Developing Siyaphambili: A Stronger South African Nation Website

Moving towards a unified goal to combat inequality and unemployment

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Acknowledgments

Support from the Kresge foundation for this research activity is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the authors and cannot necessarily be attributed to the Kresge Foundation.

Recommended citation


ISBN: 978-1-928516-29-3

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1. Introduction

South Africa has one of the highest levels of income inequality in the world (Leibbrandt et al., 2018). Education, both in how it is distributed in the population and in how it is rewarded in the labour market, plays an important role in explaining the distribution of income, particularly income from labour market earnings, and hence inequality (Lam et al., 2015). Since the end of apartheid, South Africa has seen rapid improvements in average years of education, accompanied by declining racial differences and educational inequality. Yet, this has not translated into declining earnings inequality as might have been expected. A closer look at the data reveals that the aggregate picture of decreasing educational inequality hides persistent racial inequalities in post-school education attainment, which together with large and increasing premiums to these high value qualifications, have been inequality inducing. Siyaphambili motivates that increasing overall levels of post-school education attainment, particularly by decreasing between-population group attainment gaps, could contribute towards reducing income inequality.

Siyaphambili tracks the proportion of South Africans, aged 15 to 64, with a post-school qualification1; aiming to reach a goal of 22% attainment by 2030 (Goal 2030) – see Figure 1. The project was inspired by the Lumina Foundation’s Stronger Nation website, a platform that tracks the proportion of Americans, aged 25 to 64, who hold degrees, certificates or other high-quality post-school credentials. The Lumina Foundation set a goal to achieve 60% post-school qualification attainment by 2025 (Lumina Foundation, 2020). While the U.S. Stronger Nation goal is motivated by the desire to equip Americans with skills for jobs in the knowledge economy, the Siyaphambili goal is motivated by the urgent need to reduce inequality in South Africa and is set in line with the South African National Development Plan (NDP) 2030 goals.

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1 ‘Post-school qualification’ is defined in section 4.
Access to and quality of education were segregated along racial lines and vastly unequal under apartheid in South Africa (Fiske and Ladd, 2004). Following the end of apartheid, a wave of policy development and funding changes attempted to reform the education system to redress past inequalities in the country. In the post-school arena, emphasis was placed on forming a single post-school system that increased access, improved the quality of learning and expanded the diversity of provision - including better alignment of learning in the post-school system with the needs of the labour market - and on providing students from lower socioeconomic backgrounds funding to cover the cost of their studies.

The commitment to build a coordinated and differentiated Post-School Education and Training (PSET) system that is “responsive to the needs of individual citizens, employers in both public and private sectors, as well as broader societal and developmental objectives” is evident in the 2013 White Paper for Post-School Education and Training. Furthermore, admirable objectives have been set by skills planning policy, particularly in the 2030 National Development Plan (NDP). The NDP
broadly aims to eliminate poverty and reduce inequality in South Africa by 2030. Improving the quality of education, skills development and innovation is seen as an important component of achieving the overall goal. The NDP lists an ambitious set of goals to be reached within the PSET system by 2030.²

The NDP PSET goals are stated as annual output goals for respective divisions of the PSET system and the employment goals tend to be stated as shares of the labour force³. Missing is the connection between the PSET goals and the employment goals. Nowhere are the educational attainment levels of the country discussed. This makes tracking year-on-year progress cumbersome. Goal 2030 is an attempt to link the two spheres – the NDP PSET and labour market targets – and provides the basis for a platform that tracks progress using publicly available data. We estimate that to meet a goal of 2 million more youth in employment by 2030, we need a population where 22% of 15 to 64 year olds have a post-school qualification. This goal of 22% also aligns with the NDP post-school graduate targets. By tracking this indicator, we therefore align the goals of the PSET system with those for employment.

The rest of the paper is organised as follows: Section 2 provides a motivation for our indicator of choice - post-school qualification attainment and section 3 describes how Goal 2030 was derived. In section 4 we describe the South African education and training system and how post-school education is measured in household surveys, as context for defining our indicators. Finally, section 5 reports on the analysis presented on the website.

2. Education and inequality – why track post-school attainment?

South Africa has high returns to post-school education by world standards and these have been increasing over time (Lam et al., 2015). A university graduate can earn close to three times the amount of someone with a grade 12 and up to five times the amount of someone with a grade 8. In addition, the unemployment rate among post-secondary graduates is far lower than the national average (van der Berg and van Broekhuizen, 2012). On the other hand, earnings returns for those with grade 9 to 11 have fallen (Lam et al., 2015). These changes in the relative returns to education are an important link in the cycle of sustained inequality and poverty in South Africa.

² These include higher enrolment targets, improvement in ‘throughput’ rates and an increase in the number of graduates successfully leaving the system. See Table 1 in section 2.
³ The unemployment rate should fall from 24.9 percent in June 2012 to 14 percent by 2020 and to 6 percent by 2030. The labour force participation rate should rise from 54 percent to 65 percent.
Figure 2: Moving from a society in an inequality trap to one of equal opportunity

![Diagram showing inequality trap and equal opportunity cycles]

Source: Siyaphambili website.

Figure 2 presents two stylised cycles, one an inequality trap and the other one of equal opportunity. The arrow between highlights the need for corrective action to move from the one cycle to the other. Goal 2030 focuses on one possible lever: increasing post-school qualifications.

Figures 3a and 3b show average years of education and the distribution of educational attainment by birth cohort for the African and White respondents aged 25 to 64. Figure 3a shows that average years of education has increased significantly over time within the African population group. Individuals born in 1945 completed, on average, 4 years of education and this has increased to 11 years for those born in 1994. Similarly, average years of education has increased from 6.5 years for Coloured individuals, and from 8.4 for Indian individuals born in 1945, to 11 years and 12 years for those born in 1994, respectively (figures not shown). Figure 3b, on the other hand, shows that average years of education among White individuals was already at 12 years for the 1945 cohort and increased by only one year to 13 years for those born in 1993. Indeed, the education distribution among the White population cohorts has been stable for some time, and the share of White cohorts attaining a post-school qualification is around 48%, a level equivalent to the post-high school attainment estimate for the 2018 White population group in the U.S. (Lumina Foundation, 2020).
Figure 3a: Educational attainment by birth cohort for the African population group

Figure 3b: Educational attainment by birth cohort for the White population group


Note 1: Birth cohorts are defined as interview year-age across the surveys
Note 2: Birth cohorts presented are restricted to cells that contain 100 or more observations.
These changes have led education inequality, as measured by the coefficient of variation in years of education⁴, to fall from 0.75 in the 1945 birth cohort to 0.2 for the 1994 cohort. Yet, Figure 3a shows that improvements in educational attainment over the past twenty years have been driven by an increasing share of the African (and Coloured) population group obtaining grades 9 to 12, with the share with post-school qualifications remaining unchanged at around 13% (10% for Coloured) for over 20 years. This means that the increase in post-school qualifications in the labour market evident in Figure 1, which is measured on a cross section of individuals aged 15-64, is a result of increases in post-school attainment among cohorts born between 1930 and 1970 with no additional increases in the share with post-school attainment from cohorts born after 1970. Without working to increase the rate of post-school attainment among current cohorts of youth, the rate of change in the share of post-school qualifications will stall, and skills, as measured by post-school qualifications, will remain relatively scarce and unequally distributed in the labour market.

The inequality trap figure shows that when skills remain relatively scarce and concentrated among richer South Africans, labour market returns to post-school qualifications tend to remain high. Increasing access to, and success in, post-school attainment improves employment both directly and via the relative supply of skilled to unskilled labour. Those who obtain post-school qualifications are more likely to get jobs, but more broadly, the increase in the supply of skilled labour improves the relative attractiveness of the unskilled, thus improving their employment prospects (Pellicer and Ranchhoff, 2012) and reducing the convexity of earnings premiums for those with post-school education. Together, these could work to reduce earnings inequality.

