

CHAPTER 5

IAN BUNTING

STUDENTS

The student profile of the South African higher education system in 1994 was characterised by a number of imbalances: white and male South Africans were over-represented throughout the system while students were concentrated in the humanities and under-represented in the fields of science, technology and commerce.

This chapter describes these imbalances, but also shows that by 1994 there were other major problems in the system. A low participation rate overall (17%), low throughput levels and small graduate outputs resulted in a severe shortage of high-level skills in the country. The challenge for the new South Africa was to transform the higher education system from one that satisfied none of the imperatives of equity, efficiency and development, to one that would meet all three of these national goals.

The recommendations made by the National Commission on Higher Education (NCHE, 1996) and the policies subsequently adopted by the Department of Education ranged from prescribing the massification of the system (NCHE, 1996), to planning for growth (Department of Education, 1997) and improving throughput rates, to increasing postgraduate enrolments (Department of Education, 2001). (See Chapter 3 for a full analysis of these policy changes post-1994.) Not anticipated by these new policies was the development of a higher education market in the post-1994 period that stimulated unprecedented competition for students among institutions: public higher education institutions competed with one another to increase their student intake while at the same time they faced increasing competition from the emerging private (and international) higher education sector.

Institutional competitiveness was fuelled by the fact that government funding of higher education institutions was, and still is, based largely on student numbers and that the institutional landscape was thus influenced by the size and shape of student enrolments. In the context of the new policy environment created by the 1997 White Paper, this competitiveness resulted in new types of differentiation amongst the institutions.

This chapter begins to tell the story of how new institutional differences started to emerge, many of which were not anticipated by government policies, nor by the market, and in many cases, not by many of the institutions themselves. It examines the higher education student body during the period under review and looks at three aspects in particular: changes in student enrolment during the 1990s, how these changes measured up to the policy goals set after 1994, and how changing patterns of student enrolment and graduation contributed to the development of a new typology of higher education institutions by 2000.

1. CHANGES IN STUDENT ENROLMENTS DURING THE 1990s¹

1.1. Growth, inequities and early optimism

Pressures for change in the higher education system began in February 1990 when it became clear from the unbanning of the national liberation movements that the apartheid era would soon be ending. Higher education policy debates started among a variety of groupings, including the National Education Policy Investigation (Nepi), the Union of Democratic University Staff Associations (Udusa) and the education desk of the African National Congress (ANC). The common conclusion was that all higher education institutions in South Africa would have to give priority to democratising their governance structures, to achieving equity and to becoming responsive to national and regional social and economic development needs.

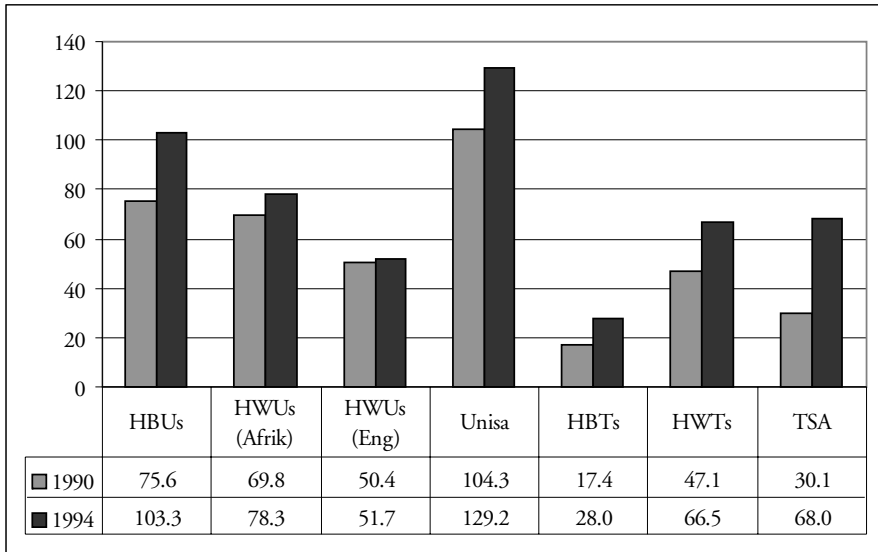
Unrelated to these policy debates, and prior to the attainment of the new democratic order in 1994, three significant changes in institutional enrolment patterns occurred between 1990 and 1994:

- Institutions which under apartheid had been designated for one race only, opened their doors to all South Africans (see Chapter 2) and enrolments in all universities and technikons grew between 1990 and 1994. Overall, university plus technikon enrolments increased by more than 130.000 (or 33%) in 1994 compared with 1990. This rate of growth contributed strongly to the high-growth scenarios which were developed by policy-makers in the years after 1994.
- The historically black universities grew by 28.000 (or 37%) and the historically white universities by a combined total of 10.000 (or 8%) between 1990 and 1994.
- High rates of growth occurred in all technikons. The major growth, in terms of numbers, occurred in the distance education institution, Technikon South Africa (TSA): its enrolment grew by 38.000 (or 126%) between 1990 and 1994. Overall, historically black technikon enrolments grew by 11.000 (or 60%) and historically white technikon enrolments by 19.000 (or 41%).

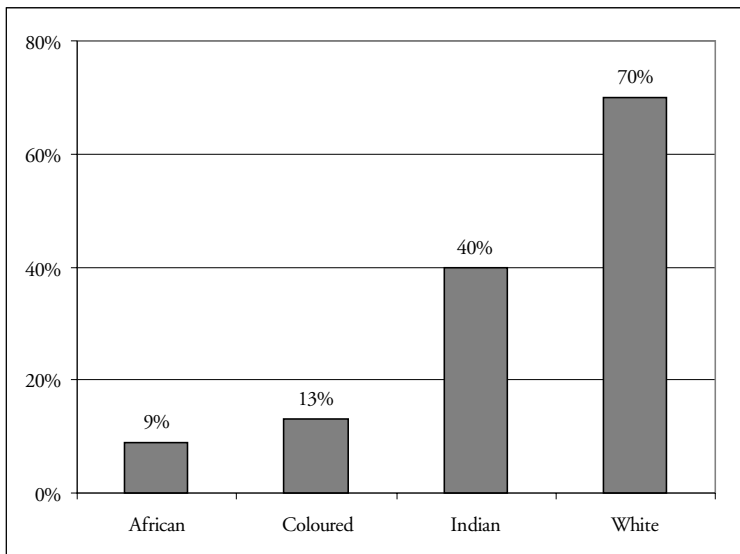
Figure 1 provides a summary of changes in headcount student enrolments in the different sectors between 1990 and 1994. These student enrolment patterns and the rapid growth rates which occurred between 1990 and 1994 shaped the context in which the first major higher education policy interventions were attempted between 1994 and 1997.

By 1994 two major systemic problems were confronting policy-makers: firstly, the prevalence of racial and gender inequities in the higher education system and, secondly, the fact that the system was not configured to contribute to national social and economic reconstruction in a post-apartheid South Africa. Figure 2 shows that in 1993 there were unjustifiable inequalities in the participation rates² of the various population groups. These proportions must be seen in the context that at this time whites had a share of about 13% of the total population and Africans a share of more than 75%.

