Equity Act
FET	Further Education and Training
FTE	Full-Time Equivalent
GETC	General Education and Training Certificate
GRALE	Global Report on Adult Learning and Education
HEI	Higher Education Institutions
HEQSF	Higher Education Qualifications Sub-framework
HVET	National Agency for Higher Vocational Education
ICC	Interim Community Colleges
ICT	Information and Communication Technology
ISCED	International Standard Classification of Education
JIVTA	Japan Industrial and Vocational Training Association
MTSF	Medium-Term Strategic Framework
NATED	National Accredited Technical Education Diploma
NC(V)	National Certificate Vocational
NEET	Persons between 18 and 24 not in employment, education or
	training
NQF	National Qualifications Framework
NSF	National Skills Fund
NSFAS	National Student Financial Aid Scheme
OECD	Organisation for Economic Co-operation and Development
PALC	Public Adult Learning Centres
PED	Provincial Education Departments
PFMA	Public Finance Management Act
PSET	Post-School Education and Training
ROC	Regional Training Colleges
SAQA	South African Qualifications Authority
SDL	Skills Development Levy
SETA	Sector Education and Training Authorities
SLF	Student Loan Fund
TVET	Technical and Vocational Education and Training



## **EXECUTIVE SUMMARY**

This international review provides a snapshot of the different institutional and funding mechanisms in place to support the post-school education and training (PSET) system across a wide range of developed and developing countries. It also raises particular questions around how to develop and finance an equitable and accessible PSET system in South Africa, as envisioned by the 2013 PSET White Paper. Achieving the ambitious long-term White Paper targets will require the creation of a more efficient and effective system, and the identification of relevant international funding best practices can play an important role in this process.

The review begins with a description of the structure and funding of the South African PSET system, and the key challenges faced in the system. This is followed by a general discussion of typical funding practices and mechanisms within the key sub-segments of the post-school system globally. An overview of the funding practices within OECD and African countries is then provided, followed by detailed case studies for the four selected comparator countries; Brazil, Chile, India and Malaysia. Throughout the review, differences and similarities to the South African system are highlighted and discussed.

Like South Africa, most countries are confronted with rapidly growing demands for tertiary education, and severe limits in terms of the capacity and funding available to provide this type of education. Moreover, most countries are looking to find ways to bring poor or previously disadvantaged communities, into the education and employment net, largely through state-funded loan and scholarship schemes. Vocational and workplace skills systems are increasingly gaining prominence and attracting funding as a means for addressing unemployment and underemployment.

Despite these similarities, there are notable differences between the structure of the PSET system in most of the comparator countries and South Africa that can make comparisons difficult:

- In most countries, vocational training begins at the secondary level with a focus on channelling students into specific vocations, and there are frequently much stronger links between the school system and the workplace.
- There seems to be a much higher dependence on private sector institutions in the delivery of tertiary education, particularly in the four case-study countries.
- The review highlights the importance of the involvement of the private sector for the success of the vocational and workplace skills systems; particularly in controlling unemployment.

In terms of funding, virtually all countries provide a mix of direct state support to public institutions and direct student support through scholarships and loan arrangements. A number of interesting innovations and lessons emerge from different country experiences:

• By using a mix of scholarship (grant) and loan financing, it is possible to structure the funding arrangements for student fees to target specific categories of students and to maximise the number of students that can be supported. Brazil, for example, provides partial to full scholarships to students, on a means tested basis, but then allows all students





to make-up the difference through a subsidised loan scheme. Chile directs scholarships for vocational programmes at individuals who are already beneficiaries of other government welfare programmes. As graduates typically earn substantially more within their lifetimes than the rest of the population, the key challenge is to design a system whereby graduates contribute meaningfully to their own education and are incentivised to make cost effective choices, without causing the system to become prohibitively expensive for poorer students.

- Deferred charge schemes are widely used to incentivise students to make education choices that are effective in terms of study costs and future earnings while minimising the long-term cost to the state. While there are no countries that apply a formal graduate tax, countries such as Australia, the UK, Chile and New Zealand provide repayment terms that are income contingent and only payable above certain thresholds. Other countries provide interest subsidies to economically disadvantaged students (e.g. Brazil and Thailand). Tax credits provide an indirect subsidy to either households or businesses and are commonly used within the United States. The differential pricing of tuition fees is also commonly used; with lower fees charged on disadvantaged students (either economically or due to gender or disability), or by charging higher fees on international students.
- To promote competition between institutions, and maximise overall enrolments, most countries provide support to both private and public institutions. In some countries these schemes are differentiated. In Chile, for example, funding for private institutions is provided on a competitive basis, based on the number of top students that they attract, whereas public funding is allocated through more conventional means. To further reduce reliance on the state system, Malaysia provides specific incentives to encourage the development of private educational institutions.
- In most countries, official student loan schemes are available for students at both private and public institutions. In some countries, such as Chile, different loan programmes have been structured for public and private students, though both are well-targeted at the poorest students. In Malaysia, the national student loan programme makes no distinction between students at public and private institutions.
- The private sector is also encouraged to fund tertiary education. In some cases this is
  mandatory, such as the industry-specific payroll levy in Brazil; while in Chile, tax rebates
  are used to incentivise enterprises to spend on training or support to training institutions. In
  India, the banking sector has developed a model educational loan scheme to encourage
  private banks to provide loans to meritorious students pursuing higher education, which is
  underwritten by a partial, public credit guarantee scheme.
- Finally, attempts to diversify the funding bases of public higher education institutions, have been largely unsuccessful. Most public institutions rely on public sector grants and student fees, and their ability to provide fee-earning services to government and business is limited. Rather, most countries have sought to improve efficiencies within the sector and reduce its reliance on public funds, by expanding private investment in the provision in post-school





education and moving away from an input-based funding approach, based on student enrolments, towards competition and institutional performance (output-based funding).



# 1 INTRODUCTION

This international review sets out to compare the structure and funding of the Post-School Education and Training (PSET) sector in South Africa, against the experience of other countries. Differences in legal, governance and institutional structures can make these comparisons difficult. Moreover, innovations and good practices cannot be directly transposed from one country to the next, but must be adapted to the prevailing country conditions and context. Nonetheless, many of the challenges confronted in the White Paper on PSET are not unique, and South Africa can certainly learn from some of the funding models and instruments adopted elsewhere.

The review begins (in Section 2) with a high-level description of the structure and funding arrangements within the PSET sector in South Africa. This is necessary in order to provide a comparative basis against which other countries' systems can be assessed. This section also highlights some of the key challenges faced within the South African system and the research questions that arise from these challenges.

Section 3 provides a summary of the key international funding models and practices within the PSET sector within the three categories: (a) higher education (b) technical and vocational training (c) adult basic education and training. Overviews of different funding arrangements across OECD and African countries are then provided in Sections 4 and 5 respectively.

A set of case studies of the PSET systems within selected comparator countries is provided in Section 1. These case studies focus on four middle-income countries: Brazil, Chile, India and Malaysia. For each country, an overview of the overall education system is provided, outlining how the system and its different components are structured funded<sup>1</sup>. Where possible, specific country innovations are highlighted.

The report concludes with a summary of the key lessons that emerge from this review and provides some ideas for potential consideration in the reform of the PSET system in South Africa.

It is important to note that the focus of this review is on the financing aspects of post-school education and it does not attempt to provide a comprehensive review of all aspects the PSET system across the world. In particular, the review seeks to describe potential funding alternatives and cost-saving (or cost-sharing) initiatives that might be considered by South Africa in order to achieve the objectives of the White Paper.

<sup>&</sup>lt;sup>1</sup> For Adult Basic Education (ABE), the vast inconsistencies across the world with regards to the definition and scope of the sector make direct country comparisons virtually impossible. We have therefore opted to provide a summarised literature review of the different approaches to adult basic education across the world and how these approaches are funded, as provided in Section 3.4.





# 2 SOUTH AFRICAN POST-SCHOOL EDUCATION

### 2.1 The structure and funding of PSET in South Africa

To maximize the value of the international review, it is important to first understand the local context. This section contains a description of the structure of the South African PSET sector, as well as the funding mechanisms employed in the different parts of the sector. Appendix A sets out further detail on the programmes offered within the different parts of the PSET sector, and locates them within the National Qualifications Frameworks. This background information will be drawn upon to compare and contrast funding systems and practices in other countries and regions.

### 2.1.1 Technical and Vocational Education and Training

Technical and vocational education and training (TVET) for school leavers in South Africa is offered by 50 multi-campus public TVET colleges. According to the DHET 2013/14 Annual Report, headcount enrolment was estimated at approximately 656 690 in 2013/14. The target for these colleges is to reach a 2.5 million headcount enrolment by 2030 (Department of Higher Education and Training, 2013/14).

The primary objective of TVET colleges in South Africa is to train and educate young school leavers and prepare them for employment in the semi-skilled labour market. As it is compulsory for young South Africans between 6 and 15 to be in school, the only age restriction that applies to TVET colleges is that the student has to be 16 years or older. In addition, a student that wishes to attend a TVET college has to have completed primary education (Grade 1- 9); although in practice TVET colleges enforce more stringent entry criteria for more challenging programmes. If the student has not completed his or her primary education, the student can attend a Public Adult Learning Centre (the proposed Community College system) to complete the four levels of the Adult Basic Education Training Programme, as an alternative entry route into the TVET system.

TVET colleges receive the majority of their funding through direct transfers from the DHET. In addition, government supports TVET colleges through student bursaries provided by the NSFAS and specific programme funding provided by the NSF and the SETAs. Private revenue through (non-bursary) course fees, donations and private company funding comprise only a small share of income. This means that any increase in enrolments to meet long term targets would have to be funded almost exclusively by government, unless the funding structure or programme mix of public TVET colleges change dramatically. Figure 1 provides a breakdown of the sources of funding received by TVET colleges in 2013.





Figure 1: Overall TVET funding by source



Source: DNA Economics (2015) TVET Performance and Expenditure Review report

On 15 May 2015, the new National Norms and Standards for Funding Technical and Vocational Education and Training Colleges were published. The document identifies seven possible streams of TVET college income (DHET, 2015c):

#### 1. Formula funding

Formula funding, transferred from the DHET, is meant to cover the majority of the costs of delivering NATED and NC(V) programmes. This includes the recurrent direct lecturing and programme costs, on-going programme-related capital costs and college overhead costs related to administration and student support. The formula calculates the college allocation by Full-Time-Equivalent (FTE) students per programme by taking into account programme specific cost factors, the assumed fee level and an output bonus. The output bonus is based on performance; however, even though the funding approach includes a performance bonus element, it would appear that it has never been allocated (due to insufficient funds). There is currently a task team within DHET that is reviewing the funding methodology for TVET colleges which could result in changes to the mechanism through which formula funding is allocated in future.

#### 2. Earmarked capital funding

This funding stream is earmarked to cover three specific types of capital expenditure: expenditure on the expansion of existing campus infrastructure; the construction of new campuses; or capital expenditure to address backlogs inherited from the past. This funding is dispersed via conditional grants or by matching grants through joint investments with the private sector.

#### 3. Earmarked recurrent funding





This funding stream is earmarked for developmental projects, specifically focussing on staff development, the implementation of computerised systems and college-level-research. Additionally, the earmarked recurrent funding stream covers the resources required for a basic minimum package of services to be provided by all colleges as defined by the DHET.

#### 4. College fees

The funding formula assumes that 80% of the cost of providing the programme should be covered directly by the state with the remaining 20% being funded through college fees (which may be funded privately or through NSFAS). In setting fees, colleges should therefore not deviate substantially from what is considered fair practice (as defined by the funding formula determining the total cost of presenting a programme).

#### 5. Student financial aid

Colleges also receive indirect public funding through student financial aid in the form of bursaries or loans from state or private organisations to students. The primary state organisation responsible for granting loans to TVET students is the National Student Financial Aid Scheme (NSFAS). NSFAS receives funds form several national departments including, but not limited to, the DHET, Department of Basic Education and the Department of Social Development. NSFAS is also funded by the National Skills Fund and various Sector Education and Training Authorities. NSFAS funding covers not only student fees, but also accommodation and/or travel expenses. Although exact figures are not available, the majority of student fees are covered by the NSFAS, making the proportion of non-government funding in the system small.

#### 6. Fee-for-service income

This includes income generated by colleges for providing training services to public and private sector institutions on a market basis to private and public clients outside of the formula funding system.

#### 7. Other private funding

This could include any funding sources not covered by the six sources discussed above. Some examples that are mentioned in the policy document are development funding received from international donors and income from the sale of good or services produced by students as part of their training programmes.

#### 2.1.2 Universities

South Africa has 26 public universities comprised of 14 "traditional" universities, 6 universities of technology and 6 comprehensive universities. "Traditional" universities offer general formative and professional academic programmes including undergraduate, Master's and PhD graduate programmes, while "Universities of Technology" are more focussed on providing undergraduate career-focussed programmes. Comprehensive universities combine the functions of both of these types of universities.





Student headcount enrolment was 983 698 in the 2013 academic year (DHET, 2015). The target in the *White Paper for Post-school Education and Training* is to have a headcount enrolment of 1.6 million by 2030 (DHET, 2013). The headcount enrolment figure includes full-time, part-time, distance-learning and contact students. 165 995 students graduated in 2012, which included 6 076 Masters graduates and 1 879 PhD graduates. 180 823 students graduated in 2013 which included 10 809 Masters graduates and 2 051 PhD graduates. Total student headcount enrolments increased form 556 667 in 2000 to 983 698 in 2013, with an average annual growth rate of 4.5% (See Figure 2 below) (DHET, 2015a).



Figure 2: Total student headcount enrolments in universities, 2000 to 2013.

Universities in South Africa are accountable to the DHET which is mandated to direct the development of the overall university system and to manage government responsibilities in terms of the regulation of the higher education system.

In 2003, the then Minister of Education published a notice setting out a new framework for the funding of public higher education.<sup>2, 3</sup> The key features of the current funding framework are as follows:

- Affordability: Government first decides how much it can afford to spend on higher education and then allocates funds to institutions, according to national needs and priorities.
- **Distributive mechanism**: The funding framework becomes a distributive mechanism to allocate government funds to individual institutions, in accordance with the budget made available by government, its policy priorities and approved national higher education plans.

<sup>&</sup>lt;sup>3</sup> Done with the concurrence of the Minister of Finance and after consulting the Council on Higher Education (CHE)





Source: (DHET, 2015a)

<sup>&</sup>lt;sup>2</sup> Funding of Public Higher Education, Ministry of Education: Government Notice No. 25824 of 9 December 2003

• **Cost sharing**: The principle of cost sharing of higher education by Government, students and families has been retained in the funding framework. There is thus an expectation that students who can afford it need to pay fees to contribute towards the cost of higher education.

The funding framework provides financial incentives to achieve the country's higher education goals; and it has been designed to give the Minister the ability to reprioritize funding allocations in line with priority areas and policy incentives. Moreover, the framework is closely linked to the enrolment planning process to ensure that student enrolment growth in the system is aligned with South Africa's broader social and economic needs, the capacity of the system in terms of human and capital resources, and the fiscal resources available. It is thus acknowledged that the enrolment process cannot be left to institutional and student choice alone but has to be steered to achieve desired national outcomes. The downside of a funding framework linked mainly to enrolment is that it can create perverse incentives for institutions to pursue enrolments targets, often at the expense of quality and sustainable educational outcomes.

The funding framework makes use of a block grant as well as earmarked grants. The block grant is generated by formulas, grids and weights within the funding framework. It is not earmarked for any specific purpose and can be spent at the discretion of the council of each university. The block grant consists of four grants, namely: the teaching input grant, the teaching output grant, the research output grant and the institutional factor grant. The institutional factor grant has two distinct components: the institutional factor for size and the institutional factor for disadvantage.

The Minister of Higher Education and Training divides, on a three-year rolling basis, the higher education budget into its various components. Figure 3 shows the current division of the university budget between grant categories. The components of the block grant are relatively stable, whilst changes to earmarked grants can occur when the need arises.





Figure 3: Division of budget between different grant categories

Source: Compiled from the 2013 Annual Financial Statements of Universities (DHET, 2014) and the Ministerial Statement on University Funding 2015/16 and 2016/17 (Ministry of Higher Education and Training, 2014)

#### **Block grants**

The purpose of the various components of the funding framework are as follows:

- **Teaching input funding** which funds universities for delivering teaching services and the supervision of postgraduate masters and doctoral students. The teaching input grant uses a funding grid for the distribution of grants to universities. The funding grid is based on the relative cost of offering teaching and research supervision in various fields of study. Teaching input funding is based on full-time equivalent enrolments, which are then weighted by field of study as well as the level of the qualification.
- **Teaching output funding** which funds completed graduates, encourages universities to ensure that students complete their studies through increased success and throughput rates.
- **Research output funding** which encourages the publication of peer reviewed articles and books, as well as the graduation of masters and doctoral students. Doctoral graduates receives the highest funding weight as an incentive to produce much needed graduates for research, innovation as well as the next generation of academic staff.
- The **institutional factor** consists of two components, namely: the institutional factor for size, which allocates additional funding to universities with an FTE enrolment of less than 25 000. This grant compensates smaller universities for the additional costs involved in providing the





full range of student services, which can be more costly at a small university. The institutional factor for disadvantage was introduced to provide an incentive for universities to enrol more African and Coloured South African students. The institutional factor grants, therefore, are a very important incentive for promoting racial diversity at all institutions.

#### Earmarked grants

There are a myriad of grants designed to support the university system and steer funding towards policy priorities:

- Infrastructure and output efficiencies funding is available to increase the capacity of the university system to cope with the growth in student numbers, to provide the necessary infrastructure and equipment for improving the quality of teaching and learning, and to improve student success and completion rates. It is also aimed at equipping universities to effect national goals and priorities by providing incentives for universities to deliver on the PME targets of the Minister.
- Historically Disadvantaged Grants are provided to the historically disadvantaged universities (Universities of Fort Hare, Limpopo, Venda, Walter Sisulu, Western Cape, Zululand, Mangosuthu University of Technology and Sefako Makgatho Health Science University) over a 5-year period. The overall purpose of these funds is to put in place systems to develop and ensure the sustainability of the university, and to enable the university to strengthen its academic enterprise.
- The **clinical training grant** provides funding to universities to fund the clinical component of health professional students, which is a national priority area.
- The **foundation programme grant** provides funding for extended programmes aimed at addressing the unpreparedness of students from schools to improve their chances of success at university. The vast majority of these students originate from poor quality school backgrounds.
- **Teaching development and research development grants** provide financial assistance to universities to develop support programmes that enhance their ability to increase student success and completion rates, as well as to enhance their capacity to produce research outputs.
- The **veterinary sciences** earmarked grant provides funding for the clinical training component of veterinary sciences programmes and for the cost of running an animal hospital at the University of Pretoria.

Further earmarked grants are made to the Institute for Human and Social Sciences, which provides services to the higher education sphere within the humanities and social sciences fields; and to the African Institute for Mathematical Sciences, which funds a special project aimed at producing postgraduate students in mathematics from formerly disadvantaged groups.

Over and above, the block and earmarked grant system, the **NSFAS funding** provides assistance to students that cannot afford university education. NSFAS is a statutory body which receives an annual allocation through the Appropriation Act. Eligible students at higher education institutions are able to apply directly to NSFAS for funding through the new core loans and bursaries





management system makes it possible for (National Treasury, 2014, p. 51). Approximately 15% of NSFAS funds currently flows in this way and the rest through institutions. NSFAS also receives funds from the NSF as well as South African and international donors. The amounts available for student financial aid are allocated to universities by the NSFAS board.

#### Funding sources

In 2013, universities received about 40% of their income from government subsidies, 33% from student fees and 27% from third stream income (such as research contracts, offering of short courses, renting out facilities etc.).





#### Source: DHET (2015b).

The change in these income sources of the universities over the period 2000 to 2013 is shown in Figure 4. It shows that the percentage of income derived from third stream remained at 27%. Government subsidy to universities decreased from 49% of total income to 40% of total income over the period 2000 to 2013. The drop was compensated for by increased student fees. In 2000 student fees contributed to 24% of universities' income. By 2013 this has increased to 33% of universities' income. The block grant subsidy to universities amounts to R 29,538 billion in 2015/16, and the earmarked funds including NSFAS amounts to R9,8 billion in 2015/16. (DHET, 2015e) .