Goal 2030 requires a rapid shift in the education distribution but, more importantly, the goal can only be reached if the attainment gaps between population groups are reduced. Siyaphambili is, therefore, focused on an equitable path towards achieving Goal 2030 and recognises that this will only be attainable with the help of extraordinary innovations and policies that address the challenges our society faces on multiple dimensions (Graham et al., 2019). Without these intentional efforts, the attainment gaps between different groups of learners will continue to grow and the country will not be able to produce the sought-after number of graduates or reduce inequality.

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⁴The coefficient of variation is a measure of dispersion calculated by dividing the mean of a variable (in this case years of education) by its standard deviation.
3. Deriving Goal 2030

South African President Cyril Ramaphosa expressed in his June 2019 State of the Nation Address that the country has made insufficient progress in meeting the NDP targets (Ramaphosa, 2019). The President proposed focusing on five key indicators out of the more than 1100 used by the Medium-Term Strategic Framework to track South Africa’s progress in tackling poverty, inequality and unemployment within the next 10 years:

1. No person in South Africa will go hungry.
2. Our economy will grow at a much faster rate than our population.
3. Two million more young people will be in employment.
4. Our schools will have better educational outcomes and every 10-year-old will be able to read for meaning.
5. Violent crime will be halved, if not eliminated.

Increasing the share of the population with a post-school qualification has the potential to contribute to each of these targets. We derive our attainment goal, Goal 2030, to align with the indicator ‘two million more young people in employment by 2030’. We estimate that to drive this increase in employment, 22% of the population will require a post-school qualification by 2030.

The value of a goal is that it provides something concrete to work towards. The measure we aim to derive is influenced by many unpredictable factors, most pressingly how demand in the economy for workers with qualifications as produced by the South African education system will change with a growth in the supply of graduates.

**Goal 2030 is based on the following logic and set of assumptions:**

Using PALMS, we estimate that 7 million youth (aged 15 to 35) were employed in the second quarter of 2019 (version 3.3; Kerr et al., 2019). Applying the President’s target of 2 million more youth employed directly, we would require 9 million youth to be employed by 2030.

According to the Thembisa model, the total population aged 15 to 35 was 21 million in 2019 and is projected to be 21.8 million in 2030 (version 4.2; Johnson, 2019).
Using the following assumptions:

- The share employed among youth with a post-school qualification in 2030 is 62%, the same as in 2019 i.e. the economy is assumed to have the capacity to absorb the increasing number of graduates.
- The share employed among youth without a post-school qualification increases from 29% in 2019 to 33% in 2030. Here the marginal increase in employment probability among those without a post-school qualification is a function of a relative shift in the share with and without post-school qualifications and an economy spurred into action.
- The share of the population aged 36-64 with a post-schooling qualification in 2030 is 17%, the same as in 2019. This is a simplifying assumption to assist us in obtaining a goal value. It implicitly assumes that the growth in post-school population attainment between 2019 and 2030 will be focused among those 25 and younger in 2019.

To reach a target of 2 million more youth in employment, this would imply that 26% of youth (aged 15 to 35) need to have a post-school qualification in 2030, increasing from 11% in 2019.

Overall, this results in a goal of 22% of the 15 to 64 population, or 9.9 million people, with a post-school qualification by 2030.

An associated Goal 2030 for high value qualifications\(^5\) assumes that the high value qualification level remains 4% points below the attainment level for any qualifications.

This is an ambitious goal, but as shown in the following section, it aligns with other targets set out in the NDP for the PSET sector.

*The NDP PSET goals*
Table 1 summarises the key targets set out for the PSET sector in the NDP. The focus is on expanding and strengthening the system.

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\(^5\) High value qualifications are defined in section 4.
### Table 1: NDP 2030 targets for the PSET sector and progress toward them

<table>
<thead>
<tr>
<th>Objective</th>
<th>Indicator</th>
<th>2017</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Increased enrolment</strong></td>
<td>University enrolments - public</td>
<td>1 036 984</td>
<td>1 600 000</td>
</tr>
<tr>
<td></td>
<td>University enrolments - private</td>
<td>185 046</td>
<td>200 000</td>
</tr>
<tr>
<td></td>
<td>College enrolments - TVET and private</td>
<td>875 382</td>
<td>1 250 000</td>
</tr>
<tr>
<td></td>
<td>CET enrolments</td>
<td>258 199</td>
<td>1 000 000</td>
</tr>
<tr>
<td><strong>Composition of enrolment</strong></td>
<td>Increasing proportion of youth transition into college before</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>completing grade 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expansion of distance education (both university and college)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Increased number of graduates</strong></td>
<td>Number of first-time university (public and private) graduates per year</td>
<td>171 059*</td>
<td>320 000</td>
</tr>
<tr>
<td></td>
<td>Number of artisans produced per year</td>
<td>19 100</td>
<td>30 000</td>
</tr>
<tr>
<td><strong>Composition of graduates</strong></td>
<td>Share of degrees that are post-graduate (with emphasis on black-African and female students)</td>
<td>22%*</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Number of doctoral degrees per year</td>
<td></td>
<td>5 000</td>
</tr>
<tr>
<td></td>
<td>Increased share in scarce skills areas, such as engineering and financial management</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Improve throughput</strong></td>
<td>Throughput rate in universities and colleges</td>
<td></td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>Ensure disadvantaged post-school students are fully subsidised</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improve the quality of public university education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improve the quality of training offered by public colleges</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expand the number of PhD qualified university staff</td>
<td>47%*</td>
<td>75%</td>
</tr>
</tbody>
</table>

Note: * indicates the estimate is for 2018, rather than 2017 as per the column heading.

The NDP university targets for enrolment, throughput rate and the annual number of graduates exiting the system are broadly aligned. Put another way, if by 2030, around 1.8 million students are enrolled in university (public and private), the average throughput rate is 75%, the average length of study three years and the ratio of first-to-second time plus graduates 75:100, then the number of first-time university graduates exiting the system each year will be around 320 000. However, no similar target for the number of graduates from the college system is provided.

Two reports to the National Planning Commission in April 2020 (NPC, 2020a; NPC, 2020b) present the progress that has been made between 2012 and 2018/19 in meeting these NDP goals. These intermediary estimates are presented in Table 1. Using the graduate estimates from 2018 as a starting point, together with information on the share of the population aged 15 to 64 with post-school qualifications, we simulate the inflow of post-school graduates into the population aged 15
to 64 and the outflow of post-school graduates as a result of those individuals aging out of the age range 15 to 64. Appendix Table 1 provides these simulation results.

The following assumptions are used in the simulation:

- The number of first-time university graduates in 2018 was 171,059 and increases linearly to 320,000 in 2030 (the NDP university graduate target).
- The ratio of first-time college graduates to first-time university graduates is 6:10 in 2018 and increases linearly to 8:10 by 2030.
- This results in an estimated number of 102,635 first-time college graduates in 2018 which grows to 256,000 graduates by 2030.
- The share of 65-year olds with a post-school qualification is 17% in 2018 and grows linearly to 20% in 2030.
- The number of people age 65 is taken from the Tembisa model (version 4.2; Johnson, 2019).

Appendix table 1 shows that the simulated share of the population in 2030 with a post-school qualification is 22%. Goal 2030, therefore, aligns with the NDP PSET enrolment and graduation targets. As is recognised in the NDP suite of PSET goals, achieving these ambitious enrolment and graduation targets requires strengthening the college and university sector in several important ways.