The actual shape of student enrolments and outputs in the public higher education system can be seen in Figure 3. It was information of this kind that provided a clear

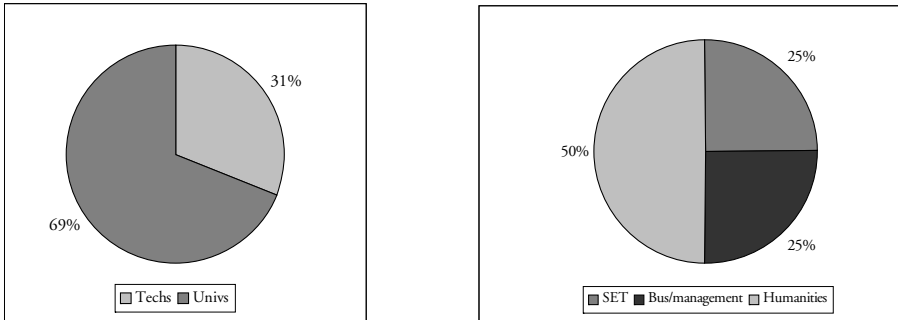
Figure 1. Headcount enrolments by sector (thousands): 1990–1994

Sources: Hendry & Bunting, 1993(a) and 1993 (b); Department of Education, 1994

Figure 2. Gross participation rate³ in the public higher education system: 1993

Source: Cloete & Bunting, 2000

Figure 3. *Shape of student enrolments by sector and by major field of study: 1994*



Source: Department of Education, 1994–1998

indication that the public higher education system was overly dominated by universities, and particularly by programmes in the humanities.

In the changing political context, a view developed among policy-makers that the development needs of the South African economy would be best served by graduates in science, engineering and technology, and by diplomates obtaining vocational qualifications from technikon. A system which had 69% of its enrolments and 79% of its in graduates in the university sector was regarded as ‘development-unfriendly’ particularly because the major fields of study of more than 50% of these university enrolments and graduates were in the humanities.

1.2. Policy interventions: 1994–1997

The changing nature of student enrolments constitutes one aspect of the context in which policy intervention in higher education started in 1995 with the appointment of the National Commission on Higher Education (NCHE, 1996). As is outlined in Chapter 1, the central proposal of the NCHE was that the higher education system should be massified. Increased participation was intended to provide greater opportunity for access while also producing the high-level skills necessary for economic growth.

On the basis of the commission’s report in 1996, the second policy intervention came with the publication of the White Paper which accepted much of what the NCHE had recommended in its final report. In particular, it accepted two conditions which the NCHE had set for the transformation of the South African higher education system: firstly, increasing participation in higher education so as to overcome the legacy of fragmentation, inequality and inefficiency; and secondly, improving the responsiveness of the higher education system to deliver the research, knowledge and highly trained people required for South Africa to compete in a rapidly changing international context.

However, the government did not accept the view of the NCHE that the realisation of these two conditions required a formal commitment to the massification of the system.

The NCHE had argued that the demands of equity and responsiveness could be met if a participation rate of 30% was set as a national target and if this became the major policy driver for higher education in South Africa. The view expressed by government in the 1997 White Paper was that future growth in the system was essential if equity goals were to be achieved, but that a commitment to massification prior to eliminating inefficiencies in the higher education system would place its financial sustainability at serious risk.

The White Paper nevertheless set clear goals for equity and responsiveness and outlined performance measures for student enrolments and outputs as follows:

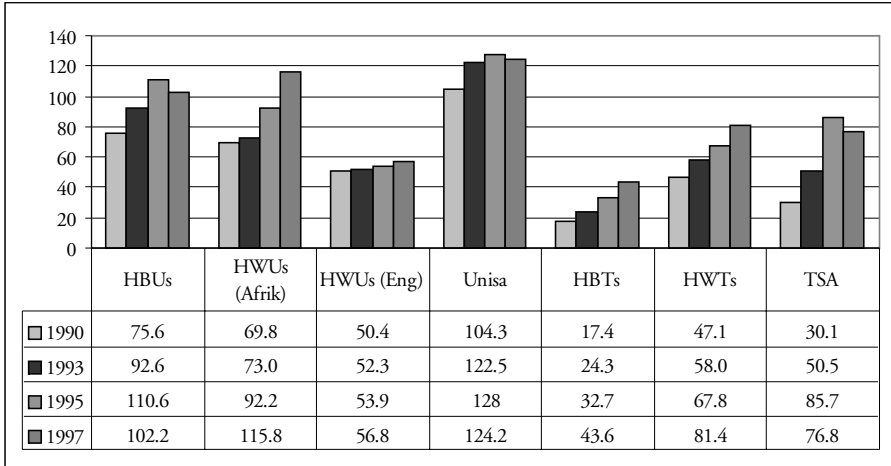
- Total student enrolments in the higher education sector must grow.
- The composition of the student body must begin to reflect the demographic reality of the broader South African society and the participation rates of black and of women students must increase.
- Private higher education institutions must play a role in achieving growth, particularly in expanding access to higher education.
- Career-oriented programmes must be expanded, particularly in science and technology.
- The throughput and output rates of students in the public higher education system must improve.