The DHET notes that the block grant allocations to universities increased by 128% between 2004/5 and 2014/ 15 in nominal terms. The eroding effect of inflation meant that this translated into an increase of 30.5% in real terms. The effect of inflation and the high student growth in universities over the last ten years resulted in a net decrease in the per capita FTE student allocation in real terms of -1.35% over the ten years. Appendix 2 provides a discussion of the recent trends within the South African university education system in terms of enrolments, demographics, graduates and research outputs.





#### Changes to the Funding Framework

A number of changes to the funding framework have recently been made as a result of the recommendations made by the Ministerial Committee for the Review of the Funding of Universities. These changed will briefly be described here.<sup>4</sup>

The overall purpose of the Ministerial Committee on the Review of the Funding of Universities was to review the experiences since the introduction of the current funding framework for universities in the 2004/05 financial year. The Committee developed a set of principles based on the transformational goals as formulated in Education White Paper 3 (DoE, 1997) and the National Plan for Higher Education (Education, 2001).

Based on these principles the Committee analysed the current funding framework to determine whether it has functioned effectively in achieving the goals set for it at its inception, and in particular, whether it has functioned effectively as a transformation-oriented steering mechanism. Based on the conclusions of this analyses the Committee had to recommend what changes (if any) should be made to the current funding framework, taking particular account of the following: (a) historically disadvantaged universities and (b) small rural universities.

The functioning of the links between the current funding framework and government's other steering mechanisms as set out in the National Plan on Higher Education of 2001 had to be evaluated and recommendations had to be made on any changes which may be needed to ensure that the agreed-upon principles are served. In addition, the Committee had to undertake an indepth analysis of the human, physical and financial resources which was available to the university system over the five-year period 2005 to 2009. In this regard, the committee had to analyse shortfalls that have occurred in the resourcing of universities, and report on the efficiency and effectiveness of the university system's utilisation of its various resource categories. The Committee had to develop resource strategies and models which relate to the Department of Higher Education and Training's strategic plans for universities and which will ensure that the transformation goals of the Education White Paper 3 will be achieved.

The Committee concluded that the current funding framework did contribute to improvements with regard to the transformational goals, taking into account that although it was introduced in 2004/5, it was only fully functional for the period 2007/8 to 2011/12 as a result of a period of migration. This is a relatively short period of implementation for giving effect to all the transformational goals expected. Despite these improvements the system remained a very inefficient one performing way below most of the targets set. It is acknowledged that not all the trends can be attributed to the impact of the funding framework. Various other factors play a role in the trends observed. Although

<sup>&</sup>lt;sup>4</sup> Source; Written up by Dr CJ Sheppard who served on the Ministerial Committee for the Review of the Funding of Universities and who was also a member of the Technical Team that made the final recommendations for the revised funding framework for consideration by the Reference Group





not all of the transformational goals have been reached, the funding framework introduced in the 2004/05 financial year has certainly contributed towards the achievement of these goals for a relatively short period of full implementation. Improvements have been made with regard to achieving a more representative student body, showing a higher growth rate in graduates than enrolments, increasing research publication units, channelling more funds towards universities that have a higher share of students from disadvantaged backgrounds, increasing access to higher education students through increased NSFAS funding, et cetera. Disappointments were however the continuing large numbers of drop-outs from the system, the persistence of under-development of the majority of HDIs, the lower than expected growth in the science, engineering and technology fields, the stagnation of postgraduate education and low increases in masters and doctoral graduates.

The funding review committee recommended that the current funding framework, consisting of block and earmarked grants and with components that are output-based be retained, but that many of the allocation methodologies should be changed. Some of the most important recommendations worth noting are: changes in the funding grid of the various fields of study, the introduction of a special grant for historically disadvantaged universities, the phasing out of the merger multi-campus grant, changes in the calculations of teaching development and research development grants, a shift in research output funding towards quality of research outputs, non-funding of deviations from agreed enrolment targets, the introduction of a university development grant consisting of teaching and research development as well as the development of the next generation of academics, and the develop of an acceptable model for the funding of extended programmes.

Subsequently, a Reference Group and Technical Team was appointed by the Director-General of the Department of Higher Education and Training in 2014 to model the recommendations made by the Funding Review Committee and to develop a draft revised funding framework for approval by the Minister and gazetting. It is expected to be published before the end of 2015. Phasing in of the revised funding framework would probably commence in the financial year 2017/2018.

Some of the recommendations of the Reference Group and Technical Team were already finalized and implemented by the Minister in 2015/16 and are in relation to the:

- HDI development grant;
- Foundation Provision funding grid; and
- Acceptable variation in enrolment targets set.

For the HDI development grant additional funding from Government was secured and its implementation thus had no adverse impact on budgets of other universities. It consists of development funds allocated for a 5-year period: 2015/16 to 2019/20. The amount of R410 734 million was allocated for 2015/16 and an indicative amount of R433 532 million in 2016/17 have been allocated. The purpose of this grant is to put in place systems to develop and sustain financial health at these universities; to strengthen the academic enterprise; and to assist the HDIs to realise their potential.

Foundation programme funding from 2015/16 was based on the same grid as the Teaching Input Grid. More funding has also been allocated from 2015/16 for foundation programmes. In 2015/16





adjustments were made to the teaching input grant allocations of universities that had enrolments way below their negotiated enrolment target agreements.

### 2.1.3 Funding workplace skills

The primary public institutions responsible for the development and coordination of workplace skills and training programmes in South Africa are the Sector Education and Training Authorities (SETAs) and the National Skills Fund, both established through the Skills Development Act of 1998.

21 SETAs have been established, each focusing on a specific economic sector. SETAs are responsible for developing and implementing sector skills plans, establishing and promoting learning programmes, and monitoring the training and skills programmes conducted by employers. During 2013/14, 176 208 persons enrolled in SETA-supported learning programmes - comprised of learnerships, internships and skills programmes - and 150 853 persons were certificated through these programmes (DHET, 2015).

The National Skills Fund (NSF) finances training programmes, supports capacity building programmes and funds research within education institutions. The fund's legislated mandate is to fund projects identified in the National Skills Development Strategy as national priorities; fund projects related to the achievement of the purpose of the Act as determined by the Director-General and to administer the fund within the prescribed limits as regulated. Its main activities currently include issuing calls for proposals, adjudicating and approving applications, disbursement of funds, and monitoring the implementation of projects. The fund has also frequently been used to fund budget shortfalls within public TVET colleges and NSFAS.

The NSF and SETAs both receive their funding from the Skills Development Levy (SDL), with 20% of levy funds going towards the NSF and 80% towards SETAs (distributed between SETAs based on the contributions of employers within each sector). The levy is paid for by employers, who contribute 1% of their payroll towards skills development and training. In 2013/14, the total amount disbursed from the levy was R12.6 billion. Despite the global economic downturn since 2008/09, the levy collected has been growing at a fairly stable rate, typically in excess of inflation (DHET, 2015).

#### 2.1.4 Adult Basic Education

In addition to the university and TVET sector targets, a key element of the White Paper is the establishment and expansion of Community Education and Training Colleges (CETCs or Community Colleges). These colleges will be primarily responsible for the provision of Adult Education and Training (AET) which was previously provided by AET centres, and in particular Public Adult Learning Centres (PALCs).

In 2013 there were 257 823 individuals enrolled in both public (PALCs) and private AET Centres, of which 68.7% were enrolled in Adult Basic Education and Training (ABET) Levels 1 to 4, which provides adult learners equivalent qualifications to Grades 1 to 9 (i.e. NQF 1). Of the remaining students, 28.7% were enrolled in Grade 10 to 12 programmes and a small portion (2.5%) in other





programmes; such as less formal or vocational programmes. Private AET centres comprised only 8,316 (3.2%) of total enrolments in the sector (DHET, 2015).<sup>5</sup>

From 1 April 2015, the control and administration of PALCs was transferred from Provincial Education Departments (PEDs) to the DHET, with the function shift also resulting in PALCs now being referred to as Community Learning Centres (CLCs). Community Colleges are multi-campus institutions made up of clusters of pre-existing and newly created CLCs. Partnerships will also be encouraged with private sector and NGO institutions, and it is expected that community or private institutions will also be absorbed into Community Colleges in some cases.<sup>6</sup>

Each CLC falls under one of nine provincial-based Colleges, which are known as Interim Community Colleges (ICCs); all of which are the responsibility of, and funded primarily by the DHET. Eventually, provincially-based ICCs will be replaced by permanent Community Colleges at district municipality level. This will be a gradual process and will be informed by the lessons learnt during the planned establishment of pilot colleges in the coming years.<sup>7</sup>

Community College councils will be established that will be responsible for governance, with each council potentially governing more than one community college. The minister will appoint a principal and vice-principal(s) for all Community Colleges, as well as managers for each of the Community Learning Centres. Several details of the management and governance of Community Colleges are, however, still to be determined via the piloting process.

Colleges are to be funded in accordance with the Further Education Training Colleges Act of 2006. The funding norms will, during the period of transition, be based on the pre-existing conventions of each province.<sup>8</sup> As the majority of funding was given and determined by PEDs, great disparities exist at provincial level, with less than 1% of education budgets being spent on AET on average.<sup>9</sup>

There is some recognition that adult education appears to have been characterised by poor funding over an extended period of time.<sup>10</sup> Perhaps as a result, the White Paper highlights many weaknesses in the PALC / AET system, including insufficient resources, staffing and infrastructure both in terms of quality and quantity. However, given the geographical reach of these institutions, they provide a natural starting point for the creation of Community Colleges.

## 2.2 Key challenges faced

Achieving the ambitious objectives of the White Paper requires and efficient and effective re-design of the PSET. It is therefore important to first identify the key challenges present in the South African

<sup>&</sup>lt;sup>10</sup> (DHET Community Education and Training Task Team, 2012)





<sup>&</sup>lt;sup>5</sup> Note that only 1761 Public AET centres (out of 3150), and only 62 private AET centres responded to the Annual Survey used to produce this data, and hence it should be interpreted with caution.

<sup>&</sup>lt;sup>6</sup> (DHET, 2014)

<sup>&</sup>lt;sup>7</sup> (DHET, 2014)

<sup>&</sup>lt;sup>8</sup> (DHET, 2014)

<sup>&</sup>lt;sup>9</sup> (Raphotle, 2012)

PSET system and to identify specific research questions that can be addressed or contextualised from international PSET practices and experiences.

This section highlights some of the key financing issues present in the current South African PSET system and develops an initial set of questions that this international review, and the wider project, will need to address.

### 2.2.1 Creating an equitable and accessible PSET system

Given the high levels of past and current inequality in South Africa, coupled with high rates of unemployment, it is critical that the PSET system plays a leading role in transforming the economy by facilitating access for poor and previously disadvantaged South Africans.

In addition to large state subsidies and grants to universities and TVET colleges, which reduce the individual costs of education, a key part of enabling access is the existence of the state-funded NSFAS; which intends to provide loans and bursaries to those with the greatest need for financial support. The size of the NSFAS has grown substantially from R441 million in 1999 to R8.5 billion in 2013<sup>11</sup>, which has also enabled substantial increases in student enrolments, particularly in the TVET sector.

Despite the rapid growth the availability of funds for student loans, there remain numerous problems with NSFAS, and assistance to poor students more broadly:

- Recent student protests are somewhat based on claims that NSFAS loans are not sufficient for those who do receive them.
- NSFAS caters poor students whose annual household income is less than R122 000 thus excluding students from middle-class families who are not eligible for bank loans, and are therefore often unable to afford higher education studies.
- Low throughput rates reduce not only the educational and job creation effectiveness of the funds, but reduce the ability of students to repay loans.
- NSFAS loans are partially converted to bursaries to reward performing students, which also reduces total collections; and often from those successful students who would be most able to repay.
- Low collection and repayment rates mean that the NSFAS is unable to collect at the levels it should be, and due to underfunding, has at one point required substantial support from the NSF (approximately R1bn)

These issues give rise to the following research questions:

 Relevant research questions: Creating an equitable and accessible PSET system

 What mechanisms do comparator countries use to fund the education of poor students? (e.g. subsidies, grants, financial support, tax incentives etc.)

 How are different types of institutions in these countries funded?

 What proportion of total funding derives from these sources in different countries?

<sup>11</sup> (NSFAS, 2013)





What financial instrument design and repayment structures are used to defer the payment of fees through the use of government funded loan schemes or graduate taxes?
What are the advantages, disadvantages and cost implications of different mechanisms?
How are institutions incentivised to improve quality and throughput rates?
What role does technical and vocational training play in comparator countries?
What is the relative size of the technical and vocational sector in different countries?
How is TVET funded in different countries? In particular, what role does the private sector play?

Source: DNA Economics

### 2.2.2 Increased focus on the TVET sector

The White Paper, in line with the prescriptions of the National Development Plan, highlights the importance of developing the TVET sector; which has historically been under-resourced and deprioritised relative to the education sector. The White Paper enrolment growth targets are provided in Table 1.

#### Table 1: Enrolment targets from White Paper on PSET

Sector	Current Enrolments (2013)	Target Enrolments (2030)	% change
Public TVET	639,618	2,500,000	291%
Community colleges	257,823	1,000,000	288%
University	983,698	1,600,000	63%

Source: (DHET, 2015)

The TVET sector is currently characterised by very low throughput rates and programmes are often deemed to be insufficiently integrated with the needs of industry. Increasing enrolments in the TVET sector is therefore unlikely to be effective if the quality of TVET colleges and the design of their programmes are not also substantially improved. There is also a risk that diverting the focus to TVET colleges could put more strain on the funding of the university sector. This could result in either reductions in quality or increased student fees; both of which would undermine the sector's objectives and encounter substantial political opposition.

These issues give rise to the following research questions:

Relevant research questions: Increased Focus on TVET:
What role does technical and vocational training play in comparator countries?
What is the relative size of the technical and vocational sector in different countries?
At what level/s does vocational training take place?
How is the TVET sector linked to the workplace? What role does business play in defining its needs?
How is TVET funded in different countries? In particular, what role does the private sector play?

Source: DNA Economics

### 2.2.3 Linking education and the workplace

The White Paper also calls for 30 000 artisans to be produced by the system each year by 2030, and the expansion of on the job training such as apprenticeships and learnerships more broadly. This will require close alignment between the colleges, private companies and the SETAs; who play a critical part in ensuring that education programmes meet the needs of industry.





However, several inefficiencies have been identified within the SETA system; including the lack of cohesion and coordination between SETA funded programmes, ineffective relationships with TVET colleges, underspending, over-reliance on short term planning and the coordination difficulties that result when training programmes operate across several SETAs.

These issues give rise to the following research questions:

Relevant research questions: Linking education and the workplace:
How is workplace learning funded in different countries?
How do countries ensure that the needs of industry are incorporated into the design and delivery of programmes?
How is experiential learning in the workplace integrated into education programmes and how are such programmes incentivised within different countries?

Source: DNA Economics

### 2.2.4 Developing Adult Basic Education

As recognized in the White Paper, Adult Basic Education has a key role to play in the creation of social and economic opportunities for those that were unable to complete primary and secondary education during childhood. According to the 2011 Census, 3.2 million people between 15 and 24 were not in employment, education or training (NEET). It is commonly accepted that the existing adult education system does not sufficiently cater to the needs of NEETs; in particular in creating formal and informal programmes and pathways for such individuals into employment and sustainable livelihoods.

The recent establishment of community colleges will attempt to address these needs, but will require significant developments and capacitation if they are to serve the many formal and informal educational needs of communities.

These issues give rise to the following research questions:

Relevant research questions. Developing Adult Basic Education
What role does adult (basic) education play in comparator countries and how are these services typically delivered?
What problems are encountered in this sector in comparator countries and how are these problems addressed?
How are is adult education typically funded in comparator countries?

Source: DNA Economics

# **3 INTERNATIONAL PSET FUNDING PRACTICES**

## 3.1 International definitions of Post-Secondary Education and Training

#### 3.1.1 Higher Education

The Post School Education and Training is difficult to define for the purposes of conducting an international comparative study. This is because differences in systems of education make it particularly difficult to locate and compare vocational education, qualifications and institutions. International comparative studies, such as those produced by the OECD, have adopted International Standard Classification of Education (ISCED) levels which were developed by



UNESCO in order to facilitate the comparison of international statistics and indicators across countries.

The ISCED therefore provides a framework for classifying educational activities and their related qualifications into internationally agreed classifications for the purpose of cross-country analysis. ISCED Level 0 is Early childhood education, ISCED Level 1 is primary education, ISCED Level 2 is lower secondary education, ISCED Level 3 is upper secondary education, ISCED Level 4 is post-secondary non-tertiary education, ISCED Level 5 is short-cycle tertiary education, ISCED Level 6 is a Bachelor's degree or equivalent, Level 7 is a Master's degree or equivalent and Level 8 is a doctoral degree or equivalent. (N.B.: Levels 5-8 are all tertiary education)

ISCED	Definition	Description	South African equivalent
Level 0	Early childhood education	Foundation phase. Designed to support early development in preparation for school.	Grade R
Level 1	Primary education	Basic education which	Grades 1 to 7
Level 2	Lower secondary education	Education and Training Certificate (GETC)	Grades 8 and 9 NATED N1
Level 3	Upper secondary education	Those that complete high	Upper Secondary covers grades 10 to 12. Post-secondary non-tertiary covers the first 3
Level 4	Post-secondary non- tertiary	school successfully or high school equivalency	years of vocational education; i.e. NC(V) levels 2 to 4 and NATED N2-N6 are offered by FET Colleges
Level 5	Short-cycle tertiary education	Tertiary/Higher education	Awarded a Diploma or Advanced Certificate upon completion (i.e. an NQF6)
Level 6	Bachelor's degree or equivalent		University or other 4-year education institution leading to a bachelor's and honours degree (i.e. NQF7)
Level 7	Master's degree or equivalent		A university or professional institute leading to a master's degree
Level 8	Doctorate degree / Laureatus in Technology (Technikon) or equivalent		Doctorate

Table 2: The South African education system mapped onto the ISCED 2011 Levels

Source: UNESCO Institute for Statistics Portal (http://www.uis.unesco.org/Education/ISCEDMappings/Pages/default.aspx)

## 3.1.2 Technical and Vocational Education and Training (TVET)

Across many countries, post-school vocational systems share a common purpose of improving the skills of people (both those that have and have not completed school); but differ in the way that they are constituted, funded, respond to labour market needs and even what they are referred to. This stems from the wide range of institutions that offer post-secondary vocational programmes. There are dedicated institutions, which focus only on short-cycle programmes. For instance, professional colleges in Switzerland and professional academies in Denmark. Some institutions offer both upper secondary and post-secondary programmes, such as the further education colleges in the United Kingdom. There are even some universities in the United Kingdom that offer bachelor degrees with a focus on vocational training. Some countries (notably Germany) have specialised university-type institutions offering technical bachelors qualification (OECD, 2014)





Dedicated universities for applied sciences such as the Fachhochschulen in Austria and Germany and the polytechnics in Finland, and Hogescholen in the Netherlands; have a different style of teaching from a university (OECD, 2014). The merging of TVET colleges to obtain economies of scale, better quality and efficiency has occurred in several countries, including Northern Ireland, Egypt, Denmark and South Africa (OECD, 2014).

A study of 20 countries noted that an effective post-school education and training sector is one that actively engages and forms partnerships with industry stakeholders to be responsive to industry needs. These stakeholders actively contribute to the design and formulation of the curricula, norms and standard of training that is required. This is often complemented with Work-Based Learning (WBL) that is aligned to the training and the job requirements (OECD, 2014).

In the OECD and G20 countries, 41% of all upper secondary education students are enrolled in a VET programme. This enrolment rate varies from 70% in four countries to less than 20% in 8 countries.<sup>12</sup> High-quality VET programmes are effective in providing skills for those who would otherwise lack qualifications and an opportunity to enter the labour market. Within the OECD countries, 78% of 25-34 year-olds with a vocational upper secondary or post-secondary non-tertiary qualification are employed, a rate that is 11% higher than that among individuals with a general upper secondary education as their highest qualification. In addition, the difference in employment rates are pronounced in systems with well-developed vocational education systems, such as Austria, Denmark, Germany and Switzerland<sup>13</sup>.

In contrast, countries that do not have programmes aligned to industry needs find that their graduates struggle to find work in the areas that they have trained. More than 50% of upper secondary students in Egypt are sent to vocational schools, yet the unemployment among graduates exceeds 35%. In Bangladesh and Cameroon, less than half of public vocational graduates find employment in their trade (UNEVOC, 1996).