4. Defining a post-school attainment indicator for South Africa

In this section we shift focus to unpack how our indicators – post-school qualifications and high value qualifications - are defined. In doing this, we describe the education and training landscape in South Africa, in a hope to resolve some of the differences in terminology used by policy makers from the Department of Higher Education and Training (DHET), the household survey categorisation of educational attainment and what is understood by the general public. This section is not intended to be a comprehensive overview of all the details of the PSET sector, but

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6 The 2030 value is based on aligning the enrolment and graduation rate NDP college targets and an average course length of 2.6 years. The 60% estimate for 2018 recognises that throughput in the college system will need to improve at a faster rate than in university to reach a 75% rate by 2030.

7 Note that the simulated proportion of the population 15-64 with a post-school qualification in 2030 is not sensitive to this assumption. If the share of 65-year olds with a post-school qualification is assumed to remain at 17% until 2030, as indicated the derivation of Goal 2030, we continue to achieve a 22% attainment level by 2030.
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rather provides the reader with a roadmap to understand the indicator we have chosen and how it relates to the education and training system in South Africa.

Education and Training provision in South Africa

Following South Africa’s transition to democracy, the South African Qualifications Authority (SAQA) Act No. 58 of 1995 was introduced and initiated the establishment of the National Qualification Framework (NQF). The objective of the NQF was to create a single system, which mapped all education and training provision in the country. This includes basic education, higher education, vocational training and occupational training. In theory, this framework maps out the various pathways that learners can take through the education and training system. The framework provides any potential learner with a point of access into the system and therefore is envisaged to address past unfair discrimination in education and training.

Figure 4: Education and Training in South Africa

Note 1: The qualification types represented in Figure 4 reflect that of the of the Government Notice issued for comment by the Minister of Higher Education, Science and Innovation (2020).
Note 2: It is acknowledged that the NQF alignment registration is under review.
Note 3: A qualification is not awarded at grades 9, 10 and 11 via schools. Rather, learning at grades 9, 10 and 11 is equivalent to NQF levels 1, 2 and 3, respectively.
Education and training institutions are the providers of qualifications that are aligned with the NQF. These institutions include schools (grade R to 9), public universities, private universities, Technical and Vocational Education and Training (TVET) colleges, private colleges and Community Education and Training (CET) colleges.

The NQF

Education and training qualifications in South Africa are based on the country’s NQF, arranged in ascending order from level one to level ten. The NQF is organised around learning outcomes. Specifying learning outcomes of a learning program, rather than the content, provides the mechanism for learners to mediate between different types of institutions and areas of study. This makes vertical and horizontal pathways possible across the qualification framework. This approach is intended to provide learners with an abundance of skills development opportunities, as well as prevent learners from reaching a dead-end in their educational attainment.

The NQF is made up of ten levels, see Figure 4, each associated with one or more variation in type of qualification achieved (e.g. learners can obtain a National Certificate or National Occupational Certificate at NQF level 4). In the education system, a qualification level signifies that an individual has completed a prescribed set of learning outcomes linked to a recognized learning program offered via an education or training institution.

Qualifications at the ten NQF levels are obtained within three sub-frameworks: (1) the General and Further Education and Training Qualifications sub-framework, (2) the Higher Education Qualifications sub-framework, and (3) the Occupational Qualifications sub-framework. Each of the three sub-frameworks fall under the supervision of their respective quality council. The quality assurance bodies determine the formal requirements that must be met for each specific level of the NQF in order for the qualification to be awarded (South African Qualification Framework, 2020).

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8 Learning outcomes stem from outcomes-based education. Outcomes-based education refers to organizing the education system around the essential skills students should gain by the end of their learning experiences (Spady, 1994). The idea is to start with a clear picture of what skills students should acquire through a learning program, then organize the curriculum and assessments to ensure these skills are taught.

9 A vertical pathway refers to movement within the same qualification framework level and a horizontal pathway refers to movement between different qualification framework levels.

10 The quality assurance bodies are: (1) Umalusi, (2) Council on Higher Education (CHE), and (3) Quality Council for Trades and Occupation (QCTO) and are all registered by the SAQA.

11 The purpose of these quality assurance bodies is to enhance the quality of education and training and prevent fraudulent qualifications from entering the system. In addition, the quality assurance bodies facilitate - as best as
The General and Further Education and Training Qualifications sub-framework: NQF levels 1 to 4

The General and Further Education and Training Qualifications sub-framework is responsible for a range of qualifications of NQF levels 1 to 4, which focus on foundational skills. This includes formative and vocational qualifications offered in public and private schools, TVET colleges, and CET colleges.

There are three streams within the General and Further Education and Training Qualifications sub-framework: (1) the formative stream via schools, (2) the vocational stream via TVET colleges, and (3) the youth and adult stream via CET colleges for qualifications that improve literacy ability and skills for employment.

The formative stream via schools
According to the South African Schools Act (1996), compulsory education consists of schooling from grade R to grade 9 or until the learner is 15 years of age - whichever occurs first. Grades R to 9 fall under NQF level 1. Upon completing grade 9, learners may continue via the schooling system and work through grades 10, 11 and 12. Grades 10, 11 and 12 align respectively with the NQF levels 2, 3 and 4. The first national standardised examination taken within the public school stream is in grade 12. This is commonly referred to as the matric examinations. If a learner passes the matric examinations, they are awarded a National Senior Certificate (NSC). Notably, the NSC is at the NQF level 4. A learner can pass the matric examinations with a bachelor pass (also referred to as a matric exemption), diploma pass or a higher certificate pass. The type of NSC pass a learner achieves determines the type of institution the learner is eligible to apply to. These pathways are discussed further under the Higher Education Qualifications sub-framework.

The vocational stream via TVET colleges
Alternatively, learners may opt to leave the schooling system upon completing grade 9 (or at a point beyond grade 9) and pursue further education and training in the PSET system via a TVET college.

TVET colleges offer vocational, occupational, and artisan training. The four main types of program enrolment at a TVET college include: National Certificate (Vocational) (NC(V)), NATED/Report 191 (N1 to N6), occupational qualifications, and other skills and short courses. The two main program possible - the articulation between qualifications within their own sub-framework, and across the NQF to qualifications developed and overseen by other quality assurance bodies.

12 Formative qualifications are sometimes referred to as ‘academic’ qualifications. Formative qualifications equip graduates with knowledge, theory and methodologies appropriate for the respective NQF level in order to prepare individuals for advanced study and/or multiple work trajectories.
streams in the TVET college route via NQF levels 2 to 4 for learners with a minimum of grade 9 are the NC(V), and NATED/Report 191 (N1 to N3). The NC(V) and NATED/Report 191 (N1 to N3) programs, as with the school grade 10 to 12 program, aim to prepare students for a qualification beyond NQF level 4.

The NC(V) programs combine both theory and practical skills within specific industry fields. There are three NC(V) programs - NC(V)1, NC(V)2, and NC(V)3. NC(V)1 is at NQF level 2, NC(V)2 is at NQF level 3, and NC(V)3 is equivalent to the NSC (matric) at NQF level 4. Typically, one program is completed per year and a national examination is written for each program. Passing the respective NC(V) program examination results in an awarded certificate and progressing to the next program level until NC(V)3 is successfully completed.

The NATED/Report 191 (N1 to N6) programs consist of theory learnt at colleges and relevant practical application in the workplace. These programs range from N1 to N6, however, only N1 to N3 are offered under the General and Further Education and Training Qualifications sub-framework. N1 to N3 is equivalent to NQF levels 2 to 4; N4 to N6 is equivalent to NQF level 5. Grade 9 (NQF level 1) is required for N1 admission (NQF level 2); whereas the NSC (or an equivalent qualification of NQF level 4 such as N3) is required for N4 admission (NQF level 5).

Upon completing each N program, a non-national certificate is awarded and considered a part-qualification (DHET, 2019). These part-qualifications collectively lead to a National Diploma on condition that the learner meets the relevant workplace training requirements. Hence, part-qualifications are not actual qualifications represented on the NQF but are simply vehicles towards attaining a qualification that is represented on the NQF. This is analogous to learning at grades 9, 10 and 11, whereby passing each grade is necessary to pass the matric examinations and achieve an NSC.