The period 1994–1997 was characterised by a high level of optimism among policy-makers and institutions which flowed from expectations that the pressure for access to the higher education system would continue in a post-apartheid South Africa. It was taken as given that student enrolments in universities as well as technikons would increase rapidly throughout the rest of the decade.

The evidence available at the time supported the belief that student enrolments in South Africa were on a steep upward trajectory. Figure 4 shows that by 1997 the headcount enrolment for the university plus technikon sectors had reached a total of more than 600.000 – an increase of nearly 206.000 (or 52%) over the total for 1990. The increase in 1997 compared with the enrolment figure in 1993 was 127.000 (or 27%). The average annual increase in headcount enrolments between 1990 and 1997 was 4%.

The increases in headcount enrolments also generated expectations in the higher education system that government funding would grow in future years, particularly because government funds had been allocated to institutions on the basis of formulae which were driven primarily by student enrolments (one formula for universities and another for technikons). Figure 4 shows that the rate of growth in all sub-sectors (other than in the historically white English-medium universities) was high in the period between 1993 and 1997. On the basis of the subsidy formulae all the sub-sectors predicted with a high degree of confidence that their government subsidy payments would grow throughout the 1990s. What transpired, however, was somewhat different.

Figure 4. Headcount student enrolments by sub-sector (thousands): 1990–1997



Sources: Hendry & Bunting, 1993(a) and 1993(b); Department of Education, 1994–1998

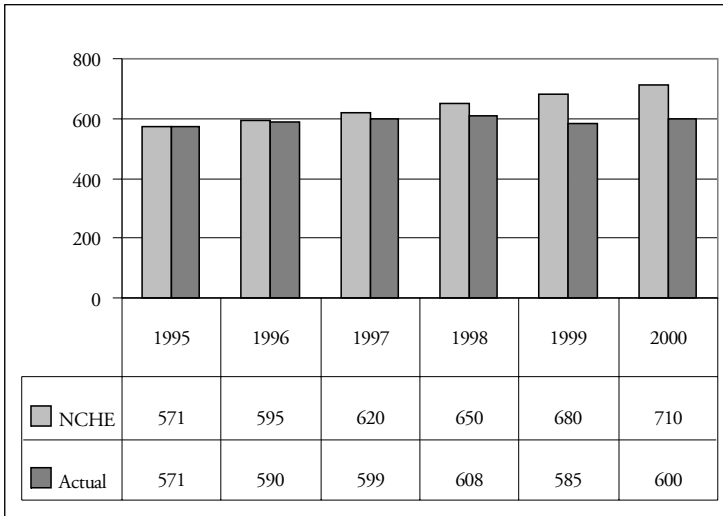
1.3. Public system enrolments decline: 1998–2000

By 1998 it had become clear that the public higher education sector would not be able to satisfy the White Paper goal of expanded student enrolments which had been based primarily on the NCHE’s growth predictions. By 1999, and certainly by 2000, it was clear that the NCHE’s projections were seriously over-optimistic. Figure 5 illustrates this point.