## 3.1.3 Adult Basic Education and Training (ABET)

Adult education and/or adult learning take many different forms in different countries, and are defined and interpreted in different ways in different contexts.<sup>14</sup> As a result, there is ongoing debate over which programmes or initiatives "belong" in the sector. This is highlighted by the following extract from the UNESCO Global Report on Adult Learning and Education (UIL U. I., 2009):

With a broad array of purposes, adult education programmes range from basic literacy, numeracy and life skills through to advanced professional development for senior executives. They cover personal development and leisure-linked activities through to retraining courses for the long-term unemployed. They can range from consciousness-raising workshops to courses providing or upgrading ICT skills. They may also include capacity development activities meant for government and the NGO community who provide various public services.



<sup>&</sup>lt;sup>12</sup> (Van Damme, 2015)

<sup>&</sup>lt;sup>13</sup> (Van Damme, 2015)

<sup>&</sup>lt;sup>14</sup>. See (UNESCO, 1976) for suggested definitions of related terms such as "Adult Education" and "Lifelong education".

Internationally, the objectives of adult learning (or education) differ by country or region, often determined by the economic, political and social challenges present. Broadly, the 2003 UNESCO Conference on Adult Education highlighted five key priorities for adult learning:<sup>15</sup>

- a) Democracy and active citizenship,
- b) Literacy and adult basic education,
- c) Decent work environment,
- d) Media and information and communication technologies,
- e) The needs of special groups.

Adult education and learning also forms part of wider attempts to encourage and entrench lifelong and life-wide learning cultures (i.e. throughout life and throughout all aspects of life); as championed by the UNESCO Institute for Lifelong Learning.

While it is desirable and appropriate for individual countries and regions to tailor their adult education system to their specific requirements, these inconsistencies in definition and scope tremendously complicate any international comparison. Comparing levels of funding in adult education is particularly difficult, not only because very little data is available that would allow reliable and consistent comparison, but also since government funding is frequently less important than in other parts of the education sector; with industry, donors and NGOs often providing substantial portions of adult education sector funding.

### **3.2 Higher Education funding practices**

This section discusses commonly used higher education practices throughout the world, and highlights the likely benefits and disadvantages of different approaches. It should be noted that while the material in this section is focussed on the university sector, much of it also applies to the technical and vocational sector and (to a lesser extent) to the adult education sector. Sections 3.3 and 3.4 therefore should be seen as supplementing this section, but with a focus on the specific or unique funding issues and practices in TVET and adult education.

There is wide variation internationally in the manner in which the costs of higher education are shared between governments, students and their families, and other private entities, and the ways in which financial support is provided to students. Institutions for higher learning are typically funded through the following main channels:

- Transfers directly from the government to institutions out of the broad tax base (Section 0)
- Private funding (e.g. tuition fees Section Error! Reference source not found.). Such funding is typically paid upfront by parents / or students (although this is often supported through student loans). Tuition fees are typically very low in Nordic countries (Iceland, Norway, Sweden, Finland, Denmark), Austria, Belgium, Czech Republic, France, Estonia and Germany. (Estermann, Pruvot, & Claeys-Kulik, 2013) report that in these countries tuition fees account for less than 5% of a typical University's income. Governments can

<sup>&</sup>lt;sup>15</sup> (UNESCO (Ireland, 2014, p. 231)



also provide tax credits to act as incentives for private funding; which acts as a form of indirect funding

- Deferred charges. These are models where the student pays in the future either through graduate taxes or through the repayments of loans. Loans can be fully private, but more commonly are either funded directly by the government or provided by private financial institutions with subsidies from the government (typically either through interest rate subsidies or through government guarantees)
- Other sources of funding such as donations, research contracts and services such as catering, consultancy, renting of facilities etc. One study reports that in Europe, these funding sources typically exceed 10% of the average university's income in most systems (Estermann, Pruvot, & Claeys-Kulik, 2013).

Most countries use a hybrid of some or all of the above channels. Specific models and some country examples are described below.

### 3.2.1 Direct funding of institutions from the fiscus

Estermann, Pruvot, & Claeys-Kulik, 2013 note that in most countries the state is the primary funder of universities with public funds accounting for as much as 50% to 90% of total university income. Two methods are commonly used to distribute public funds to universities (Estermann, Pruvot, & Claeys-Kulik, 2013):

- *Block grants* are lump sum funds that cover several expenditure categories such as teaching, operational costs and research. Once received, institutions of higher learning typically have wide autonomy to decide on the spending of block funds received. The magnitude of the block grant is typically calculated using a combination of different methods such as:
  - Negotiated funding, which is traditionally a non-transparent discussion between a university and relevant government Department or Ministry.
  - $\circ$   $\,$  History, with this year's funding based largely on the previous year of funding.
  - A funding formula, which will typically include a mix of the following forms: (1) a fixed amount that increases incrementally based on a factor such as inflation or enrolments (2) formulas based on input indicators (3) formulas based on output indicators (Jongbloed, B, 2010).
- *Line-item or earmarked budgets,* where the university receives its funding against certain cost items or activities. This is a very rigid model that only allows universities to make expenditure decisions within strict limits (Jongbloed, B, 2010).

Following the global financial crisis of 2008, funding patterns began to change. In general, this has involved a shift away from an input-based approach, such as student enrolments, towards competition and institutional performance (sometimes referred to as output funding) (Jongbloed, B, 2010). Performance based funding is typically provided in the form of a formula-based block grant, that is directly related to an indicator such as the number of degrees, number of credits accumulated by students, and the volume and quality of research output as measured by the number of publications in peer reviewed journals. An example of a competitive process is where a





research council selectively awards targeted project funds to proposals submitted by research groups.

While funding student fees entirely out of the tax base equalises opportunities between students from different financial backgrounds, it also brings with it certain potential disadvantages. It can be seen as a regressive tax, as completing higher education typically increases your lifetime earnings; and in this system HEI students receive state support when those who do not attend HEIs might not receive equivalent support from the state. This is particularly true if free education is provided to all HEI students, regardless of their family income. Additionally, students that gain entry to higher education institutions probably come from more affluent backgrounds, and have received good-quality basic education, which in turn makes them more likely to go universities. Using general taxes to fund higher education poses a disproportionate burden on lower-income households.

#### 3.2.2 Upfront privately-funded tuition payments

There are substantial private benefits to tertiary education, most notably the higher average lifetime earnings compared to non-graduates. Social equity would therefore suggest that graduates should pay for some proportion of their tertiary education rather than receive it all at the taxpayer's expense.

Upfront private payments by students (or their parents) is the most obvious solution to this problem, and typically forms at least part of the funding mechanism in most countries. Scholarships funded by private institutions can also be included in this category, although such scholarships will often be contingent on performance or require individuals to work for the provider after the completion of their studies.

### 3.2.3 Deferred charges (Student loans)

Deferred charge systems of different forms exist in many countries; typically loan schemes which are either subsidised or funded by the government. Student loans may be subsidised in terms of either interest rate charges or repayment terms, commonly based on family or student means.

#### Loan schemes in practice

Most countries provide subsidised student loans of some form. Some examples are provided below:

- In the UK, all EU students studying Bachelor's degrees qualify for income-contingent loans and education is, therefore, free to the students at the point of entry. UK students can also apply for income-contingent maintenance loans. Repayment of loans are at 9% of income above the £21,000 (US\$34,426) [in 2011] annual threshold. These payments are collected as part of the payroll deduction together with income tax and social security contributions. Loans are subject to a 30 year debt write off and any loans not paid after this period are written off. <sup>16</sup>
- Both Canada and the US provide financial aid at both the federal and state level. Both offer incomecontingent loans, but the Canadian system also has a unique 'work-contingent' component that offers

16 (Marcucci & Usher, 2012, p. 68)



certain professionals (doctors and nurses) loan forgiveness if they work in rural remote areas. In the US, the federal government has a Federal Student Aid office which provides grants, loans, and work-study funds for college or career school. It is the largest provider (\$ 150 billion annually) of student financial aid in terms of federal grants, loans and work study funds to approximately 13 million students attending colleges or career schools<sup>17</sup>. The office is also used by some states and colleges to determine financial need, based on the cost of attendance (which varies among different colleges) and the expected family contribution.

- In Brazil, the Fundo de Financiamento ao Estudante do Ensino Superior (FIES) is a Ministry of Education loan program that provides low interest loans to economically disadvantaged students (especially those that benefit from ProUni) through participating commercial banks. Interest rates in 2010 were 3.4%<sup>18</sup>
- In Japan, financial assistance is mainly through government loans administered by the Japan Student Services Organization (JASSO) using central government funds. There are two types of loans: a meanstested interest free loan that covers living costs and a means-tested interest-bearing loan that covers both tuition fees and living costs.<sup>19</sup>
- The Thai government makes use of a Student Loan Fund (SLF). At the institutional level, the university's loan committee authorises the distribution of the loan budget to eligible students and oversees the process of loan applications. Within certain prescriptions, a university makes decisions on individual loans distributed to its students. The repayment regime is meant to be less onerous as it is targeted at low income families.<sup>20</sup> They are initially granted a seven-year interest grace period between initial enrolment and the first debt repayment. There is also a two-year repayment grace period after a loan recipient graduates or stops borrowing. Subsequent to this period, the person has to pay the debt within 15 years. The interest rate is set at 1% during this period. To further lighten the burden, the proportion of the loan that gets paid ranges from 1.5% in the first year to 13% in year 15. This ensures that the payment increases with the potential rise in income of the borrower.<sup>21</sup>

The main benefits of deferred charges are that it they are likely to reduce the total long term cost of higher education to the state; while incentivising students to make education choices that are effective in terms of study costs and future earnings.

Student loans are frequently subsidized by the state, since funding student education will often be too risky for commercial banks to accept on commercial (free market) terms, or the commercial interest rates are likely to be unaffordable high for students from poor backgrounds. The actual provision of loans is however often still managed through the private banking system, which can be a cost effective option given the pre-existing loan distribution and collection mechanisms that private banks already have in place. This can however raise the cost of the programme to the state, depending on the degree of profit margins that the banks require to participate in the programme.

One study (Barr, N, 2002) identifies the following additional problems with loan subsidies:

<sup>21 (</sup>Polsiri, Sarachitti, & Sitthipongpanich, 2015)





<sup>17 (</sup>Financial Student Aid, 2015)

<sup>18 (</sup>Marcucci & Usher, 2012, p. 21)

<sup>19 (</sup>Marcucci & Usher, 2012, p. 41)

<sup>20 (</sup>Polsiri, Sarachitti, & Sitthipongpanich, 2015)

- They target high earning graduates in mid-career; i.e. they can fall disproportionately on those graduates who do well and could prohibit them from building businesses and creating jobs.
- The provision of loan subsidies is, from the government's perspective, expensive. The result is
  that the state will be incentivised to limit the size of student loans with the result that the student
  loans are small, which in turn leads to "student poverty" and/or the extensive use of credit card
  debt.
- High failure rates can make them extremely expensive for the state.

#### A brief look at Graduate Tax funding models

A graduate tax allows education to be free at the point of delivery until the beneficiary is granted a degree. Graduates are then expected to pay a surcharge tax during their working lives. One of the benefits of a graduate tax is that it allows students to select what to study based on their academic ability and not their ability to pay. The funding model also ensures that only the immediate beneficiary of higher education is liable for tax. The graduate tax funding model may however lead to unintended consequences, such as the migration of graduates in order to avoid the tax, although there is limited evidence on the extent to which this has happened in countries with income-contingent loans.

Although no country has a formalised graduate tax, Ethiopia calls its deferred tuition fee model a deferred tax<sup>22</sup>. In the UK, Australia, Chile<sup>23</sup> and New Zealand, income contingent loans have been introduced wherein repayment only takes place in the event that the students graduates and is able to earn an income that is above a certain threshold.

One of the first income contingent loan arrangements was introduced by Yale University in 1972<sup>24</sup>. This arrangement was extended in 1976, however it was discontinued some years later. Participants agreed to pay Yale 0.4% of their gross income over a 35 year period per \$1000 advanced to them. To "buy out "of the plan the graduates would pay back 150% of their initial allocation plus interest (Camichael, 2004, p. 10). The main problem with this programme, and the reason for its discontinuation, was the high default rate.

#### 3.2.4 Tax credits

Another alternative is to offer tax credits to students or their parents; as is done in the United States. The US tax system offers several tax benefits (deductions) for study at tertiary institutions.<sup>25</sup> The American Opportunity Credit allows parents up to \$2,500 per student per year for the first four years of school as the student works toward a degree or similar credential. The Lifetime Learning Credit permits up to \$2,000 per student per year for any college or career school tuition and fees, as well as for books, supplies, and equipment that were required for the course and had to be purchased from the school.

<sup>&</sup>lt;sup>25</sup> (Financial Student Aid, 2015)





<sup>&</sup>lt;sup>22</sup> (Marcucci & Usher, 2012, p. 6)

<sup>&</sup>lt;sup>23</sup> Chile's Programa de Credito con Aval del Estado (CAE in its Spanish acronym) are mortgage style loans with fixed interest rates to qualifying graduates. Interest accrues during the study period and borrowers commence payment 18 months after graduation. Unemployed youth are given 12 month break as well as borrowers whose payments exceed 50% of income. The CEA is managed by an autonomous separate legal state entity (Ingresa -Administrative Commission for the Tertiary Education Loan) and has its own budget.

<sup>&</sup>lt;sup>24</sup> Referred to as the Yale Tuition Postponement Option

There are also tax deductions for the interest paid on student loans. This benefit applies to all loans (not just federal student loans) used to pay for higher education expenses. The maximum deduction is \$2,500 a year.

Tax incentives are also given to encourage savings in anticipation of university enrolment. A QTP/529 plan is established by a state or school so that a person can either prepay, or save up to pay, education-related expenses. Once an individual is in college or career school, he or she may then withdraw money from this savings account to pay for education expenses, free from tax.

### 3.2.5 Differential Pricing of Tuition Fees

Regardless of the funding model adopted, many countries around the world have adopted differential approach to setting tuition fees. 'Dual Track Tuition Fee Policies', as they are referred to in some countries, occur when a certain number of free places (or places at much lower costs) at a university are awarded by government based on academic merit, while other places are awarded to qualified candidates that are economically or socially disenfranchised (Russia, Egypt, and Pakistan)<sup>26</sup>. Likewise, in many countries, universities charge international students higher fees than nationals, as in the case of Sweden, Canada, England and Australia.

### 3.2.6 The Regulation of Tuition Fees

Another means through which governments influence the funding of universities is by regulating fees. In Canada, for example tuition fees are set through an agreement/framework between the province and the universities. In Japan, universities can only charge fees within 120% of the standard annual tuition fee set by the Ministry of Education, Culture, Sports, Science and Technology (MEXT)<sup>27</sup>. Likewise, in France, tuition fees are centrally determined by government and are waived for students who receive means tested financial aid. The consequence is that to address any shortfalls in revenues as a result of the regulated fees, universities are increasingly charging supplementary fees over and above the fixed tuition fees which range from  $\in$ 10 to thousands of Euros<sup>28</sup>.

## 3.3 Technical and Vocational Training funding practices

Many of the funding mechanisms discussed in Section 3.2 are also directly relevant to the TVET sector. However, given the closer link between vocational training and the workplace, partnerships with other stakeholders to share the cost of vocational education has gained global traction; affecting both developed and developing countries.<sup>29</sup>

In Sweden, for example, higher vocational education comprises a set of programmes which can be delivered by providers in both the public and private sector and is overseen by the National Agency for Higher Vocational Education (HVET). Funding can only be sourced for an HVET programme if there is a partnership between the provider and an employer who has guaranteed workplace

<sup>&</sup>lt;sup>29</sup> (Gaskow, 1994)





<sup>&</sup>lt;sup>26</sup> (Marcucci & Usher, 2012, p. 7)

<sup>&</sup>lt;sup>27</sup> (Marcucci & Usher, 2012, p. 41)

<sup>&</sup>lt;sup>28</sup> (Marcucci & Usher, 2012, p. 30)

training. Each HVET programme has a steering group that includes employers who will provide the training and advise on training content. In order to secure funding, the service provider – whether public or private - has to demonstrate that there is a demand for the skills provided by the programme and that it has in place a framework to engage with employers. The various partners are part of the council of the National Agency for Higher VET and advise on future skills demand.<sup>30</sup> The HVET, in responding to the market demand for skills, is an important contributor to Sweden having the second highest employment rate (age group 15 - 64) among OECD countries in 2014 (OECD, 2014).

In Korea, the Basic Law for Vocational Training makes it compulsory for companies with more than 300 employees to provide training. Smaller companies rely on the public training system (UNEVOC, 1996). In Japan, school leavers are recruited directly from school into private companies that provide vocational training. The public sector VET is generally small. Vocational training is also conducted at special vocational schools under the jurisdiction of various ministries. The Japan Industrial and Vocational Training Association (JIVTA) is the main organisation in Japan concerned with training within industry. It is a private association of employers and is supervised by the Ministry of International Trade and Industry (UKCES, 2013).

In Denmark, private providers are given the same level of funding and need to adhere to the same rules and regulations as the public sector (DANIDA, 2012). In England, the public funding of post-secondary VET is dependent on the level of qualification, the age of the participant and the purpose of the study (first degree or retaining). Participants between the ages of 19- 24 in VET programmes are co-funded or pay no fees, whilst participants older than 24 are liable for the full costs (UKCES, 2013)<sup>31</sup>.

## 3.4 Adult Basic Education funding practices

International comparisons of adult education funding are notoriously difficult, due to differences not only in what programmes are included in adult education, but also the different measurement basis used in different countries. The large contributions provided by the private sector (in many countries) are also often not adequately and comparably measured. However, it is clear that in high-income countries, private organisations, particularly employers, have played a much greater role (both absolutely and relatively). This is primarily because the adult education sectors in these countries are often focused on work-placed based learning where the benefits accrue more directly to the private sector. In developing countries, adult education is usually targeted at poor and disadvantaged groups, thereby requiring government assistance (UIL, UNESCO Institute for Lifelong Learning, 2012, p. 89).

Countries participating in the UNESCO CONFINTEA V conference on Adult Education committed themselves to improving and increasing the financing of adult education by not only investing at least six percent of GNP in education but also investing an equitable share of education spending to adult education spending (UIL, 2009, p. 98). An "equitable share" was determined to be 3% of

<sup>&</sup>lt;sup>31</sup> (Kuczera, 2013)





<sup>&</sup>lt;sup>30</sup> (Kuczera, 2013).

the total education budget, which was based on the Action Aid International/Global Campaign for Education's "Writing the Wrongs: International Benchmarks on Adult Literacy (2005)" targets. This is significantly more than South Africa's expenditure on ABET which is approximately 0.7% according to the Provincial Budget and Expenditure Review 2010/11 – 2016/17, although crude comparisons based on international targets are not always useful without a comprehensive assessment of the country's requirements for adult basic education.

Measurement and data issues make it difficult to confirm even high-level progress towards the achievement of these goals, as highlighted by the Global Report on Adult Learning and Education (GRALE) (UIL, 2009, p. 100):

Globally there is a noticeable tendency to under-invest in adult education. Data limitations and poor information systems on the costs and benefits of adult education have reduced the capability for informed policy-making and have led to under-investment.

However, it is clear that relatively few countries have achieved this target; particularly due to the austerity measures that followed the financial crisis. But even by 2009, very few countries in Africa had come close to achieving the 3 percent benchmark; with most being close to or below 1 per cent for either literacy or adult education as a whole (Aitchison & Alidou, 2009).

This under-investment appears to be at least partially the result of adult education funds only being released in many countries after other education targets and commitments have been met. This also results in adult education funding frequently being erratic and unstable in nature. Perhaps as a result, the costs of adult education are often kept artificially low through the use of state or private infrastructure and the low levels of compensation provided to adult education practitioners, particularly in sub-Saharan Africa (Aitchison & Alidou, 2009).

However, the 2012 GRALE report did note improvements in the efficiency of public spending on adult education for a number of reasons including (UIL, UNESCO Institute for Lifelong Learning, 2012):

- Greater use of output funding (particularly in the USA)
- Decentralisation of financial decision-making
- Greater focus on pro-poor funding
- Competition for government contracts by ensuring tendering procedures

Adult education appears to be particularly under-resourced in the developing world where private employer funded programmes represent a smaller part of overall education spend, with the primary funding burden therefore falling on governments and donors. Instilling a culture of lifelong learning and continuing education will be a key policy challenge in the future that is now specifically identified in the White Paper.