*The youth and adult stream via CET colleges*

CET colleges are mainly designed to cater for the needs of youth and adults who did not complete their school education (i.e. up to and including grade 12) or did not have the opportunity to attend school. Hence, CET colleges are well-suited for training youth and adults who cannot find employment and wish to improve their education levels, but do not have the entrance requirements for college or university access. The programs offered tend to focus on improving basic literacy skills and developing other skills for employment. These skills include reading, writing, and basic problem solving. Specifically, the CET college programs include: Adult (Basic) Education and Training (AET) levels 1 to 3\(^{13}\), General Education and Training Certificate (GETC):

\(^{13}\) Note, levels 1 to 3 correspond to the AET levels and not the NQF levels.
ABET level 4 (NQF level 1), grade 10 (NQF level 2), grade 11 (NQF level 3), grade 12 (NQF level 4), non-formal programs, and occupational qualifications.

The GETC, grade 12 and the occupational qualification programs are the only programs offered by the CET colleges that result in a qualification recognised on the NQF. Theoretically, learners with a GETC may then progress within the General and Further Education and Training Qualifications sub-framework to NQF level 2 by applying to a TVET college for a NC(V)1 or N1 program.

**The Higher Education Qualifications sub-framework: NQF levels 5 to 10**

The Higher Education Qualifications sub-framework is designed to equip learners with skills to participate in the global economy and knowledge society. The skills gained from these qualifications are generally deemed ‘high-skill’ and associated with education that occurs beyond learners’ 12 years of foundational education. Higher education qualifications range from NQF levels 5 to 10; whereby NQF levels 5 to 7 make up undergraduate qualifications, and NQF levels 8 to 10 comprise postgraduate qualifications. These qualifications are offered by public universities, private universities, TVET colleges and private colleges.

The 26 public universities in the country are categorised as 12 traditional universities, 6 comprehensive universities, and 8 universities of technology. Traditional universities offer theoretically orientated programs and universities of technology offer vocationally orientated programs. Comprehensive universities offer a combination of theoretically and vocationally orientated programs. Overall, these public universities, as well as private universities, offer a range of certificates, diplomas and degrees; ranging from NQF levels 5 to 10.

In addition to university providers, TVET colleges and private colleges offer certificates and diplomas at NQF levels 5 and 6. As previously discussed, one of the main programs offered via the college stream is the NATED/Report 191 (N1 to N6) program. While N1 to N3 is offered under the General and Further Education and Training Qualifications sub-framework, N4 to N6 is offered under the Higher Education Qualifications sub-framework. Upon successfully completing N6, along with the evaluated workplace training for 18 to 24 months, a diploma is awarded (NQF level 6). The duration of the workplace training in dependent on the field of study.

Therefore, entry into the Higher Education Qualifications sub-framework can, in the design of the NQF, be accessed via public universities, private universities, TVET colleges, and private colleges. An NSC bachelor pass (previously matric exemption pass) is required for entrance to a traditional or comprehensive university, where a student can enrol for a certificate, diploma or degree program. Learners who achieve an NSC diploma pass may study towards a certificate or diploma
at a TVET college, private college or a university of technology. An NSC higher certificate pass provides students the opportunity to study towards a Higher Certificate at a TVET or private college.

**The Occupational Qualifications sub-framework: NQF levels 1 to 8**

The Occupational Qualifications sub-framework fills the role of facilitating occupational education. Occupational Certificates ranging from NQF levels 1 to 8 are awarded within this sub-framework. An Occupational Certificate is associated with a trade, occupation or profession and consists of knowledge and theory, practical skills and workplace experience. These qualifications tend to relate to a specific occupation and are closely aligned to the occupations described in the Organising Framework for Occupations (OFO). Hence, Occupational Certificates are specifically envisaged to address the needs of the labour market. The providers of occupational education are Skills Development Providers (SDPs). SDPs are made up of a range of types of providers on condition that they are accredited by the Quality Council for Trades and Occupation. These providers include, but are not limited to, TVET colleges, private colleges, companies, universities of Technology and Non-Governmental Organisations (NGOs).

Each Occupational Certificate has its own admission requirements. Typically, if the Occupational Certificate is of NQF level 2, the learner would require a qualification equivalent to NQF level 1 in order to apply for the occupational program. Although in principle, the Occupational Qualification sub-framework intends to facilitate articulation within the sub-framework and between other sub-frameworks, the possession of an Occupational Certificate does not guarantee a learner’s progression and admission to another occupational, vocational or formative qualification pathway.

With this mapping of the education and training system in South Africa, in the next section we quantify the size and shape of the system by specifying the number of providers by type of institution and the number of students by institution type and program.
Size and shape of the PSET system

In 2017, there were 26 public universities, 125 private universities, 50 TVET colleges (these are public institutions), 268 registered private colleges and 9 CET colleges\textsuperscript{14} in the PSET system. The 50 TVET colleges operate across around 364 campuses, while the 9 CET colleges oversee 3 276 Community Learning Centres (CLCs). Overall, more than 2.3 million learners were enrolled in the PSET system, with more than half of these learners enrolled in universities (1.2 million).

| Table 2: Overview of the PSET providers and student enrolment for 2017 |
|---------------------------------------------------|----------|----------|----------|------|----------|---------|-----------------|
| Universities                                    | Colleges | Total PSET |
| Number of providers                             | Number of learners enrolled | |
| Public                                          | Private  | Total     | TVET     | Private | CET     | Total   | 478          |
| 26                                              | 125      | 151       | 50       | 268     | 9       | 327     |              |
| 1 036 984                                       | 185 046  | 1 222 030 | 688 028  | 187 354 | 258 199 | 1 133 581| 2 355 611    |

Source: DHET (2019).

Figure 5 shows public universities enrolled the largest proportion of learners in the PSET system (44%). TVET colleges account for 29% of learners enrolled, while private universities and private colleges each account for 8% of learners enrolled. Lastly, enrolments in CET colleges made up 11% of student enrolment.

\textsuperscript{14} CET colleges were formerly known as Adult (Basic) Education and Training (AET) centres. The AET centres merged into nine CET colleges – one in each province. However, each CET college oversees multiple Community Learning Centres (CLCs) in their respective province.
Table 3 provides an overview of learners enrolled in PSET institutions by program type\(^5\). Fifty-four percent of enrolments at public universities are towards undergraduate degrees, whereas diplomas (38%) are the most popular program for enrolment at private universities. The majority of learners at TVET colleges (74%) and private colleges (42%) enrol in the NATED/Report 191 (N1-N6) program. The GETC: ABET level 4 (45%) and Grade 12 (33%) account for the highest proportion of enrolments at CET colleges.

\(^{5}\) Some program types reflected in Table 3 are qualification types. Qualification types refer to qualifications that are reflected on the NQF – for example: Higher Certificates, Diplomas and Master’s Degrees. Program types refer to a particular set of courses that lead to a qualification, which is on the NQF, being awarded – for example: NC(V) and NATED/Report 191 (N1-N6).
Table 3: Overview of enrolment in PSET institutions by program type in 2017

<table>
<thead>
<tr>
<th></th>
<th>Public universities</th>
<th>Private universities</th>
<th>TVET colleges</th>
<th>Private colleges</th>
<th>CET colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Undergraduate Degrees</td>
<td>Undergraduate Certificates and Diplomas</td>
<td>Postgraduate, Below Master’s Level</td>
<td>Master's Degrees</td>
<td>Doctoral Degrees</td>
</tr>
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<td>555 892</td>
<td>276 459</td>
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<td>59 153</td>
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<td></td>
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<td>70482</td>
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<td>5 151</td>
</tr>
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<td>142 373</td>
<td>510 153</td>
<td>10 969</td>
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<td>187 354</td>
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<tr>
<td></td>
<td>50 072</td>
<td>115 913</td>
<td>376</td>
<td>85 148</td>
<td>1 018</td>
</tr>
</tbody>
</table>

Source: DHET (2019).
Note 1: ‘Other’ refers to skills development and short courses.
Measuring qualifications using South African household survey data

South Africa has a well-established series of cross-sectional household survey data collected at regular intervals by Statistics South Africa (StatsSA). The Post-Apartheid Labour Market Series (PALMS) (version 3.3; Kerr et al., 2019) stacks a subset of these cross-sectional datasets; namely the October Household Surveys from 1994 to 1999, the bi-annual Labour Force Surveys from 2000-2007 and the Quarterly Labour Force Surveys from 2008-2019. The analysis on the Siyaphambili website uses the PALMS data version 3.3 augmented with QLFS 2020:Q1 data together with population estimates from the Thembisa model (version 4.2; Johnson, 2019).