## 4 PSET FUNDING IN THE OECD

The Organisation for Economic Co-operation and Development (OECD) is a post-World War II organisation that was originally established to encourage greater cooperation across its European





members based on the recognition of the interdependence of their economies. In subsequent years other nations, such as the USA, Canada and Japan became members as the mission of the OECD became increasingly global. There are currently 34 member states. Emerging economies such as Brazil, India, China, Indonesia and South Africa are key partners to the organisation (OECD, 2015).

#### **Table 3: Current OECD Countries**

Region	Member Countries
Europe	Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom
Asia	Australia, Japan, Korea, New Zealand
North America	Canada, Mexico, United States
South America	Chile

Source: OECD website

## 4.1 Education expenditure in the OECD

The *Education at a Glance 2014* report estimates that OECD countries spent an average of 6% of their GDP on education in 2011. This equated to 13% of total public expenditure. This is significantly lower than the 20.6% of the South African government's budget that was allocated to education in 2012 (The World Bank, 2015). The *Education at a Glance 2014* report also reports that when research and development and ancillary services such as welfare services to students are excluded, OECD countries spend an average amount of USD 8,002 per student from primary through to tertiary education. The bulk of this spending is at the primary schooling level; on average OECD countries spend around two-thirds more per student at the primary level than at the tertiary level. This is reflected in the relatively small share of private expenditure on primary, secondary and post-secondary non-tertiary institutions (9%) compared to the share of private expenditure on tertiary educational institutions (31%).

The report also states that amongst the 19 OECD countries that maintain separate data for the different levels of education, approximately USD 694 (on average) more was spent per student each year on vocational programmes than on those in general programmes.

Subject (Year)	Indicator	
Educational attainment (2012)	Population aged 25-64 below upper secondary educational attainment	24%
	Population aged 25-64 upper secondary and post-secondary non-tertiary	44%
	Population aged 25-64 tertiary education	33%
Educational expenditure per student (2011)	Annual expenditure per student (in USD, using PPP): Pre-primary education	7 428
	Annual expenditure per student (in USD, using PPP): Primary education	8 296
	Annual expenditure per student (in USD, using PPP): Secondary education	9 280
	Annual expenditure per student (in USD, using PPP): Tertiary education	13 958

#### Table 4: OECD average attainment and educational expenditure, 2012 & 2011





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	Total expenditure on educational institutions as a percentage of GDP	6%
	Total public expenditure on education as a percentage of total public expenditure	13%
	Share of private expenditure on educational institutions: Pre-primary	19%
	Share of private expenditure on educational institutions: Primary, Secondary and Post-secondary non-tertiary	9%
	Share of private expenditure on educational institutions: Tertiary	31%

Source: OECD Stat 2014, and Education at a Glance 2014

Analysis of expenditure on education over time shows that at the tertiary level, OECD countries spending per student increased between 1995 and 2011 in most countries, except in Australia, Brazil, the Czech Republic, Hungary, Israel and Switzerland (OECD, 2014). After the global financial crisis of 2008 however, up to a third of all OECD countries reduced expenditure per tertiary student (OECD, 2014). Amongst other austerity measures, teachers' salaries were either frozen or cut in 12 out of the 25 OECD countries for which data is available (OECD, 2013). As employment opportunities diminished, demand for education and training increased such that enrolment rates at tertiary institutions increased faster than expenditure. In Iceland, Ireland, Poland and Russia, however, there was an actual decrease in expenditure on tertiary education (OECD, 2014).

### 4.2 Models of funding in the OECD

The OECD provides a useful four-model typology that can be used to describe and analyse different funding systems within OECD countries.<sup>32</sup>

#### 4.2.1 Model 1: Low tuition fees and generous student support

Countries with no or low tuition fees and generous student support systems include the Nordic nations of Denmark, Finland, Iceland, Norway and Sweden. These have more progressive tax structures and students pay no tuition fees while benefiting from generous public support, although they also face high income tax rates after graduating.

The average entry rate into higher education for this group is 74%, significantly above the OECD average of 59%. These high entry rates may also reflect the attractiveness of these countries' highly-developed student financial support systems and not just the absence of tuition fees. For instance, more than 55% of higher education students benefit from public grants, loans or a combination of the two.

The notion that government should provide its citizens with tertiary education at no charge to the individual is a salient feature of the culture of education in these countries: the funding of both institutions and students is based on the principle that access to tertiary education is a right, rather than a privilege.

<sup>&</sup>lt;sup>32</sup> This section is draws from the OECD (2014) *Education at a Glance* Report.




### 4.2.2 Model 2: High tuition fees and generous student support

Countries with high tuition fees and well-developed student support systems include Australia, Canada, the Netherlands, New Zealand, the UK and the US. In these countries, high tuition fees can potentially be an obstacle to entry into university, but the impact of these high costs is minimised through significant public support offered to students. The average entry rate for this group is 75%, above the OECD average and higher than most countries with low tuition fees except the Nordic nations.

Countries in model 2 tend to be those where private entities such as business and non-profit organisations contribute the most to financing tertiary institutions. In model 2 countries, the cost of education is shared among government, students and private companies.

Tuition fees charged by public universities exceed US\$1,500 in all these countries, but more than 75% of students receive public support in Australia, the Netherlands, New Zealand, the UK and the US, the five countries for which data are available.

Financial support systems are well-developed and mostly accommodate the needs of the entire student population. As a result, the share of public spending on tertiary education that is devoted to student support is higher than the OECD average of 22% in five of the six countries: Australia 35%, the Netherlands 29%, New Zealand 48%, the UK 74%, and the US 29%, and close to the average for Canada of 19%.

Entry rates into university were also above the OECD average of 59%: in Australia 96%, New Zealand 79%, the Netherlands 65%, UK 64% and US 72% in 2011. These countries spend more on core services directly related to instruction per tertiary student than the OECD average and have a relatively high level of revenue from income tax as a percentage of gross domestic product or GDP, compared to the OECD average.

The Netherlands is an outlier as its level of income taxation is below the OECD average but research suggests that, in general, this model can be an effective way for countries to increase access to higher education.

During periods of economic crisis, high tuition fees impose a considerable financial burden on students and their families and can discourage some of them from entering tertiary education, even when relatively high levels of student support are available.

### 4.2.3 Model 3: High tuition fees and less-developed student support

Countries with high tuition fees and less-developed student support systems include Chile, Japan and Korea, where most students are charged high tuition fees (on average, more than US\$4,500), but student support systems are less developed than those in models 1 and 2.

This approach can impose a heavy financial burden on students and their families. Entry rates are below the OECD average in Chile (45%) and Japan (52%) but above it in Korea (69%). In Japan and Korea, some poorer students who excel academically benefit from reduced tuition and admission fees or receive total exemptions.





These two countries are also among those with the lowest levels of public expenditure allocated to tertiary education as a percentage of GDP. This partially explains the small proportion of students who benefit from public loans. It should be noted, however, that both countries have recently implemented reforms to improve their student support systems.

### 4.2.4 Model 4: Low tuition fees and less-developed student support

Countries with low tuition fees and less-developed student support systems include all other European countries for which data are available – Austria, Belgium, the Czech Republic, France, Ireland, Italy, Poland, Portugal, Switzerland and Spain – and Mexico.

All of these countries charge moderate tuition fees compared to those in models 2 and 3. Since 1995, reforms have been implemented in some countries, particularly Austria and Italy, to increase tuition fees in public institutions.

Model 4 countries have relatively low financial barriers to entry into tertiary education – or no tuition fees, as in Ireland and Mexico – combined with relatively low levels of support for students, which are mainly targeted to specific groups. Tuition fees charged by public institutions never exceed US\$1,300, and in countries for which data are available, less than 40% of students benefit from public support.

In addition, tertiary institutions usually depend heavily on the state for funding, and participation levels are typically below the OECD average: the average rate in this group of 56% is relatively low. In Belgium, this low rate is counterbalanced by high entry rates.

While high tuition fees can raise potential barriers to student participation, model 4 suggests that lower tuition fees, which are assumed to ease access to education, do not necessarily guarantee greater access or better quality.

In model 4 countries, loan systems are not available or are only available to a small proportion of students. At the same time, the level of public spending and the tax revenue from income as a percentage of GDP varies significantly more among this group than in the other groups.

## 4.3 The funding of the TVET sector

The importance of VET systems varies widely across OECD countries. In 2012, the percentage of all upper secondary students enrolled in vocational programmes ranged from 73% in Belgium and the Czech Republic to 1% in Ireland. On average, however, 44% of all<sup>33</sup> upper secondary students in the OECD were enrolled in a vocational programme (OECD, 2014). Completion rates are however low with only 64% of students completing their vocational programmes within the time that is theoretically allowed (OECD, 2015).

In some OECD countries, the VET programmes provide students that have left the education system early an opportunity to re-enter later on. As a result, in Belgium, Brazil, Denmark, Finland,

<sup>&</sup>lt;sup>33</sup> No data was reported for the USA





Iceland, Ireland, the Netherlands and Norway, the average age of graduates from vocational programmes is 25 or older and reaches 31 in Australia. On average, however, the average graduation age is 22 years old (OECD, 2015).

In terms of funding, OECD countries normally provide free or almost free basic education. Uppersecondary education (including vocational programmes) are also often viewed as the upper tier of basic education and are therefore usually provided free or at low fees. In order to control the cost of providing this service VET programmes are often regulated. In Norway for example, the statutory right to education is structured in favour of young people. Students that are 15 years old that have completed their primary and lower secondary education are entitled to three years of full-time upper secondary non-tertiary education, which may include VET. This right must be exercised within five or six years (OECD, 2010). For upper-secondary non-tertiary education, the bulk of the cost falls on the individual student and the state, while for on-the-job training, the employer (which may include the state) and the trainee are expected to share the cost.

	School and higher education	Public/private VET	On-the job-training
Individual/Student	Fees, material/equipment, and student's time	Fees, material/equipment, and student's time	Student accepts lower wages for the duration of the training
State	Costs of education institutions receiving state funding and scholarships offered	Costs of education institutions receiving state funding and scholarships offered	As the employer, the state must pay wages, or may provide subsidies for companies offering training
Employer	Limited support for staff doing degrees – fees and time off	Support for staff doing formal courses – Cost of the fees and time off	Pay wages higher than productivity; time of experienced workers; mistakes and wastage; developing in-house training material

Table 5: How various stakeholders typically share VET costs

Source: (Hoeckel, Kathrin, 2008)

Some of the main factors that the OECD Learning for Jobs report (2010) suggests should be considered when implementing a funding framework for TVET programmes include:

- If a skill is critical to the success of a sector yet the returns to individuals that possess the skill are low, it may be in the interest of employers to provide subsidies to learners.
- If the benefits of a programme are shared, stakeholders may be incentivised to free-ride on the contributions of others.
- For VET programmes, if the student pays the full cost of tuition then the programme would yield skills that are sub-optimal as the investment would only reflect the return to the student once they start working. The state can subsidise tuition and local employers could subsidise provision by for example providing work-place training.

In response, OECD countries have adopted a variety of different funding models. This is reflected in the table below. It is worth noting that in Australia, publicly funded VET programmes are provided at a relatively modest cost. In Denmark and Finland however, fees only apply to vocational programmes for adults (OECD, 2010).





	Programmes provided by institutions charging fees	Programmes where students are eligible for suppo from public funds through:					
		Tax relief	Loan	Grant			
Australia	***	***	-	***			
Austria	*	*	-	****			
Belgium	**	-	-	****			
Denmark	*	-	****	****			
Finland	**	-	****	****			
Germany	-	-	*	*			
Hungary	-	-	-	****			
Japan	****	-	****	*			
Netherlands	***	-	****	****			
Norway	-	-	****	****			
Sweden	-	-	**	****			
Switzerland	-	-	-	****			
Turkey	****	****	-	-			

#### Table 6: Who pays for VET in selected OECD countries?

Source: OECD Learning for Job (2010) Where: -=0%; \*= 1 to 25%; \*\*=26 to 50%; \*\*\*=51 to 75%; \*\*\*\*=76 to 100%



#### Box: The funding of TVET in England

Similar to the VET programmes in Norway, Finland and Denmark, the VET programmes in England place greater priority on younger students with fully funded support from the state only provided to young adults.

In 2011/12 there were 4.2 million students enrolled for further education and apprenticeships at 314 colleges in England. In terms of funding, VET institutions are allocated funding using a formula that takes into account the number of students, types of courses, student achievements location of the institution, and the level of social deprivation in the local area. In terms of what is funded, priority is given to young adults, with first time learners receiving full funding support.

Learning level	Priority population groups and government subsidy for learning that can be expected							
	Individuals aged 19 to 24	Individuals aged 24+	Individuals who are unemployed and on active benefits					
Basic skills	Fully funded	Fully funded	Fully funded					
Level 2 (First)	Fully funded	Co-funded						
Level 2 (Retraining)	Co-funded	Co-funded	Fully funded targeted					
Level 3 (First)	Fully funded	Co-funded	provision for learners with					
Level 3 (Retraining)	Co-funded	Co-funded	skills barriers to employment					
Level 4 (Any)	Co-funded	Co-funded						

Source: (Musset, P. and Field, S, 2013)

#### Box: VET Reform in the Netherlands

The most significant determinant of the current VET system in the Netherlands was the passing of the *Wet Educatie en Beroepsonderwijs* (WEB) Act in 1996. This Adult and Vocational Education Act put in place the institutional architecture which today so successfully drives the Dutch VET system.

The 1996 WEB Act was a significant intervention in VET for two reasons: firstly, it provided an entirely new institutional architecture for VET; and secondly, the Act devised a set of interactions between institutions which would ensure far more effective 'system alignment' and complementarity than was the case previously. The new institutional elements that were introduced alongside existing institutions that were consolidated and merged included:

1. A 'dual' system of secondary school with one track for general academic schooling, and another for vocational education and training. These two routes are treated as equal in the education sphere and in the labour market.

2. A system of 17 sectoral bodies called 'Knowledge Centres' (*Kenniscentra*) were established along the line of broad economic sectors. The Knowledge Centres play a crucial role as the 'starting point' for the design of national vocational qualifications.

3. The consolidation and restructuring of Colo, which is the umbrella body of the 17 Knowledge Centres.





4. The creation of 43 Regional Training Colleges (ROCs) formed out of the merger of hundreds of local training colleges.

5. The establishment of the Advisory Body for Education and Labour Market (ACOA), which ensures that training and qualifications proposed by the Knowledge Centres meet industry and social goals (known as the 'macro-efficiency' criteria in the 1996 Act) and that qualifications do not overlap and waste resources.

6. The creation of the BVE Raad, which is the umbrella body representing the interests of the 43 Regional Training Centres (ROCs).

The notable strengths of this structure include: a strong degree of collaboration between employers and unions in each stage of the sectoral skills development system; the effective and complementary 'alignment' of the differing institutional components with each other; the critical role of employers in determining skills and qualifications needed (they also have direct control of the public funding offered through their involvement in the Knowledge Centres); Knowledge Centres are not just 'sectoral' in focus but also have a 'regional' and 'local'mandate; and the fact that there are over 200 000 firms accredited and prepared to train young apprentices and give work-placements to vocational students in the Netherlands (Kraak, 2013).

There are some criticisms of the VET system in the Netherlands. Most have to do with the powers yielded by the 1996 WEB Act which allow employers and unions to have a large say in determining school curricula. There are also associated criticisms of the 'narrowing' effects of competency-based education (CBE) – a debate currently being held in many parts of the world where CBE is being implemented, including South Africa (Kraak, 2013).

## 4.4 The funding of the university sector

The different mechanisms for funding universities in OECD countries are summarised in Table 7below. In most countries, this is done through a funding formula, often combined with a performance contract. According to (Montoyer, R, 2010), most European universities in the OECD receive funding through a block grants budgeting process rather that line item budgets. This gives the university greater freedom to direct expenditure towards institutional priorities, based on the available funds.

In terms of funding from tuition fees, policies vary considerably across countries. Universities in Austria, Czech Republic, Denmark, Finland, Iceland, Norway, Slovak Republic, Greece, Scotland, Slovenia and Germany charge no tuition fees, whilst the government sets tuition fees in Belgium, France, Ireland, Netherland, Slovenia, and Spain. In Italy, Portugal and England, universities set the tuition fees, but have a ceiling in place that is set by the government. In the remainder of the countries the tuition fees are either set by the university or the university negotiates with the government.





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#### Table 7: Main mechanism for directing public funding in higher education in European OECD countries, 2006

	3elgium (French Community)	3elgium (German Community)	3elgium (Flemish Community)	Czech Republic	Denmark	Germany	Estonia	reland	Greece	Spain	rance	taly	-uxembourg	Hungary	Vetherlands	Austria	oland	ortugal	Slovenia	Slovak Republic	inland	Sweden	JK (Excluding Scotland)	Scotland	celand	Vorway
Budget negotiation with the funding body based on a budget estimate submitted by the institution		0						0	0				0					0	0							
Budget established by the funding body based on past cost					0				0			0					0								0	0
Funding formula	0	0	0	0	0		0	0	0		0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
Performance contracts on strategic objectives			0	0	0	Θ			0	Θ	0		0			0		0		0	0				0	
Contracts based on a predetermined number of graduates by field of study							0																			
Funding for specific research projects, awarded in the framework of competitive bidding procedures	0	0	0	0	0		0	0	0		0	0		0	0	0	0	0	0	0	0	0	0	0	0	0

Source: (OECD, 2015)

O = Mechanism applied

 $\Theta$  = Variable depending on the regional authority



Low interest student loans are widely used in OECD countries. Whilst Germany, New Zealand and the Slovak Republic offer interest free-loans, student loans in Mexico attract a relatively large interest rate. The average interest rate charged on student loans across OECD countries however remains relatively low at approximately 3.33% in 2013.







#### Box: Interest rates on student loans in the UK and New Zealand

The UK austerity measures introduced by the government in 2010 allowed English Universities to charge undergraduate students a maximum of £9 000 in annual tuition fees (White, J, 2013). This was a significant increase from the previous cap of £3 290 per year. It was coupled with an increase in the interest rate on student loans (to reflect the actual cost to government) and deep cuts in direct finding to universities. As a result, UK students currently pay twice as much interest on student loans as the OECD average of 3.3%.

	1990 to 1998 Student loans	1998 to 2011 Student loans	Post-2012 Student Loans				
Number of outstanding loans	320,000	4,000,000		300,000			
Applicable interest rate	3.6%	1.5%		6.6%			
			Status	Interest rate			
			Studying	RPI + 3%			
Interest rate	The value of the Retail Price Index the previous March	The lower of either the Bank of	Earning £21,000 or less	RPI			
formula (Calculated every year in September)		England base rate plus 1% or the value of the RPI the previous	Earning £21,001 to £41,000	RPI + up to 3% (0.15% is added for every additional £1,000 of earnings above £21,000)			
		March	Earning above £41,000	RPI +3%			

Source: White (2013)

New Zealand adopts an income contingent approach – with repayments only commencing once the graduate's income surpasses the NZ\$19,084 threshold (White 2013). In 2012, the repayment rate was raised from 10% to 12% on all earnings. In order to encourage the repayment of student loans a couple of measures have been incorporated into the repayment mechanism:

- (1) Student loans are interest free; this is only applicable as long as the beneficiary remains in New Zealand. This tries to ensure that beneficiaries do not emigrate in order to avoid having to repay the loan.
- (2) Repayments are deducted by employers through the payroll (which is similar to the English model).
- (3) Student loans are only written off in the event of death or bankruptcy.

# 5 PSET FUNDING IN AFRICA

Higher education in Africa is characterised by low enrolment rates. Of the 23 Sub-Saharan countries for which higher education enrolment data are readily available, only Mauritius, Nigeria and South Africa have a gross enrolment ratio of more than 10% (Pillay, 2010, p. 3). This poor performance is partly explained by demographic trends, and the fact that the capacity of the higher education system has failed to keep up with the growing size and expectations of the youth<sup>34</sup>; and

<sup>&</sup>lt;sup>34</sup> Africa's youth population, age 15-24, has quadrupled since independence, increasing from an estimated 52.3 million in 1960 to an estimated 209 million in 2010 (Devarayan, Monga, & Zongo, 2011).





partly because institutional rigidities make it difficult for colleges and universities to adjust their curricula and strategies to be more responsive to changes in the labour market. In Cameroon, Tanzania and Madagascar for example, universities are highly centralised and under the strict control of ministries of education (Devarayan, Monga, & Zongo, 2011).

Looking beyond aggregate enrolment rates, access to education is generally skewed in favour of males, wealthier families and urban households. Public funding mechanisms often exacerbate these inequalities by providing free higher education to the "best" students, who usually come from the wealthiest households and the leading (often private) secondary schools. Access and equity in higher education is therefore largely determined by access to and the quality of secondary education (Pillay, 2010, p. 224).

Whereas access to higher education is higher in South Africa, and the sector is generally larger and more developed, many of the challenges confronting the post-school education system in South Africa, are shared by other African countries. This is particularly true of poorer and previously disadvantaged communities. Moreover, despite resource limitations, some African countries generate better educational outcomes than South Africa. It is therefore worth reviewing the structure and funding of the PSET system in other African countries, and assessing how some of these countries have responded to the continent-wide problems of equity and access.

## 5.1.1 Public funding of higher education in Africa

Higher education financing in African countries is often inadequate, and almost consistently inequitable and inefficient. In the face of serious financial resource constraints for higher education, African governments have responded mainly in two ways:

- Firstly, there has been a clear shift towards some form of cost-sharing through the introduction of tuition fees. For example, in many East African countries, a fee-paying system co-exists with a free, government-sponsored scheme for some students.
- Secondly, governments have permitted the introduction and subsequent expansion of the private higher education sector. By 2006, private higher education accounted for 22% of higher education students on the continent (The World Bank, 2010).

While these strategies have had some success in alleviating the lack of public sector funding of higher education, they have inevitably resulted in greater inequalities. In Kenya and Uganda, for example, cost sharing is only available for those students who cannot access government sponsorships (Pillay, 2010). These scholarships are normally awarded to students from more affluent households who are able to access the best schools. Moreover, in many African countries, less privileged students do not have access to state institutions. Instead they rely more heavily on private providers. The fact that these institutions are for profit, and in most cases unregulated, is therefore problematic (Pillay, 2010).

Various different practices are used to determine higher education budget allocations across the African continent. These are summarised in Table 8below. Historically budgeting remains the most common approach. Whereas this approach is comparatively easier to implement, it is also unlikely





to contribute to innovation and efficiency. South Africa is the only country to have introduced a more complex, performance based system.

Budgeting approach	Characteristics	Examples of countries using it
Historically based budgeting	Based on previous years' budget allocation as baseline with incremental adjustments based on general considerations such as prevailing and projected economic and socio-economic conditions	Angola, Benin, Burkina Faso, Burundi, Cameroon, Chad, Ethiopia, Lesotho, Madagascar, Malawi Mauritania, Mozambique, Namibia, Niger, Sudan, Swaziland, Zimbabwe,
Input-based formulas	Based on pre-determined input measure/s such as number of staff, staff salaries or student enrolment. Represents the simplest kind of formula funding	Ghana, Kenya, Mauritius, Mozambique, Nigeria, Rwanda, Tanzania, Uganda
Performance- based formulas	Rarely applied in Africa. Incorporate output measures such as number of graduates, rate of student repetition, research output etc. into the formula. Often reflect public policy objectives rather than institutional needs and may include incentives for institutional improvement instead of reinforcing the status quo.	South Africa <sup>35</sup>
Earmarked funding	Government reserves a particular institution or group of institutions to receive funds for specific purposes and is usually used as a way of correcting perceived inequalities in past funding patterns <sup>36</sup> .	South Africa
Performance contracts	Based on mutual agreements entered into between governments and institutions of higher learning to fund them in return for achieving predetermined performance goals.	Côte d'Ivoire, Mali, Mauritania, Senegal have all announced possible implementation but current implementation status is uncertain. South Africa <sup>37</sup>
Competitive funds	Supplements core budgets of universities by using non- budgetary mechanisms to provide incentives in the form of investment resources. Is usually used to fund research, quality improvements and partnerships and is usually based on institutional or departmental funding proposals subjected to anonymous peer review using publicly announced evaluation criteria	Ethiopia, Ghana, Mozambique, South Africa

Table 8: Approaches to budget allocation
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Source: (The World Bank, 2010, pp. 42-49)

Some countries have introduced more competitive forms of funding. In Mozambique, for example, the National Research Fund invites proposals for funding. It then evaluates and awards funding with the aim of enhancing science and technology research in the country. The fund uses several funding instruments including the funding of research projects, institutional development as well as innovation and technology transfers. From time to time, the government also identifies specific research projects that need urgent attention to address national priorities and this funding instrument is used to fund such projects (The World Bank, 2010, p. 108).

<sup>&</sup>lt;sup>37</sup> South Africa has developed its own version of a "funding contract" approach which is a distributive mechanism allocating funds in accordance with both the budget made available by government and with the governments' policy priorities. Funding is thus based on paying institutions for delivering the teaching and research related services specified by government approved plans.





<sup>&</sup>lt;sup>35</sup> Botswana, Ethiopia, Mozambique and Tanzania are said to be considering this approach

<sup>&</sup>lt;sup>36</sup> For example, the post-Apartheid government set aside funds for libraries and academic facilities for predominantly black institutions

#### A distance education experiment in Burkina Faso

The International Institute for Water and Environmental Engineering, based in Burkina Faso, has included in its development strategy a distance education course which is expected to double the number of students enrolled in the institution in five years. Within weeks, more than 500 applications from 24 countries had applied for the program (which leads to a degree qualification). The institution's first class – of 2008/09 – produced 50 graduates. The speedy success of this programme is evidence of the following:

- Quality distance education is possible in Africa.

- This form of education has a customer base, ready in certain cases to pay for its cost.

- This form of education could be used as a tool to reduce the growing demand for traditional campus based education and in turn reduce the funding burden carried by traditional institutions of higher education.

Source: (The World Bank, 2010, p. 138)

### 5.1.2 Diversification of funding sources

The autonomy of higher education institutions empowers them to mobilise additional private funds, which are, although not always accurately accounted for, quite considerable in nature. On average, privately generated resources account for 28% of the revenue of higher education public institutions in Africa (The World Bank, 2010, p. 73). Even in countries which offer free higher education, institutions may generate considerable revenues through fees. Benin's two public universities, for example, offer fee-based vocational training programmes, which generate approximately 40% of their operating budget. These universities then use these funds to cross-subsidise other activities. below outlines the average private (mostly fee based) revenue generated by universities in some countries across the continent.

#### Table 9: Own resources as a share of total revenue

County	Average share of total revenue (%)
Benin (2008)	23
Ghana (2003)	37
Guinea-Bissau (2006)	75
Kenya (2007)	39
Madagascar (2006)	3
Malawi	22
Mauritius (2007)	15
Namibia (2002)	32
Uganda (2006)	56

Source: (The World Bank, 2010, p. 76)



Other tax-based methods have been employed by some countries to generate additional funding for the higher education system. In 2000, for example, the Ghanaian Parliament established the Ghana Education Trust (GET) Fund as a means of financing a more rapid expansion of the country's education system. The fund was capitalized by increasing the existing value added tax (VAT) by 2.5%. These revenues are earmarked for capital projects in the education sector, and their use for recurrent expenditures such as salaries is prohibited. By 2007, the GET Fund was generating around US\$200 million annually. Tertiary education has received approximately 45% of the GET funds since its inception, and it has been used to construct educational facilities, capitalize a student loan program, provide scholarships for poor students and staff development, expand information and communication technology (ICT) infrastructure, and support research and teaching activities, particularly the expansion of postgraduate programs and distance education. The fund is government-appointed administrator. Each year the fund's allocation and its specific uses are approved by Parliament to ensure that they address the nation's most pressing education needs (The World Bank, 2010, p. 123).

### Emergency Universities Program in Cote d'Ivoire

Between 1993 and 2000, the government of Côte d'Ivoire put in place a significant investment program for the development of public universities. Coordinated by the Ministry of Higher Education, it was financed from revenues generated by the sale of public enterprises (for example, electricity, water supply, automotive regulation) to private investors. The program was implemented over the medium term on the back of receipts of around US\$100 million. It enabled the improvement and expansion of existing university facilities as well as the construction of four new decentralized university campuses within the country.

Source: (The World Bank, 2010, p. 124)

## 5.1.3 Student Financial Assistance and Loan Programs

Most African countries have introduced some form or combination of grant and loan programs. Table 10 below outlines some of the types of student financial assistance programs applied in Africa.

Country	Student aid program and design
Angola	Government grants for living costs
Benin	Government grants and financial aid range from €45 to €80 per month and most grant holders also receive a subsidised housing
Botswana	Grant-loan scheme
Burkina Faso	Merit-based grants (CFAF 500,000 per year); FONER loans (financial aid for students who do not receive merit-based state grants) started in 1992; financial aid is CFAF 150,000 (US\$749) per year, renewable twice (students cannot receive both a loan and aid); the amount of the loan is CFAF 200,000 per year.
Burundi	Students receive little direct financial assistance (FBu 370 per year).
Cameroon	Financial assistance is based on need and merit (also financial assistance for girls studying science fields).
Ethiopia	Deferred tuition fees and deferred maintenance costs for all gualified students

### Table 10: Student Financial Assistance Programs in Africa







Kenya	In addition to means-tested loans, needy students also receive means-tested financial aid; the maximum amount per year that a student can receive in grants is K Sh 8,000 (US\$107); students in both private and public universities can also apply for grants or scholarships from the Constituency Development Fund.
Lesotho	Loan grant; the amount that has to be paid back is contingent on successful completion of degree and employment in the Lesotho civil service.
Mauritius	Means-tested grants covering cost of tuition fees, books, exam fees, and living costs; up to MUR 150,000 a year (US\$10,217) was from the newly established (2008) Human Resources, Knowledge, and Arts Development Fund
Zimbabwe	Cadetship scheme whereby very needy students receive financial support but are required to work in the public sector for a fixed number of years following graduation

Source: (The World Bank, 2010, pp. 78-81)

The concept of student loans has been in common use in parts of Africa for more than 50 years. Lesotho and Botswana introduced student loans from as early as 1952 and 1966 respectively (The World Bank, 2010, p. 77). As of 2008, at least 13 African countries had operational loan programs with several more considering the establishment of such programs. **Error! Not a valid bookmark self-reference.** below provides an overview of some of the student loan programs in Africa.

#### Box 4: Other innovative financing practices

*Botswana's Private-Public Partnerships:* Botswana has established a new university on a private– public partnership basis. In this model, the state provides substantial funding for capital expenditure while the private sector will be responsible for operational expenditure.

*Mauritius' differentiated government funding model:* In Mauritius, different public institutions are treated differently. Where there are likely to be high private returns (e.g. the University of Technology) the state provides lower funds compared to those institutions providing education that is likely to have greater social returns (e.g. teacher education).

*Mozambique's Quality Enhancement and Innovative Facility*: is a funding initiative aimed at improving the quality of educational provision by rewarding both public and private institutions and individuals for the development of quality-enhancing programmes.

Source: (Pillay, 2010)



#### Table 11: Student Loan Schemes in Africa

Country and scheme	Coverage and eligibility	Loan parameters	Range of borrowing
Botswana Grant-Ioan scheme administered by Department of Student Placement and Welfare (DSPW), introduced in 1995	Students in public and private sector (as of 2007) institutions; tuition fees and maintenance costs; local and external tertiary programs; awarded based on national priority accorded to the course of study	Interest free; three-month grace period after obtaining employment; upon graduation, borrowers to notify DSPW, which informs them of the exact amount they owe	Grant repayment dependents on the field of study: category 1: 100% grant for both tuition fees and maintenance costs; category 2 students: 100% grant for tuition fees but have to repay 50% of maintenance; category 3 students: have to repay 50% of tuition fee costs and 100% of maintenance costs
Burkina Faso FONER loans, introduced in 1994	Students in public sector institutions (third-year students and up); maintenance costs; means tested	3% interest from loan origination; one-year grace period; income-contingent repayment at one-sixteenth of salary; repayment period of six years	CFAF 200,000 (US\$998) starting in 2007/08 academic year, of which CFAF 15,000 a year (US\$75) is allocated to fees
Ethiopia Graduate tax, introduced in 2003	Students in public sector institutions; full cost of meals, housing, health services, and student portion of instructional costs; all enrolled students	Simple interest calculated on total amount owed; interest rate used: average of bank rates while the student is in school; grace period of one year after graduation; income-contingent repayment of at least 10% of monthly income; maximum repayment period of 15 years	Br 3,625–Br 5,871 (US\$1,290–US\$1,814) a year (2008/09)
Ghana Students Loan Trust Fund, introduced in 2006/07 academic year	Students in public and private sector institutions; living expenses; means tested	During study and grace period, interest rate equal to prevailing 182-day Government of Ghana Treasury Bill (in 2007: 10.25%) compounded annually; during repayment period, interest rate equal to the prevailing 182-day Treasury Bill plus 4% compounded semi-annually; grace period of one year following completion; repayment via monthly deductions from a borrower's salary by the employer or via direct periodic payments by a borrower who is self-employed; 15-year repayment period	Amount based on needs of each student, that is, the difference between the full cost of study and estimated family contribution
Kenya HELB, introduced in 1995	Students in public and private sector institutions; tuition and maintenance; means tested	4% interest compounded starting from loan origination; one-year grace period following completion; conventional repayment though repayments possibly deducted by employer and remitted to board; loan repayments not to exceed one-quarter of borrower's monthly salary	Maximum: K Sh 60,000 (US\$2,032)
Lesotho National Manpower Development Secretariat Ioan grant scheme,	Students in public sector institutions; tuition fees and living expenses	No interest; no grace period; repayment expected within five years in equal monthly instalments	Workers in the public service required to pay back 50% of loan, workers in the private sector required to pay back 65%, and workers outside of Lesotho required to



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introduced in 1978			pay back 100%
Malawi University Students Loan Scheme	Students in public sector institutions; student fees; means tested	No interest; grace period for six months after obtaining employment; maximum repayment period of 10 years	MK 25,000 (US\$633) per year
Namibia Namibia Student Financial Assistance Fund, created in 1997	Students in public sector institutions; tuition fees, textbooks, registration fees, and related educational expenses; loans for living expenses only in cases of exceptional need; allocated according to regional quotas and field of study priorities; means tested	Interest equal to half of the prime rate; grace period during in-school years (no interest compounded) and six months after completion, if student is earning threshold salary (N\$R17 a week); income-contingent repayments of up to 15% of borrower's salary; short repayment horizon (three times the number of years the student was in receipt of the loan)	Maximum of N\$R15,000 (US\$3,520) for engineering students
Nigeria Education Tax Fund and the Student's Scholarship Board consolidated into Education Trust Fund in 2007	Students in public and private sector institutions; fees and approved living expenses; means tested	7% interest; grace period of up to two years after graduation (not clear if interest is compounded during this time) or until employment obtained (whichever comes first); maximum repayment period of 10 years	
Rwanda Student Financing Agency for Rwanda (SFAR) student loan scheme, set up in 2003; 2007 law made it an independent entity	Students in accredited higher education institutions; tuition and maintenance; from 2008, means tested and students to meet academic requirements	5% interest; grace period while in school and one year after graduation (interest compounded from loan origination); income contingent repayment; employers required to deduct loan payments from salaries on a monthly basis (8% of gross salary)	RF 1.2 million to RF 1.5 million (US\$6,445 to US\$8,057)
Swaziland Loan component of scholarship under the Scholarship Secretariat of Ministry of Education	Students in public sector institutions; tuition and other fees	5% simple interest once payment begins; grace period until employment is obtained; payment of 50% of total amount received from government; repayment period of four to eight years	Loan component of the scholarship
Tanzania HESLB, introduced in July 2005, replacing older scheme that was established in 1994	Students in public (with the exception of fee-paying students) and private institutions; tuition fees, other academic fees, room and board; means tested; full-time students only	No interest; grace period of one year after completion; repayments deducted from borrower's salary (agrees with the board on amount to be deducted); borrower may also pay in equal monthly instalments; maximum repayment period of 10–15 years	Amount of loan awarded to each student dependent on means-testing results as well as the upper loan limit for each item; means-testing results categorized as A (100%), B (80%), C (60%), D (40%), E (20%), and F (0%)

Source: (The World Bank, 2010, pp. 83-89)



# 5.1.4 Financing of Technical and Vocational Training (TVET) in Africa

As with most higher education institutions, the government is the greatest contributor to the TVET system. However, given overall funding constraints, few governments in Africa are able to finance TVET at a level that can support quality training. To address this shortfall, some countries have introduced dedicated taxes to compliment public funding. In Zimbabwe, for example, a levy is charged on all employers with a wage bill over Z\$2,000 per month. Similarly, in Tunisia, the government has introduced a ring-fenced TVET tax; and Burkina Faso, Mali, and Niger have introduced a tax that is managed by a legal entity that is independent of the state. This legal entity is then responsible for disbursing funds to support apprenticeships and continuing vocational training (Mokwena, 2015).

### 5.1.5 Conclusion

The financing of higher education is gradually shifting away from a dependence on public funds to a cost-sharing approach, mainly through the introduction of student fees and the expansion of the private higher education sector. Although these developments are critical to meet increasing demand, they have resulted in some inefficiencies in the sector, and potentially led to rising inequality in the provision of higher education. Whereas publicly funded student grants and loans have been used in some countries to offset these inefficiencies, improved regulation of the private sector may also be needed to maintain quality and ensure equitable access.

The publication "Financing Higher Education in Africa" published by the World Bank in 2010 provides useful proposals for the improvement of funding of universities. Many of these are already practice in South Africa. These include:

- Efficient application of funding is needed to prevent the diluting of the impacts of funds.
- System planning needs to be improved.
- Student throughputs need to be improved since the high student dropout and repetition rates are inefficient.
- The average duration to graduate needs to be shortened through regulation of enrolment and re-enrolment, criteria for awarding scholarships, criteria for providing services to students that have no bearing on their academic performance, frequent and unlimited retaking of classes and repeated changes of discipline.
- If measures are designed to select students on the basis of their ability and the average duration of studies can be reduced, it may have a considerable impact on the trend in the number of university students.
- The growth in student numbers must be strategically managed. The failure to control student flow leads to the training of young people who lack skills which in turn results in more unemployment or underemployment.
- Overheads and high salary expenses for administrative staff need to be reduced.
- Formula based funding frameworks based on cost per student need to be applied.
- Funding frameworks must include performance- based budget allocations.



- Normative unit costs of offering higher education needs to be derived from prescribed studentteacher ratios by field of study, and the recommended cost of goods and services per teaching unit (by field of study) should form the basis of determining the cost per student.
- Cost sharing (student fees) is vital in a climate of declining government support for university education.
- The use of student fees as a source of income needs to be accompanied by the development of financial aid programmes and student loans.
- The targeting of public assistance should include means-tested policies.
- The cost recovery of student loans needs to be improved by shortening grace periods and repayment periods. Record keeping to be able to track students and graduates must be improved.
- More cost-efficient modes of delivery should be introduced,
- Greater accountability in the use of public and private financing must be applied.
- Governance and management practices must be improved.
- Public-private partnerships can improve the efficiency of services to students. The state could offer tax incentives to attract developers and securing a return on investments.
- Diversification of financing where universities generate their own resources through vocational training, continuous training programmes and expert or research services will make universities financially more sustainable.
- The private sector can play a huge role in the diversification of provision of education and can absorb a percentage of the increase in students. The private sector can be encouraged through tax incentives, or other measures such as the provision of land or buildings, access to loans, et cetera.