The PALMS data series is useful for measuring and tracking the level of educational attainment as well as other labour market indicators in the post-apartheid South African population. The surveys ask the question ‘What is the highest level of education that you have successfully completed?’ and respondents choose from a list of post-school qualifications such as degrees, diplomas, certificates or N-qualifications. The categorisation of highest level of education used in the household surveys differs, however, from those used by the DHET for the PSET system and in the NDP more broadly. Furthermore, the categories for highest level of educational attainment used in the household surveys have changed over time, expanding to include more fine-grained details on post-school qualifications (see Appendix Table 1). We, therefore, map the qualification as classified on the Siyaphambili website to the NQF in Table 4.

What do we know about where youth go to obtain their skills?

A healthy debate exists in the literature about how qualifications map to skills and subsequent labour market outcomes, with part of the discussion based on assumptions about where qualifications are obtained i.e. from universities, TVET colleges or private colleges or other training providers. The consensus from the literature is that graduates with degrees have few risks of unemployment, but those with diplomas and certificates, especially ones that do not require matric, are more vulnerable.

The National Income Dynamics Study (NIDS) highest educational attainment question is followed by a question which asks ‘At what institution did you successfully complete the diploma, certificate or degree?’ This is an open text question and responses are manually coded to lists of registered public and private universities and colleges, with a residual category classified as training. This provides us the opportunity to investigate how the survey qualification level question maps to providers within the system.
Figure 6 provides information on the mapping of the two survey questions for respondents aged 15 to 35 (youth) who specified that they had successfully completed a certificate, diploma or degree out of school. The matching rate for the open-ended text question was 65%. Respondents who provided institutional information that could be found on the Internet were classified in the training group, while those in the unmatched group did not provide enough information to be matched to a specific institution.

**Figure 6: Institution where qualification was obtained, respondents aged 15 to 35**

Source: National Income Dynamics Study (NIDS) wave 5.

Note 1: Public and private nursing colleges are a specialized group of providers under the Higher Education Qualifications sub-framework of the NQF. Nursing providers and qualifications are regulated by the South African Nursing Council (SANC).
We see, as expected from Table 3, that most degrees are obtained from universities, while most N and NCV qualifications are obtained from TVETs of private colleges. The other four categories present a more mixed picture, with a couple of noticeable points:

- Diplomas with a grade 12 are far more likely to have been obtained from a registered public or private institution (80%) than are certificates with grade 12 (51%).
- Very few certificates and diplomas without grade 12 (which represent 25% of qualifications for this age group) are being obtained from TVETs or colleges which are intended to serve those who do not complete grade 12.
- Most institution names of those who indicated certificates and diplomas without grade 12 as their highest educational attainment, could not be found on any registered lists or the Internet. This is in part due to insufficient information provided e.g. a respondent might just say college, however the disproportionate share for these qualification levels suggest they are being obtained from sources outside of the formal PSET system. A similar picture is evident for those who obtained certificates that require matric, where 35% could not be matched.

**Post-school qualification definitions used by Siyaphambili**

The Siyaphambili interactive graphs focus on post-school qualifications, namely NQF levels 2 to 10 qualifications obtained outside of basic education (grades R to 12 or NQF 1). Two measures of post-school qualifications are used: *any qualifications* and *high value qualifications*. These two measures are defined as:

**Any qualifications**

*Any qualifications* refer to all of the types of post-school qualifications obtained outside of basic education at NQF levels 2 to 10. This includes: vocational certificates,\(^{16}\) certificates (for learners with less than a grade 12), certificates (for learners with grade 12), diplomas (for learners with less than a grade 12), diplomas (for learners with grade 12), higher diplomas,\(^{17}\) bachelor degrees, and post-graduate degrees (honours, masters, doctoral). These are the post-school qualification categories used by StatsSA. These qualifications are obtained from public universities, private universities, TVET colleges, private colleges, or any other accredited post-school institutions where the qualification programs are 6 months or more in duration and full-time.

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\(^{16}\) ‘Vocational certificates’ is an aggregated category made up of qualifications obtained from the NC(V)s and NATED/Report 191 (N1 to N6) programs. Recall, there are three NC(V)s: NC(V)1 is NQF level 2, NC(V)2 is NQF level 3 and NC(V)3 is NQF level 4. N1 is NQF level 2, N2 is NQF level 3, N3 is NQF level 4, N4 to N6 is NQF level 5. After N6 is awarded, plus 18 to 24 months of work experience, a diploma is awarded (NQF level 6).

\(^{17}\) Synonymous with ‘advanced diploma’ used in the NQF.
High value qualification

High value qualifications are a subset of the any qualifications category. High value qualifications are of NQF levels 6 to 10 and include only: diplomas (for learners with less than grade 12), diplomas (for learners with grade 12), higher diplomas, bachelor degrees and post-graduate degrees (honours, masters, doctoral). These qualifications are also obtained from public universities, private universities, TVET colleges, private colleges, or any other accredited post-school institutions.

<table>
<thead>
<tr>
<th>NQF level</th>
<th>Any qualification</th>
<th>High value qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Vocational Certificate</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Vocational Certificate</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Vocational Certificate</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Vocational Certificate</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Certificate (with less than Grade 12)</td>
<td>Diploma (with less than Grade 12)</td>
</tr>
<tr>
<td>5</td>
<td>Certificate (with Grade 12)</td>
<td>Diploma (with Grade 12)</td>
</tr>
<tr>
<td>6</td>
<td>Diploma (with less than Grade 12)</td>
<td>Diploma (with less than Grade 12)</td>
</tr>
<tr>
<td>6</td>
<td>Diploma (with Grade 12)</td>
<td>Diploma (with Grade 12)</td>
</tr>
<tr>
<td>7</td>
<td>Higher Diploma</td>
<td>Higher Diploma</td>
</tr>
<tr>
<td>7</td>
<td>Bachelor Degree</td>
<td>Bachelor Degree</td>
</tr>
<tr>
<td>8, 9, 10</td>
<td>Post-graduate Degree</td>
<td>Post-graduate Degree</td>
</tr>
</tbody>
</table>

Providers

Public universities, private universities, TVET colleges, private colleges, or any other accredited post-school institutions where the qualification programs are 6 months or more in duration and full-time.

Public universities, private universities, TVET colleges, private colleges, or any other accredited post-school institutions.

Note 1: Certificate (no Grade 12) and Certificate (with Grade 12) are both classified as NQF level 5 because, as per Figure 4, a certificate may be obtained through the academic stream via school or the vocational stream via TVET colleges.

Note 2: Diploma (no Grade 12) and Diploma (with Grade 12) are both classified as NQF level 6 because, as per Figure 4, a diploma may be obtained through the formative stream via school or the vocational stream via TVET colleges.