# 6 CASE STUDIES: THE EXPERIENCE OF SELECTED COMPARATOR COUNTRIES

## 6.1 Country selection and comparison

Whereas the OECD experience is informative, many of the lessons emerging from these relatively wealthy countries may not be relevant or feasible for developing countries such as South Africa. It is therefore useful to also consider the experience of other middle-income countries. Specifically, for the purpose of this study, four country case studies have been undertaken – looking at the structure of the PSET system and funding arrangements in place in Brazil, Chile, India and Malaysia. Table 12 describes the main demographic features of these countries, and the broad structure of the PSET system. The main lessons from these case studies, for South Africa, are summarised in Section **Error! Reference source not found.** 

Торіс	Indicator	South Africa	Brazil	Chile	India	Malaysia
	Population, total <sup>39</sup> in 2014	54,0 mn	206,1 mn	17,8 mn	1,3 bn	29,9 mn
Demographics <sup>38</sup>	GDP per capita, PPP (current international \$) in 2014 <sup>40</sup>	13 046,2	15 838,0	22 345,96	5 707,7	24 951,2
	Labour force with tertiary education (% of total) <sup>41</sup> in 2011	16,5%	17,2%	19,7%	-	24,5%
Expenditure <sup>42</sup>	Government expenditure on education, total (% of GDP) in 2011 <sup>43</sup>	6.0%	6,1%	4,1%	3,9%	5,9%

#### Table 12: Comparison of key indicators across comparator countries

<sup>&</sup>lt;sup>43</sup> General government expenditure on education (current, capital, and transfers) is expressed as a percentage of GDP. It includes expenditure funded by transfers from international sources to government. General government usually refers to local, regional and central governments.





<sup>&</sup>lt;sup>38</sup> (The World Bank, 2015)

<sup>&</sup>lt;sup>39</sup> Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship--except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin. The values shown are midyear estimates.

<sup>&</sup>lt;sup>40</sup> GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GDP as the U.S. dollar has in the United States. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current international dollars based on the 2011 ICP round.

<sup>&</sup>lt;sup>41</sup> Labour force with tertiary education is the share of the total labour force that attained or completed tertiary education as the highest level of education.

<sup>&</sup>lt;sup>42</sup> (The World Bank, 2015)

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Торіс	Indicator	South Africa	Brazil	Chile	India	Malaysia
	Expenditure on tertiary education (% of government expenditure on education) in 2011 <sup>44</sup>	11,7%	16,8%	21,8%	33,4%	36,97%
University system	Number of institutions	26 public universities (14 "traditional", 6 universities of technology and 6 comprehensive universities).	2300 higher education institutions (11% public and 89% private)	60 universities of which 35 are private 16 state and 9 state-funded private universities)	677 universities (45 45 Central Universities, 318 State Universities, 185 State Private universities and 129 Deemed to be Universities).	17 public universities (5 Technical University Colleges and 12 universities
TVET system	Number of institutions	50 multi- campus TVET colleges	Number of campuses not accessed. In 2014, 1 561 745 new enrolments (average growth of about 47% from 2011 to 2014 over 3 555 municipalities).	45 Professional Learning Institutes (IPs) and 68 Technical Training Centres (CFTs) 88% of secondary VET students attend municipal and subsidised private schools, and 12% attend schools administered by industrial corporations	51 institutions of National Importance (16 IITs, 30 NITs and 5 IISERs).	19 Polytechnics and 34 Community Colleges. Polytechnic and Community College enrolments amounted to 89 805 and 21 468 in 2013; small numbers compared to South African TVET colleges.

Source: World Bank and DNA Economics, 2015

<sup>44</sup> Expenditure on tertiary education is expressed as a percentage of total general government expenditure on education. General government usually refers to local, regional and central governments.





## 6.2 Brazil

#### 6.2.1 Overview

According to World Bank data Brazil spent 6.3% of GDP on education in 2012 compared to South Africa which spent 6.4% (The World Bank, 2015). But as a proportion of government expenditure, South Africa spent 20.6% of the government's budget on the sector in 2012 compared to 15.6% in Brazil (The World Bank, 2015). In addition, in 2012, Brazil allocated 28.9% of its education budget to primary education compared to 39.9% in South Africa. Furthermore, 44.6% and 16.4% of the Brazilian government education budget was allocated to secondary and tertiary education in 2012 compared to 30.3% and 11.9% in South Africa (The World Bank, 2015).

The higher education system in Brazil comprises of various types of institutions, as outlined in **Error! Reference source not found.Error! Reference source not found.** It is important to note that the majority of these institutions, including universities and technical colleges, are privately owned. More than three-quarters of these private higher education institutions (HEIs) are profit-seeking institutions while 20% are non-profit institutions run by religious, community or philanthropic organizations. Among the public HEIs, 42% are federal, 34% are state operated and 24% are run by municipalities.

	Total	University centres	Universities	Integrated Colleges	Colleges, schools, institutes	CET/FaT <sup>45</sup>
Brazil	2013	169	107	119	1474	144
Private	1789	86	104	116	1388	95
Private-private	1401	26	60	97	1125	93
Private - Community	388	60	44	19	263	2
Public	224	83	3	3	86	49
Public Federal	87	46	1	-	6	34
Public – State	75	32	-	-	28	15
Public – Municipal	62	5	2	3	52	-

 Table 13: Number of Institutions of Higher Education in Brazil in 2004

Source: Miscellaneous

### 6.2.2 The structure and funding of the TVET sector

The primary objective of Brazil's TVET sector is to develop skills relevant to the workplace through a complete 12-year programme of education. Specifically, the programme aims to facilitate the school to work transition, increase worker's productivity and help provide the market with skilled labour (Arabage, et al., 2015).

<sup>45</sup> Centres for Technological Education and Colleges of Technology

Technical, Vocational Education and Training (TVET) in Brazil takes place at three different levels: basic, high school level and at university level. Students entering the second and third level of this training require a Basic Technical Certificate or must pass the junior secondary final examination, after completing nine years of primary education (EP-Nuffic, 2015).

The second level of TVET provides professional training courses which operate through three modalities:

- **Integrated** Offered to students who want to simultaneously attend vocational and general education courses at the same institution.
- **Concomitant** Offered to those students enrolled in a general education course elsewhere but who want to enrol in a technical course in another institution.
- **Sequential** Offered only to those who have completed secondary school (Arabage, et al., 2015)

Students will theoretically spend between three to four years at this level depending on whether they choose to only complete the secondary vocational programme (three years) or combine this with general education (4 years). Upon completion, students earn the certificate/professional qualification of Técnico de Nivel Médio<sup>46</sup> and a Diploma de Ensino Médio com Habilitação<sup>47</sup> respectively (EP-Nuffic, 2015).

Although the TVET system is growing, it accounts for a small proportion of total secondary education in Brazil. In 2013, the number of students enrolled solely in general education was approximately 6.8 million, compared to 1.4 million in technical education. Moreover, sequential courses account for more than half of total enrolments in technical secondary education; the majority of students enrolling in technical education do so after completing secondary general education.

The Ministry of Education collaborates with the Ministry of Labour to formulate Brazil's vocational training policy, which is executed by technical and agro-technical schools; Federal Centres for Technological Education (CEFET); and the S-System (explained further in section 6.2.3). The TVET sector is financed from both public funding (direct and indirect financing) and private sector funding (primarily through student fees).

In 2011, the Brazilian government launched the PRONATEC48 (National Programme of Access to Professional Education and Employment) programme. The programme provides for *the* **Bolsa** *Formação*, a voucher-type training scholarship. It comprises two modalities: *Bolsa Formação estudante*, directed to students enrolled in public secondary schools, and *Bolsa Formação Trabalhador*, which specifically targets low-income students. Total *Bolsa Formação* expenditure increased from R\$0,5 billion in 2011 to R\$ 2.6 billion in 2013. This amount financed a total of 1.5

<sup>&</sup>lt;sup>48</sup> The main goal of this programme is to promote training opportunities to teenagers, workers and the beneficiaries if the cash transfer programmes.





<sup>&</sup>lt;sup>46</sup> Mid-level technician

<sup>&</sup>lt;sup>47</sup> High school with specialisation

million enrolments, and accounted for 27% of total expenditure on vocational and training courses (Arabage, et al., 2015).

The PRONATEC also introduced the *FIES Técnico* (Technical FIES), which offers low rate loans (that were previously only available to general education students) to vocational education students; the *E-Tec Network*, which provides financial assistance to institutions that offer distance learning professional courses; and the *Brasil Profissionalizado, which* finances the development of TVET institutions.

# 6.2.3 The workplace skills system

In support of the publicly-funded TVET system, businesses in Brazil contribute towards the S-System, a network of vocational institutions, training courses and apprenticeship programmes that are financed by through a mandatory payroll levy (generally between 1% and 2.5% of remuneration, depending on the industry). Established in 1942, the S-system gives the private sector the autonomy and responsibility for providing vocational education and training to the Brazilian workforce outside of the public education system. The S-system is defined by employer needs and unions do not participate in its management nor do they have a say in the annual distribution of its funds (Kraak, 2013).

There are three groupings who benefit from the services of the S-system:

- A small group of youth up to the age of 18 who are concentrated primarily in apprenticeship and training;
- A large group of youth between the ages of 18 and 30 who are unemployed, working in the informal sector, or seeking to improve their technical skills;
- An equally large contingent of workers between the ages of 20 and 40 who are directly sponsored by their employers to receive training.

The National Service for Industrial Apprenticeship (SENAI), was the first agency to be established with funding from the S-System (in 1942). The objective of SENAI is to train and qualify personnel for industrial sector jobs (Kraak, 2013). The SENAI network is highly decentralised and now comprises 765 operational units. There are 230 vocational education centres, 38 technology centres, 369 mobile units and 128 training centres. In 2003, SENAI received 1 918 363 enrolments, 69% of which were in vocational improvement courses (specialization and vocational initiation); 36.6% in initial and continuing training (formerly basic); 3% in industrial apprenticeship; 2.4% in technical courses; and 0.3% in higher education courses in technology (Kraak, 2013).

The S-system was subsequently expanded with the establishment of parallel institutions serving the commercial, transportation, agriculture, and worker cooperative sectors. Today there are nine such national agencies comprising the S-system offering training in a range of sectors. It has more than 5,000 units across the country offering an estimated 2,300 courses per year with an annual enrolment of roughly 15.4 million students (Kraak, 2013).

Despite the scale and apparent success of the S-system, it has also contributed to a number of structural problems across the higher education system:





- It does not have strong links to formal education, and higher education in particular (Kraak, 2013); and there is no recognition of prior learning or on-the-job learning in the tertiary sector.
- Career guidance is not well developed. Rodriguez *et al* argue that 'this disconnect is hampering cross-fertilization between academia and business and slowing Brazil's potential for disseminating and commercializing new knowledge' (Kraak, 2013).
- It is not regulated nationally by the state. For all practical purposes, it is a highly organized but unregulated system operating in a 'world of its own'. Even though the quality of training is good, and immediate employer needs are met, it does not cater for longer-term needs, nor do its qualifications articulate with post-school and higher education (Kraak, 2013).
- The superior status of the SENAI qualification has had a negative impact on attempts in Brazil to create a national qualifications framework – as has been the case in many other countries. This is because the quality of SENAI courses has always been high and immediately recognised by employers. They have not supported the need for any changes. (Kraak, 2013).
- It is administratively 'invisible' it does not report in much detail on the scale of its annual training achievements. It is estimated that the total coverage of the S-system is in the region of 40 million trainees per year which is a very large VET system. But its 'invisibility' makes it difficult for the state to strengthen articulation and certification-alignment processes nationally (Kraak, 2013).
- The system's financing structure provides few incentives for employer-managers to target workers outside their constituencies. The system therefore
   perfore

neglects workers in the large informal sector.

### 6.2.4 The structure and funding of the university sector

Public HEIs may not charge students for tuition and/or impose any fees. The salaries of faculty and other staff of federal HEIs are therefore paid directly by central government. Current expenditures are also financed centrally and are allocated yearly through the federal budget. Research projects and graduate education are supported via federal and state research funding agencies, which obtain funding from the fiscus. Universities have difficulties in raising funds from other sources, as they are restricted in how they can utilise such funds.

Private HEIs, both for- and non-profit, receive almost all of their funding from tuition fees. The nonprofit group also collects funds from research funding agencies, but this makes up a small proportion of their total funding. For-profit HEIs receive fiscal incentives to provide scholarships to low-income students. Specifically, the federally-funded University for All Programme (PROUNI) allocates scholarships of 25%, 50% and 100% of fees to economically disadvantaged students in private higher institutions. With these scholarships fees do no need to be repaid. Since its establishment in 2012, it has provided more than 1.7 million scholarships.

The federal government also provides loan funding to around 1 million private and public students through the Financing of Higher Education Student (FIES) programme. This schemes provides students with an 18 month grace period to repay the amount borrowed, following the conclusion of





their studies, at an annual interest rate of 3.4%. Students with a 25% or 50% PROUNI scholarship may apply to FIES for funding to cover the remaining fees. FIES loans cannot be used for distance-learning education (but PROUNI scholarships can).

# 6.3 Chile

## 6.3.1 Overview

In 2012, 19.3% of the Chilean government's budget went to education, marginally less than what the South African government spent on education (21%) during the same year. The bulk of this expenditure was allocated to primary and secondary education. Since 2002, Chile has gradually reduced its relative expenditure on primary and secondary education and has raised its expenditure on tertiary education. However, Chile remains the OECD country with the highest proportion of private expenditure in higher education (OECD, 2012).

In September 2012 there were a total of 173 higher education institutions in Chile, comprising 60 universities, 45 Professional Learning Institutes (IPs) and 68 Technical Training Centres (CFTs) (OECD, 2012). In addition, there were 20 armed force institutions belonging to the Ministry of Defence. Although universities can offer academic, technical and vocational programmes, higher level technical degrees are mainly offered by the IPs and CFTs.

As outlined in Table 13 below, the amount of public funding directed towards students in the TVET sector remains well below that offered to university students.

Institution	Total expenditure	Number of students	Expenditure per student
Universities	USD 426,974,468	587,297	USD 727.02
CFTs	USD 31,602,128	224,301	USD 140.89
IPs	USD 40,480,851	128,566	USD 314.86

#### Table 13: Public expenditure in student support (by type of institution), 2010

Source: (Araneda, 2012)

# 6.3.2 The structure and funding of the TVET sector

Vocational education in Chile begins at the secondary school level, where about 40% of students are in the technical-vocational track. The majority of secondary TVET students come from disadvantaged socio-economic backgrounds (64.7% of VET students belong to the two lowest income quintiles) and most (88%) attend municipal and subsidised private schools. The remaining 12% attend schools administered by industrial corporations. The latter arrangement was established in 1980, allowing industrial corporations and foundations to take over the administration of 70 institutions. Fee paying private institutions enrol less than 1% of students (Kis & Field, 2009).

Tertiary level TVET comprises two separate but similar avenues - two-year programmes offered in CFTs, and four-year programmes provided by IPs. Professional institutes (IPs) are authorized to award professional certificates in any field, excluding the 17 fields prioritised by universities; whereas CFTs offer two-year technical vocational programmes which lead to a Higher Technical Level Certificate. All IPs and CFTs are private owned and enrolments are highly concentrated in a





small number of institutions – three institutions enrol 54% of CFT students, and three institutions enrol 51% of IP students (OECD, 2012).

Historically, public funds in Chile were exclusively directed to universities. However, since 2001, there has been a sharp increase in the amount transferred through public financial subsidies to TVET students. This included the introduction of the *Becas Nuevo Milenio* Scholarship (in 2000), and the State Guaranteed Loan system (implemented in 2006); both of which are aimed only at TVET students (OECD and The World Bank, 2010). As a result, by 2010, first time enrolments for the first year in TVET institutions surpassed first time enrolment in Universities (Araneda, 2012).

In addition to these programmes, the National Training and Employment Service (SENCE) administers a large system of training fellowships which are designed to offer training opportunities to unemployed youth, poorer communities, informal sector workers and the handicapped. The system functions through tenders called for by the National Training and Employment Service (SENCE)<sup>49</sup> from executing agencies. Municipalities also monitor the demand for regional vocational training in line with the needs of local businesses (Ducci, 1991).

The National Employment Secretariat (SENAEM)<sup>50</sup> provides financing for vocational education and training for young people between the ages of 18 - 24 (Ducci, 1991). The selection of beneficiaries is made through labour authorities and specifically targets poor individuals who make use of other social support programmes.

In addition, tax rebates for the financing of vocational training have been in existence in Chile since 1976. This tax rebate system comprises three modes. First, tax credits may fully compensate an enterprise for the cost of training up to 1% of pay roll. Second, contributions by enterprises to technical assistance institutions (non-profit training organisations established for training and technology assistance by enterprises in specific sectors or regions) are also eligible for a tax rebate. Lastly, up to 60% of the wages of workers in certified apprenticeship programmes qualify tax rebates (Edwards, 2000).

## 6.3.3 The workplace skills system

Even with this tax rebate system in place, Chile has until recently, had very few systematic arrangements for the engagement of employers in the provision of workplace training. In addition, employers have had little to no say in the definition of competences required for particular jobs, or more broadly in the management and strategic direction of the VET system and VET institutions (Kis & Field, 2009). This makes it hard for VET institutions, both at secondary and tertiary level, to ensure that the mix of VET provision responds adequately to labour market needs. However, there are encouraging developments – some institutions have developed strong links to industry, and some institutions conduct follow-up surveys of their graduates, as such surveys are a condition for

<sup>&</sup>lt;sup>50</sup> SENAEM is different to the SENCE in that it gives priority to pre-vocational training activities





<sup>&</sup>lt;sup>49</sup> SENCE was created in 1976, is mainly responsible for vocational training in the Chilean education system and its coverage is largely aimed at adult workers

accreditation. Employers also participate in the governing boards of some tertiary institutions (Kis & Field, 2009).

In Chile, workplace training was not holistically integrated into the VET curriculum, and is seen as an application of what was learnt during the previous two years rather than as an additional (and properly valued) learning opportunity (Kis & Field, 2009). Graduates of four year upper secondary education obtain the secondary school leaving certificate (licencia de enseñanza media), these graduates then have to spend about four months (480-960 hours) doing their workplace training (práctica profesional) to obtain a VET certificate.

A key challenge in Chile is that many VET students who obtain their school leaving certificate do not pursue workplace training in order to obtain a VET certificate. Exact data are not available, but according to estimates about half of upper secondary VET students do not complete their workplace training. One possible reason is that until recently those in workplace training did not receive any financial compensation, so many preferred to enter employment (or even be inactive). Also, completing workplace training means that, unless special arrangements are made in the school, students have to delay their entry to tertiary education by one year. Finally, students may consider that the returns from obtaining the VET certificate do not justify the effort needed to complete workplace training (Kis & Field, 2009).

A small proportion of VET schools (enrolling 4.5% of vocational upper secondary students) operate a 'dual system', with students spending some time in school and some in workplace training. Based on experience with dual systems in other countries, it is clear that the traditional strengths of the dual system depend on a range of institutional mechanisms including clear expectations on what is to be learnt in school and in the workplace, well qualified teachers and trainers, and strong links with the social partners in the management and operation of the system (Kis & Field, 2009).

The importance of creating linkages with industry and business has been recognised by policy makers, as illustrated by some recent initiatives. The SNCCL Labour Skills Certification System was designed to support lifelong learning, facilitating a better match between employer needs and training. The recently announced creation of a National Council for Vocational Education and Training (CNFP), following a recommendation of the Commission on VET, will create a platform where industry representatives, trade unions and stakeholders from the education and training sector can work together. These are important initiatives, but further steps would be needed to give employers a sufficient role in VET policy development (Kis & Field, 2009).

## 6.3.4 The structure and funding of the university sector

The rapid increase in the number of students and institutions in the Chilean university system, post-1980, has resulted in a dual public/private structure. There are 3 types of universities in Chile: 35 private institutions (all established since 1980), 16 state universities and 9 state-funded private universities. The 25 state-funded universities are all members of the *Consejo de Rectores de las Universidades Chilenas* (CRUCH), the Chilean organisation for traditional universities. This dual structure is also reflected in the funding of these different institutions.





While private universities receive, on average, around 60% of their funding through tuition fees, CRUCH universities receive a much larger share of government support, through various grant programmes.





Figure 6: Direct student financing in Chile

Source: (OECD, 2012)

Public grants and funds include institutional core funding and competitive public institutional funding through the direct *Aporte Fiscal Directo* (AFD) and indirect *Aporte Fiscal Indirecto* (AFI) public grants and. Only CRUCH universities have access to AFD; which is allocated on the basis of historical precedence and political negotiation. Private universities, on the other hand, can apply for AFI, which is tied to a "best-students formula", and is distributed according to an institutions' ability to attract the 27,500 highest scoring students in the PSU exam (Holm-Nielsen, 2005).

Universities can also apply for other institutional public funding, such as *Fondos de Desarrollo Institucional* (FDI) – which provides for infrastructure investment at universities and contributes to 10% of CRUCH universities' funding. Similarly, the *Fondos del Programa de Mejoramiento de la Calidad de la Educación Superior* (MECESUP) provides incremental funding to projects in technical training institutions in fields of high demand. For research purposes, universities can also apply for funding from *CONICYT*<sup>51</sup> which aims to strengthen Chile's science base and research infrastructure (Holm-Nielsen, 2005).

Students' fees are paid by students directly to universities. To assist, the state provides two types of student loans:

<sup>&</sup>lt;sup>51</sup> CONICYT is the National Commission for Scientific and Technological Research in Chile. Its main function is to advise the President on scientific matters and to provide scholarships and to fund research and development project.





- The University credit solidarity fund (FSCU), for which only students enrolled in CRUCH universities are eligible. This is an income-contingent loan and is currently characterised by very low recovery rates.
- The State Guaranteed Loan system (CAE), to which students from non-CRUCH institutions (technical or academic) have access, is targeted at low-income individuals demonstrating academic merit (based on PSU scores). The CAE is mainly given to students coming from the two lowest income quintiles in Chile (OECD, 2012).

Although grants and loans do not always cover the total real cost of tuition fees and other expenditures related to higher education, they are currently available to approximately 60% of low income students.

Some institutions - especially CRUCH universities – also provide a range of fee-based services to the state, including, for example, advice on issues such as seismology or meteorology.

# 6.4 India

### 6.4.1 Overview

Like Brazil, India allocates around 14.2% of the government's budget to education (The World Bank, 2015), however this funding is strongly skewed towards the secondary sector. Higher education mainly consists of universities which can be subdivided as either affiliating universities or unitary universities. Affiliating universities form a network of smaller colleges and institutions providing undergraduate education with a main institution within each network focussed on postgraduate programmes and research activities. Unitary universities are stand-alone institutions that provide undergraduate and graduate programmes (EP-Nuffic, 2015).

## 6.4.2 Structure and funding of the TVET sector

Technical and vocational education and training in India, can be pursued at either the secondary or tertiary level. After 10 years of education, students can opt to enter the vocational stream at secondary schools. These programmes last for two years, and lead to a Standard XII diploma. This diploma grants access to higher education, including bachelor's programmes, although access is generally limited to identical or similar study programmes in tertiary level polytechnics. Outside of secondary schools, 1 to 3 year vocational courses are offered by state-owned Industrial Training Institutes (ITI) privately-owned Industrial Training Centres (ITC) and Polytechnics, on a full-time or part-time basis. Presently only 2% of the total workforce in India have undergone skills training (FICCI, 2011). This led to the formulation of the "National Skills Policy" in 2009 which set a target of imparting skills training to 500 million, by 2022.

The National Skill Development Coordination Board ensures quality control in Vocational Training and Education. It plans to set up 1500 new ITIs and 5000 skill development centres, across the country as well as a National Vocational Education Qualifications Framework (NVQF) for affiliations and accreditation in the vocational, educational and training systems (FICCI, 2011). The Directorate General of Employment & Training (DGE&T) also initiated the Craftsman Training Scheme in 1950 by establishing 50 Industrial Training Institutes (ITIs) for imparting skills in various





vocational trades to meet the manpower requirements for technology and industrial growth of the country. As at January 2007 there were 1 896 Government ITIs in the country, out of which 500 ITIs are being upgraded into Centres of Excellence under a Scheme launched in June 2005. The up-grading of the remaining 1 396 Government ITIs has been done through Public Private Partnerships since 2007-2008 (FICCI, 2011).

In addition to the programmes offered by TVET colleges, apprenticeship programmes are also offered. The National Scheme for Apprenticeship Training is available to engineers, technicians and upper secondary vocational students and organisations (UNEVOC, United Nations Educational, Scientific and Cultural Organisation, 2015).

The formal TVET system is financed by the government through the Ministry of Human Resource Development. State Departments of Education are responsible for allocating funding in their respective regions. Non-formal TVET programmes are funded by a number of actors, including the Ministry of Labour and Employment, private institutions, and industry.

Other state and private sector organisations also provide funding for students enrolled in TVET programmes. For example, students enrolled in apprenticeships under the National Scheme for Apprenticeship Training are paid a stipend to cover costs. The National Skills Development Corporation (NSDC) provides skills development funding through loans or grants and provides financial incentives (e.g. tax breaks) to selected private sector initiatives.

### 6.4.3 The workplace skills system

In addition to the above programmes, the Government works closely with business to identify opportunities for skills development, including in the workplace.

The Modular Employable Skills (MES) and Skills Development Initiative Scheme (SDIS) adopted by the Directorate General of Employment and Training (DGET), Ministry of Labour and Employment, Government of India, provides a new strategic framework for skills development for early school leavers and existing workers, especially in the unorganised sectors. These schemes are implemented in close consultation with industry, micro enterprises in the unorganised sector, State Governments, experts and academia. The main objective is to provide employable skills to school leavers, existing workers and ITI graduates; amongst others. Existing skills of the persons can also be tested and certified under this scheme. Priority is given to those above 14 years of age, who have or been withdrawn as child labourers. This will enable them to pick up employable skills in order to be gainfully employed (FICCI, 2011).

In addition, SSCs (Sector Skill Councils) have been set up across various sectors such as automobiles, retail, security services, food processing, to bring all the stakeholders together on one platform. The NSDC plays a lead role in setting up these SSCs. As of 2011, the NSDC had approved 39 PPP proposals, including six proposals for setting up Sector Skill Councils (FICCI, 2011).





#### Figure 7: PPP skills development projects funded by the Indian NSDC up to 2011

23 of the 26 projects awarded in PPP mode under the aegis of NSDC						
Partner's name	Project cost (INR million)	No. of trainees in 10 years	Sectors targeted			
Fides Global Academy Pvt. Ltd.	245.4	1.7 million	BFSI, BPO, unorganized sectors			
Everonn Skill Development Limited	1,537.6	11.7 million	Tourism, hospitality, health care services, organized retail, media and entertainment, IT and ITeS, textile, construction and automotive			
Talent Sprint Education Services Private Limited	150.0	0.5 million	IT, ITES & BFSI			
BASIX Academy for Building Lifelong Employability Limited (B-ABLE)	331.8	1.0 million	Construction, tourism, banking, rural farm, hospitality, food processing			
Centum Learning Ltd.	162.7	11.6 million	Automobile, organized retail, telecom, healthcare, and building and construction			
Edubridge Learning Pvt. Ltd. (ELPL)	54	0.7 million	IT-BPO, microfinance, banking and insurance, organized retail, sales and marketing in rural areas			
GRAS Hospitality Services Ltd.	800	1.3 million	Organized retail, health care services, building and construction, automobile/ auto component, tourism hospitality and travel trade, electronics, IT, banking and insurance, spoken English			
Gram Tarang Employability Training Services Private Limited (GT)	145	21,000	Production-related (50%) and construction, tailoring, plumbing, textiles, security guards, retail, computer-related (remaining 50%)			
Indian Institute for Gems and Jewellery (IIGJ)	111.4	18,000	Jewelry design, stone-setting, diploma in jewelry-making			
Red Hat Investments Private Limited (RHIPL)	220	0.74 million	Agriculture (para-agri experts), animal husbandry (para-vet experts), food processing, transportation and rural service provider			
IL&FS Cluster Development Initiative Limited (IL&FS CDI)	2168.2	1.95 million	Textile, construction, leather and leather products, automotive and auto components and logistics, general engineering and service sector			
iSTAR Skill Development Private Limited (ISDPL)	13.2	0.13 million	Retail and BFSI			
Pratham Education Foundation, a 'not for-profit' entity	230	1.69 million	Education /skill development services, hospitality, construction, organized retail, electronics/hardware, automotive work, agriculture			
International Association for Human Values (IAHV) (an NGO)	5.1	128	<ul> <li>Self-development training and technical training in garment industry, driving, computer operation, mobile repair, electrician-training, plumbing, domestic BPO, etc.</li> </ul>			
Managerial Excellence Resource Centre (MERC)	30	96,665	Finance, retail, sales-related, ICT, and gems and jewelry			
TMI Input & Service Pvt. Ltd.	292.1	0.53 million	BFSI, FMCG, telecom, pharma, hospitality, IT&ITES, e-learning & Education			
Empower Pragati Vocational & Staffing	259.7	2.1 million	ITES/BPO, tourism, hospitality and travel, organized retail, informal sector			
Construction & Real Estate Developers Association of India (CREDAI)	185.3	97,920 over 12 years	Construction			
Indian Institute of Skill Development Pvt. Ltd. (IISD)	163.5	0.24 million	Automotive (light Engg.), building construction, real estate and retail			
Globsyn Technologies Ltd.	125.1	0.35 million	ITES, electronics and IT hardware, and organized retail			
Laqsh Job Skills Academy Private Limited	101	1.054 million	IT, ITES/BPO, retail, hospitality, banking and education			
Laurus Edutech Private Limited	536	1.11 million, 42,000 trainers	Automotive, construction, textile, electronics and IT hardware and education and skill development sector (TOT for specified sectors)			
IIJT Computer Education Private Limited ( a subsidiary of TeamLease)	836.1	1.80 million (Yr 1 - 11,836; Yr 5 - 1,44,173)	IT, retail, BFSI, health care, hospitality, manufacturing and construction			
TOTAL	8703.2	40.428 million				





Source: (FICCI, 2011).

### 6.4.4 Structure and funding of the university sector

India has seen a rapid increase in the number of Universities<sup>52</sup>/University level Institutions and Colleges since independence in 1947. The number of Universities increased from 20 in 1950 to 677 in 2014. The sector consists of 45 Central Universities of which 40 are under the purview of the Ministry of Human Resource Development, 318 State Universities, 185 State Private universities, 129 Deemed to be Universities, 51 Institutions of National Importance (established under Acts of Parliament) under MHRD (IITs - 16, NITs – 30 and IISERs – 5) and four Institutions (established under various State legislations). The number of higher education colleges has increased from 500 in 1950 to 37 204 by March, 2013 (MHRD, 2015).

The University Grants Commission (UGC) is a statutory organization established by an Act of Parliament in 1956 for the coordination, determination and maintenance of standards of university education. The UGC Act empowers the Commission to allocate and disburse its funds, to universities, colleges and other institutions of higher education in the form of Non-Plan<sup>53</sup> (Maintenance) and Plan<sup>54</sup> (Development) grants received from the Central Government. About half of the Plan Grants and 65% of the Non-Plan grants go to the 45 'Central Universities'.

In addition to these core grants, the government has also established the Central Scheme to Provide Interest Subsidy on Educational Loans (CSIS). This scheme is targeted at the 'economically weaker sections' (EWS) of society. Furthermore, the Indian Banks Association (IBA) has formulated a model educational loan scheme which encourages private banks to provide loans to deserving/meritorious students pursuing higher education in India and abroad. The scheme is not means tested – but based on the likely potential earnings of the applicant – and is therefore only applicable for studies in recognised Technical/Professional Courses in India. The interest rates charged on these educational loans is expected to be in line with the prime lending rate and it comes with a one-year debt moratorium and an extended payment period (IBA, Indian Bank's Association, 2015). Banks may not request collateral for loans up to Rs 400,000 (US\$8,105); and in 2010, the Higher Education Bureau of the Ministry of Human Resources announced that it would pay the interest for low-income students during the study and grace periods.<sup>55</sup>

Some of the risk of these loans can be covered by the Government's Credit Guarantee Scheme for Educational Loans. The Fund provides a guarantee of up to 75% of the defaulted amount or such amount as may be specified by the Fund. Any education loan with interest of more than 2%

<sup>&</sup>lt;sup>54</sup> The plan expenditure is mainly for development purposes such as the building of new schools or the introduction of a new programme in a school (Varghses and Tilak, 1991), p. 17-18.
55 (Marcucci & Usher, 2012, p. 35)





<sup>&</sup>lt;sup>52</sup> In India, "University" means a University established or incorporated by or under a Central Act, a Provincial Act or a State Act and includes any such institution as may, in consultation with the University concerned, be recognised by the University Grants Commission (UGC) in accordance with the regulations made in this regard under the UGC Act, 1956.

<sup>&</sup>lt;sup>53</sup> The non-plan expenditure is generally for maintenance of on-going programmes as well as of buildings, furniture and equipment (Varghses and Tilak, 1991), 17

over the prime lending rate cannot be covered under the Fund. The Credit Guarantee Fund reduces the risk burden on the banks, allows for more educational loans to be issued at reasonable rates and stimulates competition amongst financial service providers.

## 6.5 Malaysia

### 6.5.1 Overview

The Malaysian government spends a greater proportion of its budget on education than South Africa. In 2011, 21% of the Malaysian government's budget was allocated to education, compared to 18.9% in South Africa. More importantly, a much smaller proportion of government education expenditure was allocated to primary education (29% in Malaysia versus 41% in South Africa) and a much larger proportion to tertiary education (37% in Malaysia versus 12% in South Africa). Expenditure on secondary education is approximately the same (Central Intelligence Agency, 2015).

The World Bank describes the Malaysian Education Sector as one of the most centralised systems in the world (Clark, 2014). Primary and secondary education falls within the mandate of the Ministry of Education while the Ministry of Higher Education (MOHE) is responsible for further and higher education. Community Colleges and Polytechnics are the responsibility of the Malaysian Ministry of Higher Education.

From the literature it is difficult to distinguish between the funding of the university sector (Public Universities and Technical University Colleges) and the post-secondary TVET sector (Polytechnics and Community Colleges). For this reason, the funding of the higher education system, in its entirety, is dealt with separately in Section 6.5.5.

### 6.5.2 Structure of the TVET sector

General secondary education consists of 3 years junior secondary schooling culminating in the *Penilaian Menengah Rendah*<sup>56</sup> which permits the student access to senior secondary school or a vocational college (EP-Nuffic, 2015). Recently, a vocational track was introduced at junior secondary level for students who know that they will be following the technical and vocational stream. A two year programme at these institutions earns the pupil the Malaysian Certificate of Vocational Education. This certificate also allows these students to progress to Polytechnics or Community Colleges (not to be confused with the proposed South African Community Colleges), but not to Universities.

At a post-secondary level, Malaysia has 19 Polytechnics and 34 Community Colleges. Polytechnic and Community College enrolments amounted to 89 805 and 21 468 respectively in 2013; small numbers compared to South African TVET colleges. There are two types of qualifications at the Polytechnics. The first is a Polytechnic Certificate for which the Malaysian Certificate of Education (Vocational) is required. Once this certificate is attained, the student can either continue with the

<sup>&</sup>lt;sup>5656</sup> Junior secondary school test





Polytechnic Diploma or enter employment. Study duration for the certificate is two years while an extra year is required for the diploma.

Community Colleges are similar to Polytechnic Colleges in that they also offer Certificate and Diploma courses. Short courses are, however, additionally available and the range of disciplines is wider. The primary distinction is that Community Colleges are more focussed on life-long learning and their student population therefore tends to be older (Government of Malaysia, 2010).

## 6.5.3 The workplace skills system

Even though Malaysia offers a wide range of affordable higher education pathways to its youth, more than 100 000 secondary education leavers (approximately 25%) enter the workforce each year without pursuing further education. As a result, only 28% of the total Malaysian workforce is currently employed in the higher skilled jobs bracket, reflecting the low level of educational attainment among a large segment of the workforce. There is an urgent need to upgrade and reskill the existing workforce, to move the economy up the value chain. The government aims to have 33% of the workforce employed in the higher skilled jobs bracket by 2015, and up to 50% by 2020. This will require greater involvement of the private sector (Ghazali, 2012).

To achieve this, the coverage of the Skills Development Fund will be expanded to promote upskilling and retraining the workforce. It will be extended beyond school leavers to include existing workers. Recognising that not all workers have enough funds to pay for their own training, preferential loans will be provided by the fund to pay for training costs incurred in skills upgrading (Ghazali, 2012).

In addition, The Recognition of Prior Learning (RPL) programme will be expanded with the goal of formally recognising the experience and expertise of workers, and encouraging and rewarding lifelong learning among the workforce. The programme will enhance the career prospects of the workforce by conferring the Malaysian Skills Certificate on workers who do not have any formal certification, but who have obtained relevant knowledge, experience and skills in the workplace (Ghazali, 2012).

# 6.5.4 Structure of the university sector

In 2013, there were 560 359 students enrolled in public universities. The 17 public universities include five Technical University Colleges, which are the equivalent of South African Universities of Technology. Students that enter technical university colleges either come from vocational colleges (Secondary level) or polytechnics (Post-secondary level).

The Universities and University Act (UUCA) in Malaysia (1971) provides the Malaysian government with full authority to make decisions regarding student enrolments, staff appointments, educational programmes and financing at Higher Education Institutions (The World Bank, 2007). The federal government therefore exercises tight control over public universities. Whereas there are plans to provide more decision-making power at the institutional level, the Government requires that specific internal control mechanisms are in place before granting any institution autonomous status (Ahmad, Farley, & Kim-Soon, 2013).





On the other hand, the Private Higher Education Act not only allows the participation of private HEI in the sector, but also provides these institutions with various incentives and tax exemptions. This support has led to an increase in the number of private institutions from 354 in 1996 to 551 in 2010. Private HEIs play a critical role in widening access to higher education, with the majority of students currently enrolled in these types of institutions. In Malaysia, these institutions focus on high-demand undergraduate programmes such as business and engineering. They have a reputation for providing high quality teaching and financially sustainable learning facilities to students (Ramli & Mohamad, 2013).

## 6.5.5 Funding of higher education institutions

All public HEIs in Malaysia dependent on government as their primary source of funding. According to the World Bank, the allocation of funding to individual institutions is largely based on negotiations between the MOHE and the HEIs (The World Bank, 2007). HEIs submit an annual budget proposal based on enrolments to the MOHE which is then consolidated and presented to parliament. The Ministry of Finance then makes the final allocation to the MOHE who then transfers the funds to the individual institutions. The amount allocated to the MOHE and ultimately to the institutions is usually based on the previous year's allocation. Despite efforts to change to an output-oriented budget allocation mechanism, the current system does not link budget allocation to performance or the individual university cost structure and there is therefore little incentive for universities to manage their resources effectively and achieve better labour market results (The World Bank, 2007).

Even though funding for public universities has increased over time to match the demand for higher education graduates, Malaysia has also increased the number of their public universities and consequently decreased the funds allocated per university. This problem was exacerbated by the financial crisis of 1997 and the fact that new facilities require additional operational and development funding compared to the established universities (Ahmad, Farley, & Kim-Soon, 2013).

To compensate for the reduction of public expenditure on public universities in Malaysia, institutions have been encouraged to set up income generating subsidiaries and collaborate with private sector entities. Some of the alternate sources of income identified include investments, campus services, alumni fundraising and royalty income form commercialised research and patents (Ahmad, Farley, & Kim-Soon, 2013). However, Malaysian universities have largely failed to attract interest from the private sector.

Likewise, student fees currently contribute only 10% to total public HEI funding. Even though government's intention is to increase the autonomy of HEIs, especially with regards to financial decisions, the setting of student fee levels is beyond the authority of the institution. Any student fee level changes have to be approved by the National Council on Higher Education (Ahmad, Farley, & Kim-Soon, 2013).

The Malaysian government introduced a student loan scheme in 1997 which is managed by the National Higher Educational Fund. This scheme is based on a cost-sharing approach in which a student's tuition fees, equipment costs and/or living expenses can be covered by the loan (Ahmad, Farley, & Kim-Soon, 2013). In 2008, the interest rate on this scheme was 3%. A major difference





between this system and NSFAS is that it makes no distinction between students at public and private institutions. Between 1997 and 2008, a total of 1.25 million students received loans from the PTPTN; approximately 80% of the total number of students enrolled during that period (Ramli & Mohamad, 2013).

In their report on the Malaysian Knowledge Economy in 2007, the World Bank highlighted several problems with the PTPTN. Firstly, there is no maximum income criteria. Secondly, the schedule of loan payments favours university students, and is insufficient to cover the costs of technical colleges and polytechnics. Thirdly, the repayment schedule stipulates equal monthly payments over the entire 10 or 20 years of the loan period. This means that while repayments are relatively small at the end of the period, they are very large at the beginning, making it difficult for recent graduates to fulfil their obligation. It follows that the performance of the PTPTN has been poor and default rates are high.