Note 3: Prior to 2008, certificates and diplomas with grade 12 were grouped together as certificates and diplomas with less than grade 12. We could therefore not separate these categories by NQF level as indicated in the table. For 1994-2007, we therefore classify diploma/certificate with grade 12 as NQF level 6 and hence high value and diploma/certificate with less than grade 12 as NQF 5, i.e. not in the high value group. Given that the certificate with grade 12 group represents a larger share of qualifications than the diploma with less than grade 12, this results in an overestimation of high value qualifications between 1994 and 2007. Thus the divergence in the high-value and any qualification lines after 2007 is evident in Figure 1, at least in part, a function of this change in classification over time.
Table 4 provides a mapping of the qualification as defined on the Siyaphambili interactive website, to its associated NQF level. Any qualification includes NQF levels 2 through 10, while high value qualification is restricted to NQF levels 6 and above.

Measuring post-school qualifications using PALMS

We construct our post-school qualification indicator from a subset of datasets in the PALMS data (version 3.3; Kerr et al., 2019), namely the OHS from 1994-1999, the February versions of the LFSs 2000-2007 and the quarter 1 data from the QLFSs (2008-2020). The survey design in each of the surveys is a stratified, two-stage cluster sampling design. Most of these surveys are based on a sample of approximately 30,000 households from 3,000 clusters drawn from a master sample based on the most recent census at the time. Information is collected by a representative household head on behalf of each member in the household and covers questions from basic demographic information, education enrolment and attainment, labour market involvement and household characteristics.

There are three primary consequences of our choice of data. First, the use of data from surveys results in some year-on-year variation in the estimates that reflect sampling variation rather than actual population changes. PALMS includes cross entropy weights that account for the survey design and are calibrated to an external population model on age-gender-population group and province marginal totals. These weights reduce some of the between survey variation but cannot necessarily account for variation in our subpopulation of interest i.e. among those with post-school qualifications.

Relatively, qualification attainment grew from 6% in 1994 to 14% in 2019, indicating that our population of interest is a relatively small share of the South African population in each year and therefore represented by a relatively small sample in a nationally representative household survey. Branson (2018) notes that this presents as a challenge when using the survey data to estimate numbers of students enrolled in post-school institutions. While estimates of the share of the population enrolled in post-school education accurately reflect estimates available from administrative data in the Higher Education Information Management System (HEMIS) and Technical and Vocational Education and Training Management Information System (TVETMIS), the weighted survey data falls far short of accurately estimating the number of students enrolled. Recognising this, the number estimates on the Siyaphambili website are calculated by applying the PALMS shares to the population estimate series as presented by the Thembisa model (version 4.2;}

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18 PALMS version 3.3 currently only include data until 2019. We augment this series with data from the QLFS 2020 quarter 1 data. We used the survey weights provided in the individual worker file for this year.

19 Exceptions to this are: the OHS 1994 which consisted of 30,000 household drawn from 1,000 clusters, the OHS 1996 which consisted of 16,000 households in 1,600 clusters and the OHS 1998 which consisted of 20,000 households in 2,000 clusters. The February LFS 2000 was also smaller with 10,000 households drawn from 1,574 clusters.
Lastly, the size of the sample and survey design prevents accurate estimation of post-school qualification level at a geographical level below province.

6. Siyaphambili – we are moving forward

Tracking post-school attainment since South Africa transitioned to democracy in 1994, we see, in Figure 1, a slow and steady increase in post-school attainment. Our indicator doubles over the 26 years from 7% in 1994 to 13.8% in 2020.

Factoring in inequalities

Social and economic inequalities in South Africa lead to different rates of school completion and varying opportunities to achieve a post-school qualification. The ratio of learners who wrote the grade NSC examinations in 2019 to learners that entered grade 1 in 2008 is 1:45 (DBE, 2008; DBE, 2020). Among those that do write the NSC, many do not achieve the marks required to access university. For example, van Broekhuizen et al. (2016) show that of the matric cohort who wrote the final NSC examinations in 2008, only 20% achieved a matric Bachelor pass – the minimum academic criteria for admission into undergraduate programs at university. Furthermore, only 68.5% of learners who achieved a Bachelor pass enrolled at a university within six years of completing grade 12. TVET, CET and other private colleges are designed to provide learners with an alternative educational pathway to the formative schooling and university stream. Yet, research shows that learners entering the TVET and private colleges, come from households with higher income and are academically stronger than their peers who do not enrol (Branson and Kahn, 2019) suggesting that enrolment in college is also selective on academic and socioeconomic means. Together these studies show that those who enter post-school institutions are already a small and select group of learners, many of whom have overcome multiple socioeconomic barriers to reach this point in their educational attainment pathway.

Reaching the post-school institution classroom is a huge achievement, but many students continue to face a range of socioeconomic challenges including financial constraints and family commitments as they study towards their qualification. These challenges, and other institution specific challenges, prevent many students from completing their chosen program, with students from lower socioeconomic backgrounds being most vulnerable to dropping out. For example, only

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20 Matric is synonymous with grade 12 – the final year of high school in South Africa.
21 The percent of learners in a particular matric cohort achieving a matric Bachelor pass has been increasing over time. For example, 31% of learners from the 2013 matric cohort passed the final NSC examinations with a matric Bachelor pass.
10% of the 2008 matric cohort who wrote the NSC examinations completed an undergraduate qualification within six years (van Broekhuizen et al., 2016). Hence, only half of the 20% of learners from the 2008 matric cohort who were academically eligible to pursue further education at a university actually completed an undergraduate qualification. This is an increasing concern given the greater probability of employment and higher wage returns associated with a post-school qualification in the knowledge economy.

While Siyaphambili tracks post-school qualification attainment at the national level, we recognise that to achieve Goal 2030 requires addressing low levels of post-school educational attainment rates among underserved groups. Notably, access to and quality of education were inequitably distributed across population groups, gender and geography during the apartheid regime. African, Coloured and Indian learners, as well as women and persons residing in rural areas, were historically marginalised and deep socioeconomic inequalities persist today. In addition, growing levels of youth unemployment present a major and growing national challenge, making a focus on age groups relevant too. Therefore, Siyaphambili examines post-school qualification attainment by population group, gender, age-group and province, in addition to at the national level. By identifying groups and/or areas with low post-school attainment levels or stagnant growth in attainment, concentrated policy efforts can be made to close the respective educational attainment gaps.

Qualification attainment by population group
Population groups have long experienced unequal levels of educational attainment – a result of the country’s apartheid past. Institutions were racially segregated (Bunting, 2006), and institutions funded, and curricula and language of instruction structured, to serve the interests of the apartheid government (Allias, 2014). However, following South Africa’s transition to democracy during the early 1990s, progress has been made in increasing educational attainment among previously underserved population groups. Yet, stark differences in post-school qualification attainment rates remain, as shown in Figure 7.

Although all population groups have seen an increase in the share with a post-school qualification since 1994, the share within the White and Indian population groups has grown by 15 percentage points while the share within African and Coloured population groups has only increased by 7 percentage points, resulting in a widening gap in post-school attainment between the White and the African and Coloured population groups. A goal of 22% qualification attainment highlights the need to address persistent structural challenges faced by historically underserved population groups.
Qualification attainment by gender
The share of men and women with a post-school qualification grew between 1994 and 2020. This is shown in Figure 8. Women have slowly closed the post-school qualification gap and a higher proportion of women now have post-school qualifications than men. Females are less likely to drop out of school (Branson et al., 2014; Spaull and Makaluza, 2019) and are more likely to enrol in, and graduate from, post-school institutions (Spaull and van Broekhuizen, 2017). Furthermore, women are more likely to graduate with a university degree, the qualification with the highest labour market return. To meet the goal of 22% attainment by 2030, we need to understand the challenges males face that prevent them from keeping pace with their female counterparts. On the other hand, women, including female graduates, continue to be paid lower wages than men in the labour market (Mosomi, 2019). To continue to grow the share of women participating in post-school education, we need a better understanding of what is driving this gender wage gap and how it relates to post-school choices.
Examining trends in post-school attainment by age group is insightful for two reasons. First, the inflow of post-school qualifications into the labour market will come predominantly from birth cohorts recently exiting the basic education system and enrolling in post-school institutions. While the age-groups represent birth cohorts from different years, examining patterns between age-groups provides evidence of changes in the rate of post-school qualification attainment among birth cohort groups. Second, youth unemployment in South Africa is high and concentrated among the unskilled (De Lannoy, 2020), therefore examining trends in attainment of youth relative to older workers provides an important lens.
Figure 9: Percentage of the working age population with a post-school qualification by age group

Figure 9 shows that all age groups have seen growth since 1994, with the highest growth evident for the 36 to 64 age group. The share holding a post-school qualification across the two older age groups has been similar since 2008, rising from about 14% to 17% by 2020. Prior to 2008, the post-school attainment rate was higher in the 25 to 35 age group than the 36 to 64 age group, reflecting the improvements in post-school attainment among individuals born between 1945 and 1970 (see post-school attainment by birth cohort in Figure 2). Indeed, the differences in growth rates between the groups, is partly a consequence of the 1930-1970 birth cohort, where post-school attainment levels grew, moving through the age groups, with the attainment share in post-1970s cohorts remaining stable thereafter. This is also evident in the youngest age group, ages 15 to 24. The rate of growth in this group is low as a result of the stable rate of post-school attainment for post-1970s birth cohorts. The figure shows that trends in post-school attainment by birth cohort have resulted in increases in the post-school gap between age groups.

The stagnation of the 15 to 24 age group aligns with the country’s concern regarding the vulnerability of youth in the South African labour market. The unemployment rate of the 15 to 24 age group stood at 59% in the first quarter of 2020 with a graduate unemployment rate of 33.1% for this age group (Statistics South Africa [StatsSA], 2020). While research has shown that graduate...

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22 Individuals born in 1970 would be 24 in 1994 i.e. the trend presented for the 15 to 24 age group includes only those born from 1970.
unemployment in South Africa is lower than the rate of unemployment for groups with lower levels of educational attainment (van der Berg and van Broekhuizen, 2012), figure 9 shows that, increasingly, youth are competing against workers with higher skills and experience (as measured by age). Increasing post-school attainment is an important way to boost youths’ prospects in the labour market.

**Qualification attainment by province**

Levels of post-school qualification attainment vary across the provinces. Provincial boundaries are a high-level geographical grouping and it is important to remember that there is variation across municipalities and neighbourhoods within each province. However, the provincial disaggregation provides a first step towards a more nuanced understanding of differences in post-school attainment by geographical region.23

Figure 10 shows that all provinces have experienced an increase in post-school attainment. The economic centres of Gauteng followed by the Western Cape have the highest share of residents holding a post-school qualification. While the share with post-school qualifications was similar in these two economic centres until 2007, Gauteng has since pulled ahead of the Western Cape. In 2020, 19% of Gauteng residents had post-school qualifications compared to 15% of residents in the Western Cape.

In the last ten years, other provinces that have seen above average growth in attainment are Limpopo, Mpumalanga and the Free State. All provinces must continue to grow their post-school qualification attainment rates in order to reach the national goal of, on average, 22% attainment.

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23 The sample sizes of the dataset used in PALMS do not support disaggregation of the data at a lower geographical level. As is evident in Figure 10, there is already a fair amount of year-on-year fluctuation in the indicators at the provincial level, reflecting sampling variation.
The inequality in post-school qualification attainment, shown in the figures above, are later carried through into the labour market. If South Africa can increase the percentage of its citizens, aged 15 to 64, attaining a post-school qualification, it will help level the playing field in the labour market and reduce persistently high levels of inequality.
Reference list


Developing Siyaphambili: A Stronger South African Nation Website


Data

Johnson, L. (2019). Thembisa version 4.2: A model for evaluating the impact of HIV/AIDS in South Africa. Centre for Infectious Disease Epidemiology and Research working paper. Available at: https://www.thembisa.org/content/downloadPage/Thembisa4_2report


Appendix 1: Lumina Foundation’s *Stronger Nation*

The Lumina Foundation is an independent, private foundation committed to making opportunities for learning beyond high school available to all, particularly racial and ethnic minorities, low-income students, adult learners and first-generation students. In 2009, the Lumina Foundation set a goal: for 60% of Americans between the ages of 25-64 to hold degrees, certificates or other high-quality post-high school credentials by 2025.

Prior to 2009, the percent of the American population with a post-high school qualification remained stagnant for 40 years - long withstanding around a rate of 38%. Taking into context the economic environment during this time period, Americans with a high-school certificate or less accounted for four out every five jobs lost due to the economic downturn of the 2008/09 financial crisis. Given that many citizens were affected by the state of the economy, there was a sense of urgency and momentum to rebuild and emerge as a stronger nation.

The Lumina Foundation’s first strategic report in 2009 argued that to obtain a good job in the world today requires the knowledge and skills at the post-high school qualification level. Without a postsecondary credential, citizens would be unlikely to enter the middle class and would see a decline in their standard of living - not just in terms of lower wages and a decrease in labour force participation but also via other social aspects such as exposure to higher rates of mortality from drug overdoses, traffic accidents and suicides. Increased levels of educational attainment were argued to have lasting social and economic impacts, including resulting in higher levels of volunteerism and voting and lower rates of crime and poverty.

The Lumina Foundation focuses on building an equitable path towards achieving its 2025 goal and recognises that this is only attainable with the help of extraordinary innovations and policies. Without these intentional efforts, Lumina recognises that the attainment gap between different groups of learners will continue to grow and the country will not be able to produce the sought-after number of graduates.

The Lumina Foundation uses the Stronger Nation website to communicate and track post-high school qualification attainment in an engaging medium. The website uses data visualization to provide a detailed picture of educational attainment for all 50 states, the nation’s 100 largest metropolitan areas, for every county in each state along with breakdowns for credential attainment by race, ethnicity and age. The website has also added a dynamic feature - the “goal-

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exploration tool” - which shows the number of citizens from the various population groups who need assistance if the goal is to be reached.

Forty-four states, so far, have acknowledged the Lumina Foundation’s vision and set goals of their own depending on what they believe their current and future labour markets would need. On average, states aim to increase their post-high school educational attainment by 18 percentage points. Some states even introduce legislation to support their respective post-high school educational attainment goal. In addition, the K-12 system (equivalent to South Africa’s grade R to 12 system), along with public and private sector partnerships, work together under the leadership of the Lumina Foundation and the state governors to increase post-high school qualification attainment. The ease of public access to the website holds states socially accountable and responsible for their progress. This holistic and joint effort is necessary to enact the large-scale systematic change desired.

Inspired by the Lumina Foundation’s Stronger Nation interactive website, the Siyaphambili website creates awareness about post-school qualification attainment in South Africa. Siyaphambili has set their own respective goal: for 22% of South Africans between the ages of 15 to 64 to hold a post-school qualification by 2030. This goal provides a reference point to track year-on-year progress in qualification attainment.