# 7 SUMMARY AND CONCLUSION

This international review provides a snapshot of the different institutional and funding mechanisms in place to support the post-school system across a wide range of developed and developing countries. It also raises some particular questions around how to develop and finance an equitable and accessible PSET system in South Africa.

Like South Africa, most countries are confronted with a rapidly growing demand for tertiary education, and severe limits in terms of the capacity and funding available to provide this education. Moreover, most countries are looking to find ways to bring poor or previously disadvantaged communities into the education and employment net, largely through state-funded loan and scholarship schemes. The role of the vocational system is increasingly gaining prominence as a means of providing unemployed youth and adults with the skills needed in the workplace, and there has subsequently been a concerted effort to grow this sector worldwide.

Despite these similarities, there are a few stark differences between the structure of the PSET system in most of the comparator countries, and South Africa:

- Firstly, in most countries, focussed vocational training begins at the secondary level, and there are subsequently much stronger links between the school system and the workplace. Whereas tertiary vocational colleges exist in all countries, the emphasis is on streaming students into the vocational system much earlier, and using the secondary system to actively direct learners into specific vocations. In OECD and G20 countries, 41% of all upper secondary education students are enrolled in a VET programme.
- Secondly, it would seem that there is a much higher dependence on the private sector in the delivery of tertiary education, particularly in the four case-study countries. In both Brazil and Chile, private sector institutions account for the vast majority of university and technical colleges, and in India and Malaysia, the number and contribution of private institutions has growth rapidly in recent decades.
- Thirdly, the review highlights the importance of the involvement of the private sector for the success of the vocational and workplace skills systems. This includes private sector involvement in the development of curricula and the certification of TVET and workplace skills programs. In contrast, countries that do not have programmes aligned to industry needs find their graduates struggling to find work in the areas that they have trained.

With regards to the funding of the post-school education system, all countries provide direct state support to public institutions, as well as a mix of scholarships and loan arrangements for students. There are however a number of interesting innovations and lessons which emerge from different country experiences:

• By using a mix of scholarship (grant) and loan financing, it is possible to structure the funding arrangement for student fees to target specific categories of students and to maximise the number of students that can be supported. Brazil, for example, provides





partial to full scholarships to students, on a means tested basis, but then allows all students to make-up the difference through a subsidised loan scheme. To further improve the targeting of state support, Chile directs scholarships for vocational programmes at individuals who are already beneficiaries of other government welfare programmes. As higher education graduates typically earn substantially more within their lifetimes than the rest of the population, the key challenges is to design a system whereby graduates contribute meaningfully to their own education and are incentivised to make cost effective choices, without causing the system to become prohibitively expensive for poorer students.

- Deferred charge schemes are widely used to incentivise students to make education choices that are effective in terms of study costs and future earnings while minimising the long-term cost to the state. While there are no countries that apply a formal graduate tax, countries such as Australia, the UK, Chile and New Zealand provide repayment terms that are income contingent and only payable above certain thresholds. Other countries provide interest subsidies to economically disadvantaged students (e.g. Brazil or Thailand). Tax credits provide an indirect subsidy to either households or businesses and are commonly used within the United States. The differential pricing of tuition fees is also commonly used; with lower fees charged on disadvantaged students (either economically or due to gender or disability), or by charging higher fees on international students (as applied in Sweden, Canada, England, Australia).
- To promote competition between institutions, and maximise overall enrolments, most countries provide support to both private and public institutions. In some countries these schemes are differentiated. In Chile, for example, funding for private institutions is provided on a competitive basis, based on the number of top students that they attract, whereas public funding is allocated through more conventional means. To further reduce reliance on the state system, Malaysia provides specific incentives to encourage the development of private educational institutions.
- Likewise, in most countries, official student loan schemes are available for students at both private and public institutions. In some countries, such as Chile, different loan programmes have been structured for public and private students, though both are well-targeted at the poorest students. In Malaysia, the national student loan programme makes no distinction between students at public and private institutions.
- The private sector is also encouraged to fund tertiary education. In some cases this is
  mandatory, such as the industry-specific payroll levy in Brazil; while in Chile, tax rebates
  are used to incentivise enterprises to spend on training or support training institutions. In
  India, the banking sector has developed a model educational loan scheme to encourage
  private banks to provide loans to meritorious students pursuing higher education, which is
  underwritten by a partial, public credit guarantee scheme.
- Finally, attempts to diversify the funding bases of public higher education institutions, have been largely unsuccessful. Most public institutions rely on public sector grants and student





fees, and their ability to provide fee-earning services to government and business is limited. Rather, most countries have sought to improve efficiencies within the sector and reduce its reliance on public funds, by expanding private investment in the provision in post-school education and moving away from an input-based funding approach, based on student enrolments, towards competition and institutional performance (output-based funding). This enables the state to focus its scarce resources on supporting the poorest or most deserving students.



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## APPENDIX 1 PSET PROGRAMME OFFERINGS IN SOUTH AFRICA

This section provides a discussion on the different programmes provided by each of the main categories of post-school education and training (PSET) institutions in South Africa, as well as how these programmes are integrated into the National Qualifications Framework.

## A 1.1 National Qualifications Framework

The South African education sector is most easily understood within the National Qualifications Framework (NQF). The NQF was established by the NQF Act 67 of 2008 as a system for the classification, registration and publication of articulated and quality-assured national qualifications and part-qualifications. The framework consists of ten levels representing learning achieved in ascending order and is comprised of three sub-frameworks.

The first sub-framework is the General and Further Education and Training Qualifications Subframework (GFETQSF). The sub-framework includes programmes on levels 1 – 4 of the NQF which seek to fulfil the South African citizen's constitutional right to basic and further education. The programmes within this sub-framework are therefore aimed, firstly, children and adolescents within the traditional schooling system and, secondly, at adolescents and adults who have left the schooling system who wish to commence or continue their education. The National Senior (Vocational) Certificate can be achieved by the latter group who wish to follow the vocational route through the TVET college system. Alternatively, if an academic route is preferred, the National Senior Certificate for Adults can currently be achieved through the Public Adult Learning Centres<sup>57</sup> (PALCs). The programmes in this framework are therefore either academic or vocational in nature, but never occupational (Umalusi, 2014).

Occupational programmes fall within the Occupational Qualifications Sub-Framework (OQSF). These programmes aim to train post-school adults and are designed to integrate knowledge, practical and workplace learning. Different programme qualifications can range from level 1 up to and including level 8 of the NQF. The Ministerial Determination allows for only one qualification type on the OQSF, the Occupational Certificate (Quality Council for Trades and Occupations, 2013).

The third and final sub-framework of the NQF is the Higher Education Qualifications Subframework (HEQSF). Any qualification that falls on level 5 to 10 of the NQF, other than the occupational programmes under the OQSF, falls within the HEQSF. Universities are the primary vehicle through which these programmes are offered. This encompasses a wide range of programmes; from the Higher Certificate at NQF 5 through to the Doctorate degree at NQF 10. Although TVET colleges primarily offer programmes within the GFETQSF, the National N Diploma, offered through the NATED programme at these colleges is an NQF 5 qualification and therefore falls within the HEQSF. The HEQSF is implicitly designed to provide three broad qualification routes; i.e. the vocational, the professional and the general. The TVET College National N diploma

<sup>&</sup>lt;sup>57</sup> The PALCs will be re-established as Community Colleges according to the White Paper.





along with the other higher education certificates and diplomas attained through universities are said to fall on the vocational route of higher education while Bachelor's and Master's degree etc. would fall on the professional or general route.

The qualifications discussed above provide a high-level overview of the different vocational and academic paths and opportunities available to South African students that have left school. Primarily, these qualifications are provided by universities, TVET colleges, and PALCs. Even though the primary institutions for the provision of vocational programmes are TVET Colleges and the primary institutions for professional or theoretical studies are universities, it is not always clear cut. Universities, predominantly universities of technology, specialise in higher education vocational programmes as well. This makes an international review of funding practices to postschool institutions particularly challenging as the programme or specialisation distribution institutions in other countries are most likely different to South Africa (Department of Higher Education and Training, 2013).

#### A 1.2 Programme offering: TVET in South Africa

The majority of TVET College enrolments occur through the following two broad programmes:

- National Certificate Vocational (NC(V)) programmes integrate theory and simulated practical training. They are designed to provide learners with a broad range of knowledge and practical skills within specific disciplines such as business, management and occupational trades. The three years and associated three levels of the NC(V) programmes cover NQF 2, NQF 3 and NQF 4 of the NQF; which corresponds to Grade 10, 11 and 12 in the schooling system. The curriculum is structured to provide the student with the necessary training, education and experience for specialised mid-level occupations (Human Resource Development Council for South Africa, 2014).
- National Accredited Technical Education Diploma (NATED) were historically the flagship programmes of the TVET / FET sector, and acted as the theoretical component of the artisanal training system for apprentices employed by private sector firms. The NATED engineering studies programme consists of 6 levels (N1 N6). Students that have completed primary education (Grade 9 or ABET level 4), can enter N1 of the NATED engineering programmes. These programmes are presented over three levels (N1, N2 and N3) over three trimesters and cover NQF levels 1, 2 and 3.

Student that have passed N3 or those with the National Senior Certificate (Grade 12) meet the requirements to enter N4 NATED programmes. N4 to N6 of NATED engineering studies is also presented over 3 trimesters but should be supplemented with 18 to 24 months workplace experience (which some students struggle to obtain in practice). If this is completed, the student will be in possession of the National N Diploma, at NQF level 5.

A National N Diploma can also be achieved in NATED business and services programmes. These programmes are only presented at levels N4 - N6 and a student is required to be in possession of a National Senior Certificate for admission. The three levels are presented over three semesters and after completing the 18 to 24 month work place training, the student is also in possession of an NQF 5 qualification.





TVET colleges also offer the following programmes, often in partnership with private or state institutions:

- Learnerships are structured programmes that combine theoretical knowledge with practical workplace experience leading to a qualification registered on the National Qualifications Framework
- **Skills programmes** are like Learnerships in that they combine structured courses with practical workplace experience learning, but are comprised of shorter courses based on a cluster of unit standards, and are offered to build more specific skills and competencies.
- **Apprenticeships** are largely workplace-based training programmes for the occupational trades, although some theoretical training is often delivered at TVET colleges.
- National Higher Certificate (NQF 5) programmes prepare learners for entry into university.

The NQF levels of these programmes as well as the admission requirements are programme specific and are determined on a case-by-case basis.

TVET colleges target students that have left school but want to learn vocational skills that will directly prepare them for specific employment. It also offers school leavers a second chance to reenter the academic system. Students that complete the National Higher Certificate, level 4 of NC(V) or N6 of NATED also fulfil the admission requirements for specific programmes at universities and can therefore continue to higher education.

It is clear that the TVET college system in South Africa plays a pivotal role in matching the supply and demand for skills in the labour market. As a result, the system should be dynamic and flexible; making effective governance, design and funding arrangement critically important.

#### A 1.3 University sector

Universities in South Africa are mandated to (a) provide people with high-level skills preparing them for the demands of the labour market, (b) develop, assess, validate and find applications for new knowledge and (c) provide opportunities for social mobility and the strengthening of social justice and democracy.

The minimum requirement for admission into a South African University is a NSC (NQF 4). However, depending on the level of achievement in the NSC, a student can be admitted to university programmes that that lead to a National Higher Certificate (NQF 5), National Diploma (NQF 6) or a bachelor's degree (NQF 7). Universities are also mandated to set additional requirements for specific study programmes. Programmes presented include:

- National Higher Certificate (NQF 5): Entry level higher education qualification. It is
  primarily vocationally oriented and industry specific. It aims to provide students with the
  basic introductory knowledge, cognitive and conceptual tools and practical techniques for
  further higher education studies in their chosen field of study.
- Advanced Certificate (NQF 6): Once students have attained the National Higher Certificate, they are able to either continue with an Advanced Certificate or a Diploma. An





Advance Certificate is generally focussed on the further emphasis on the general principles and their application within a field of study.

- Diploma (NQF 6): This programme will be more advanced than the National Higher Certificate and therefore requires better achievement in the NSC or alternatively requires students to have completed a relevant National Higher Certificate programme. It is also vocationally oriented and industry specific, and will typically include work-integratedlearning elements.
- **Bachelor's Degree (NQF 7):** The highest level of achievement in the NSC is required by the programmes that lead to a Bachelor's degree. Bachelor's Degree programmes typically take three years to complete and aim to equip students with the knowledge base, theory and methodology of disciplines; enabling them to demonstrate initiative and responsibility in an academic or professional context.
- Advanced Diploma (NQF 7): A student that has achieved a Bachelor's degree, wishing to broaden the vocational base of his or her knowledge or a student that wants to advance from a Diploma can embark on programmes to attain an Advanced Diploma. This programme focusses on vocational and professional development and allows for further specialisation.
- Professional Bachelor's Degree (NQF 8): Admission requirements are the same as for a normal Bachelor's Degree, however universities set programme specific additional requirements. The degree takes four years to complete and tends to be more practical and specialised in content than the normal Bachelor's degree, yet still retains the theoretical content.
- **Postgraduate diploma (NQF 8):** An appropriate or relevant Bachelor's Degree is required to be admitted to a Postgraduate Diploma programme. These programmes are multi- or interdisciplinary and aim to enrich a student's knowledge of a specific discipline or profession. These programmes are usually aimed at working professionals and involves advanced reflection and development by means of a systematic survey of current thinking, practice and research methods in an area of specialisation.
- **Bachelor's Honours Degree (NQF 8):** A student with a Bachelor's Degree can also opt for an honours degree rather than the Postgraduate Diploma. Honours degrees are aimed at students that wish to specialise in the field of their undergraduate studies and an honours degree prepares them for further research-based post-graduate studies.
- Master's Degree (NQF 9): If a student has attained an Honours degree and wishes to advance his or her academic qualification, a Master's Degree is the only option. A Master's Degree primarily aims to educate and train researchers at an advanced level and/or prepare graduates for advanced and specialised professional employment.
- Doctoral Degree (NQF 10): A Doctoral Degree, as in all countries, is the pinnacle of academic achievement. If the student is in possession of the appropriate Master's Degree, and is admitted into a Doctoral Programme, he or she will be required to undertake research at an advanced academic level and ultimately produce a thesis that is assessed and accepted.

Due to the presence of three types of universities; i.e. "Traditional", Universities of Technology and Comprehensive Universities, South African students are provided the opportunity to embark on





higher education programmes that are not only theoretical and research based, such as the traditional bachelor's degree programmes, but also vocational and technical such as the various diploma and certificate programmes.

## A 1.4 Adult Basic Education

Community Colleges (and the former PALCs which are now referred to as Community Learning Centres (CLCs) under Community Education and Training Colleges (CET Colleges) and other Adult Education Centres that precede them) are intended to cater for those who do not qualify for universities or TVET colleges; particularly for those who did not complete or attend school. In addition, Community Colleges will be expected to be diverse institutions that provide a combination of formal and informal programmes that are responsive to the needs of the community they service, and help create a wider environment and culture of lifelong learning.

However, the primary objective of Community Colleges (at least in the short to medium term) will remain General Education (ABET 1-4) and Senior Certificate programmes similar to those currently presented by PALCs. These programmes, in cooperation with the Department of Basic Education KhaRiGude literacy programme aim to, firstly, eradicate adult illiteracy and, secondly, provide youth and adults with pathways to other formal education programmes within other institutions such as TVET colleges and universities, as well as to the formal labour market.<sup>58</sup>

In addition, Community Colleges will present a range of vocational and occupational programmes in cooperation with local authorities, SETAs, community organisations, industry and other Government Departments. Non-formal programmes will be determined by the needs of the local context, but will provide learners with key practical, civic or life knowledge and skills.

## APPENDIX 2 TRENDS IN SOUTH AFRICAN UNIVERSITY ENROLMENTS, GRADUATES AND RESEARCH

One of the most important changes observed in universities in South Africa is the change in the demographics of the student population. This could partly be ascribed to specific incentives in the funding framework that was introduced in 2004/05. The funding framework specifically provided a financial incentive in the form of the institutional grant for disadvantage to universities to enroll more African and Coloured students. The shift in the demographics is shown in **Error! Reference source not found.** . Over the period 2000 to 2013 African enrolments increased from 58% to 71% and coloured enrolments from 5% to 6% of total enrolments.

<sup>58</sup> (DHET D. o., 2014)





Figure 8: Change in the demographic profile of university students in South Africa, 2000 to 2013



Figure 9: Average annual growth rates in graduates compared to average annual growth rates in enrolments (efficiency)



Source: (DHET, Higher Education Management Information System, 2015a)



**Error! Reference source not found.** shows the trends in university spending by government over the period 2000 to 2015. The percentage of GDP spent on university education steadily increased form 0.68% in 2004/05 to 0.74 in the 2015/16 financial year. In 2015/16 the percentage declined to 0.72%.

**Error! Reference source not found.** shows the ratio of full-time equivalent (FTE) students to FTE instruction/ research staff. This ratio increased from 20.0 in 2000 to 27.4 in 2013, leading to an increased workload for academic staff. This increase can be attributed to the huge growth rate in university enrolments whilst government subsidy did not keep pace to enable universities to appoint academic staff at a rate that would keep pace with student growth.



Year	Financial Data in Nominal Terms				
	GDP (R'million)	Total State Finance (R'million)	State budget for universities (R'million)	State budget for universities as a % of GDP	State budget for universities as a % of Total State Finance
2004/05	1 449 020	368 459	9 879	0.68%	2.68%
2005/06	1 613 812	416 684	10 780	0.67%	2.59%
2006/07	1 832 763	470 193	11 755	0.64%	2.50%
2007/08	2 075 695	541 443	13 057	0.63%	2.41%
2008/09	2 303 553	635 953	15 120	0.66%	2.38%
2009/10	2 440 163	747 197	16 742	0.69%	2.24%
2010/11	2 752 118	809 923	19 108	0.69%	2.36%
2011/12	2 995 530	891 198	21 997	0.73%	2.47%
2012/13	3 301 374	969 365	24 131	0.73%	2.49%
2013/14	3 520 268	1 055 075	26 082	0.74%	2.47%
2014/15	3 789 630	1 142 562	28 070	0.74%	2.46%
2015/16	4 191 752	1 222 345	30 338	0.72%	2.48%

Table 14: Spending on HE as a percentage of GDP IN 2012

Source: DHET (2015b)





**Source:** (DHET, Higher Education Management Information System, 2015a)

Concerns are often expressed with regard to the funding of historically disadvantaged universities. The HDI universities include: University of Fort Hare; University of Limpopo; Mangosuthu University of Technology; Sefako Makgatho Health Sciences University; University of Venda; Wlater Sisulu University; University of the Western Cape; and University of Zululand. The DHET has made drastic improvements in the infrastructure allocations to the HDIs. For the period 2012 – 2015 infrastructure allocations to HDIs amount to R2.5 billion of the available R6 billion. This represents





42% of the total funds whilst the HDIs only represented 15% of the actual teaching input units in 2013 (see Figure below).





Source: (DHET, 2015d)

Furthermore all the HDIs have received much higher increases in their block grants compared to the average for all universities over the period 2004/05 to 2014/15 as a result of the introduction of the current funding framework. (See Figure 12 below).

One of the core functions of universities is the production of research outputs. The current funding framework provides huge financial incentives for the production of research outputs. A university receives approximately R 115 000 for one research publication unit (e.g. a peer reviewed journal article in an approved journal) and approximately R 345 000 for a doctoral graduate.





Figure 12: Total percentage increase in the block grant for the HDIs over the period 2004/05 to 2014/15

Source: (DHET, 2015d)

Figure 13: Ratios of publication units and doctoral graduates to permanent academic staff, 2000 - 2013



Source: DHET (2015a)





Figure 14: Research publications by SA Universities, 2000 - 2013

#### Source: DHET (2015a)

These financial incentives has led to a steep increase in the number of research publications, from 14 184 in 2000 to 17 838 in 2013 (26% increase in total). The same could not be said about the production of doctoral graduates. The ratio of publication units produced increased from 0.39 to 0.79 per permanent academic staff member over the period 2000 to 2013. For the same period the ratio of doctoral graduates produced per permanent academic staff member increased from 0.07 to only 0.11. Strategies would have to be put in place to accelerate the production of doctoral students to reach the 5000 per annum by 2030 envisaged by the National Development Plan.