Recognising the importance of a collaborative effort to increase student achievement within the post-school institutions, the Siyaphambili team invites engagement by both citizens and policymakers as we work together to achieve Goal 2030.
Appendix Table 1: Simulating the share of the population with a post-school qualification using the NDP annual enrolment and graduation targets

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
<th>2030</th>
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</thead>
<tbody>
<tr>
<td>Stock of post-school qualifications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td># with post-school from the previous year</td>
<td>5 252 041</td>
<td>5 472 794</td>
<td>5 713 673</td>
<td>5 974 984</td>
<td>6 257 096</td>
<td>6 560 420</td>
<td>6 885 360</td>
<td>7 232 340</td>
<td>7 601 809</td>
<td>7 994 048</td>
<td>8 409 457</td>
<td>8 848 757</td>
<td>9 312 802</td>
<td></td>
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<tr>
<td>In flow - university graduates</td>
<td></td>
<td></td>
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<td>171 059</td>
<td>183 471</td>
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<td>220 706</td>
<td>233 118</td>
<td>245 530</td>
<td>257 941</td>
<td>270 353</td>
<td>282 765</td>
<td>295 177</td>
<td>307 588</td>
<td>320 000</td>
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<td>In flow - TVET graduates</td>
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<tr>
<td>Assumption - Ratio of TVET graduates to university graduates</td>
<td>60%</td>
<td>62%</td>
<td>63%</td>
<td>65%</td>
<td>67%</td>
<td>70%</td>
<td>72%</td>
<td>73%</td>
<td>75%</td>
<td>77%</td>
<td>78%</td>
<td>80%</td>
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<td># TVET graduates</td>
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<td>124 059</td>
<td>135 391</td>
<td>147 137</td>
<td>159 297</td>
<td>171 871</td>
<td>184 858</td>
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<td>240 944</td>
<td>256 000</td>
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<td>Outflow (65 year old post-qualification)</td>
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<tr>
<td>Share of 65 year olds with post-school</td>
<td>17%</td>
<td>17%</td>
<td>18%</td>
<td>18%</td>
<td>18%</td>
<td>19%</td>
<td>19%</td>
<td>19%</td>
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<td>20%</td>
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<tr>
<td># of 65 year olds with post-school</td>
<td>52 941</td>
<td>55 733</td>
<td>58 630</td>
<td>61 573</td>
<td>64 520</td>
<td>67 476</td>
<td>70 420</td>
<td>73 330</td>
<td>76 373</td>
<td>79 429</td>
<td>82 178</td>
<td>84 487</td>
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<td>Estimated # with post-school in population</td>
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<td>5 472 794</td>
<td>5 713 673</td>
<td>5 974 984</td>
<td>6 257 096</td>
<td>6 560 420</td>
<td>6 885 360</td>
<td>7 232 340</td>
<td>7 601 809</td>
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<td>8 409 457</td>
<td>8 848 757</td>
<td>9 312 802</td>
<td>9 802 286</td>
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<td>+ university graduates</td>
<td>37 576</td>
<td>38 064</td>
<td>38 605</td>
<td>39 162</td>
<td>39 738</td>
<td>40 330</td>
<td>40 917</td>
<td>41 479</td>
<td>42 033</td>
<td>42 588</td>
<td>43 137</td>
<td>43 681</td>
<td>44 214</td>
<td>44 731</td>
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<td>+ TVET graduates - 65 year old graduates</td>
<td>369</td>
<td>614</td>
<td>955</td>
<td>859</td>
<td>524</td>
<td>753</td>
<td>263</td>
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<td>810</td>
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<td>Population (15-64) - Thembisa model</td>
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<tr>
<td>Estimated share with post-school qualification</td>
<td>14%</td>
<td>14%</td>
<td>15%</td>
<td>15%</td>
<td>16%</td>
<td>16%</td>
<td>17%</td>
<td>17%</td>
<td>18%</td>
<td>19%</td>
<td>19%</td>
<td>20%</td>
<td>21%</td>
<td>22%</td>
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### Appendix Table 2: Post-school qualification descriptions used by Siyaphambili

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<td>NTC I</td>
<td>Vocational certificate (NQF 2)</td>
<td>NTC I</td>
<td>Vocational certificate (NQF 2)</td>
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<td>NTC II</td>
<td>Vocational certificate (NQF 3)</td>
<td>NTC II</td>
<td>Vocational certificate (NQF 3)</td>
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<td>NTC III</td>
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<td>NTC III</td>
<td>Vocational certificate (NQF 4)</td>
<td>NTC III</td>
<td>Vocational certificate (NQF 4)</td>
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<td>Certificate with less than Grade 12/Standard 10</td>
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<td>Certificate with less than Grade 12/Standard 10</td>
<td>Certificate (with less than Grade 12)</td>
<td>Certificate or diploma with less than Grade 12/Standard 10</td>
<td>Certificate/diploma (with less than Grade 12)</td>
<td>Certificate or diploma with less than Grade 12/Standard 10</td>
<td>Certificate/diploma (with less than Grade 12)</td>
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<tr>
<td>Diploma with less than Grade 12/Standard 10</td>
<td>Diploma with less than Grade 12/Standard 10</td>
<td>Diploma with less than Grade 12/Standard 10</td>
<td>Diploma with less than Grade 12/Standard 10</td>
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<td>Certificate (with Grade 12)</td>
<td>Certificate with Grade 12/Standard 10</td>
<td>Certificate (with Grade 12)</td>
<td>Certificate or diploma with Grade 12/Standard 10</td>
<td>Certificate/diploma (with Grade 12)</td>
<td>Certificate or diploma with Grade 12/Standard 10</td>
<td>Certificate/diploma (with Grade 12)</td>
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<td>Diploma with Grade 12/Standard 10</td>
<td>Diploma (with Grade 12)</td>
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<td>Diploma with Grade 12/Standard 10</td>
<td>Diploma (with Grade 12)</td>
<td>Diploma (with Grade 12)</td>
<td>Diploma (with Grade 12)</td>
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<tr>
<td>N4/NTC 4</td>
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<td>N4/NTC 4</td>
<td>Vocational certificate (NQF 5)</td>
<td>N4/NTC 4</td>
<td>Vocational certificate (NQF 5)</td>
<td>N4/NTC 4</td>
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<td>N5 /NTC 5</td>
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<td>N5 /NTC 5</td>
<td>Vocational certificate (NQF 5)</td>
<td>N5 /NTC 5</td>
<td>Vocational certificate (NQF 5)</td>
<td>N5 /NTC 5</td>
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<tr>
<td>Higher Diploma</td>
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<tr>
<td>Post Higher Diploma</td>
<td>Post Higher Diploma</td>
<td>Post Higher Diploma</td>
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<td>Bachelor Degree</td>
<td>Undergraduate Degree</td>
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<td>Post-graduate Degree</td>
<td>Honours Degree</td>
<td>Post-graduate Degree</td>
<td>Degree (undergrad or post-grad)</td>
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<tr>
<td>Higher Degree (Masters, Doctorate)</td>
<td>Post-graduate Degree</td>
<td>Higher Degree (Masters, Doctorate)</td>
<td>Post-graduate Degree</td>
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</table>
Note 1: NTC is synonymous with NC(V).

Note 2: Undergraduate and post-graduate degrees were grouped together in the OHS 1994-1996 data, we therefore use this categorisation in the Siyaphambili series for 1994-1999.

The Southern Africa Labour and Development Research Unit (SALDRU) conducts research directed at improving the well-being of South Africa's poor. It was established in 1975. Over the next two decades the unit’s research played a central role in documenting the human costs of apartheid. Key projects from this period included the Farm Labour Conference (1976), the Economics of Health Care Conference (1978), and the Second Carnegie Enquiry into Poverty and Development in South Africa (1983-86). At the urging of the African National Congress, from 1992-1994 SALDRU and the World Bank coordinated the Project for Statistics on Living Standards and Development (PSLSD). This project provide baseline data for the implementation of post-apartheid socio-economic policies through South Africa’s first non-racial national sample survey.

In the post-apartheid period, SALDRU has continued to gather data and conduct research directed at informing and assessing anti-poverty policy. In line with its historical contribution, SALDRU’s researchers continue to conduct research detailing changing patterns of well-being in South Africa and assessing the impact of government policy on the poor. Current research work falls into the following research themes: post-apartheid poverty; employment and migration dynamics; family support structures in an era of rapid social change; public works and public infrastructure programmes, financial strategies of the poor; common property resources and the poor. Key survey projects include the Langeberg Integrated Family Survey (1999), the Khayelitsha/Mitchell’s Plain Survey (2000), the ongoing Cape Area Panel Study (2001-) and the Financial Diaries Project.

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