The graph shows clearly that actual enrolments began to deviate from the NCHE’s predictions as early as 1997. In that year 21.000 (or 3%) fewer students actually enrolled in the higher education system than the total predicted by the NCHE. A more serious problem was that in 1998 and 1999, nearly 140.000 fewer students than had been predicted by the NCHE entered the university and technikon sectors. The effect was that, contrary to all expectations, enrolments in the higher education system in fact reached their peak in 1998, and then fell by 23.000 (or 4%) between 1998 and 1999. In 2000 enrolments increased by 15.000 (or nearly 3%), primarily due to sharp increases in distance education student enrolments at some of the historically white Afrikaans-medium universities.

The unexpected failure of the NCHE’s growth model was caused by a number of factors. Among them were the productivity levels of the school system. Between 1995 and 2000 the school system did not produce the numbers of qualified school-leavers that had been expected at the time the NCHE was doing its work. South African universities, and to a large extent technikons, expect new entrants to have what is described as ‘matriculation exemption’ which is gained when school-leavers obtain a minimum set of marks in sets of prescribed subjects. The NCHE had expected one consequence of the ending of apartheid in the education sector to be a rapid growth in the numbers of

Figure 5. *Headcount enrolments in public universities and technikons. NCHE projections compared with actual enrolments (thousands): 1995–2000*



Sources: Cloete & Bunting, 2000; Department of Education, 1999–2000

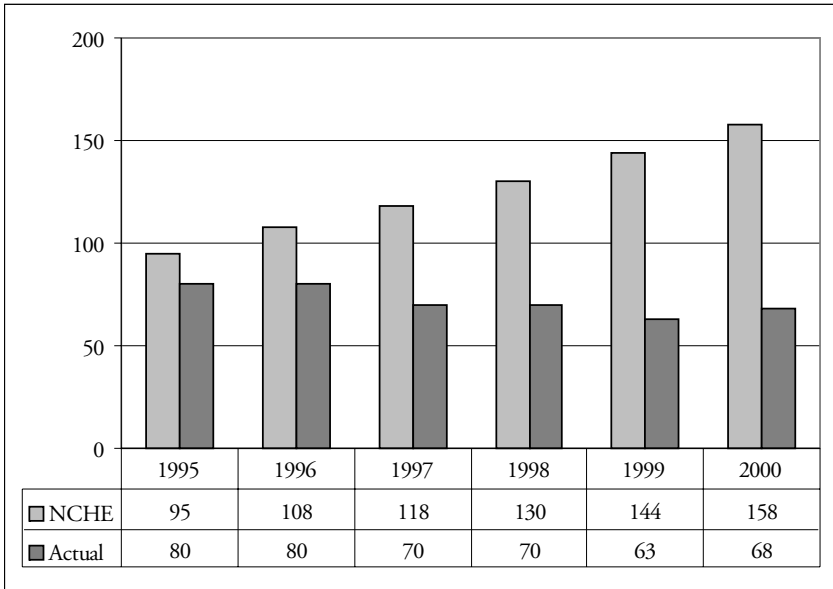
school-leavers obtaining matriculation exemption. This did not occur, as can be seen in Figure 6 which compares the NCHE predictions with actual totals of school-leavers obtaining matriculation exemption.

The data rows in the graph show that over the six-year period from 1995 to 2000, 320.000 fewer matriculants were produced by the school system than the NCHE had predicted. One consequence of these low totals was that annual inflow of first-time entering undergraduates (undergraduates who had not previously been registered at any higher education institution) into the university and technikon sectors remained under 120.000 between 1997 and 2000. Since these first-time entering undergraduates normally constitute about 20% of the enrolment of the system, an intake of around 120.000 could not have supported a headcount enrolment total of the size predicted for 1999 and 2000 by the NCHE.

The 1997 White Paper's goal of expanded student enrolments had clearly not been met by 2000. Furthermore, given the current flows of students into the public higher education system, the goal is unlikely to be realised by the public higher education system over the next few years.

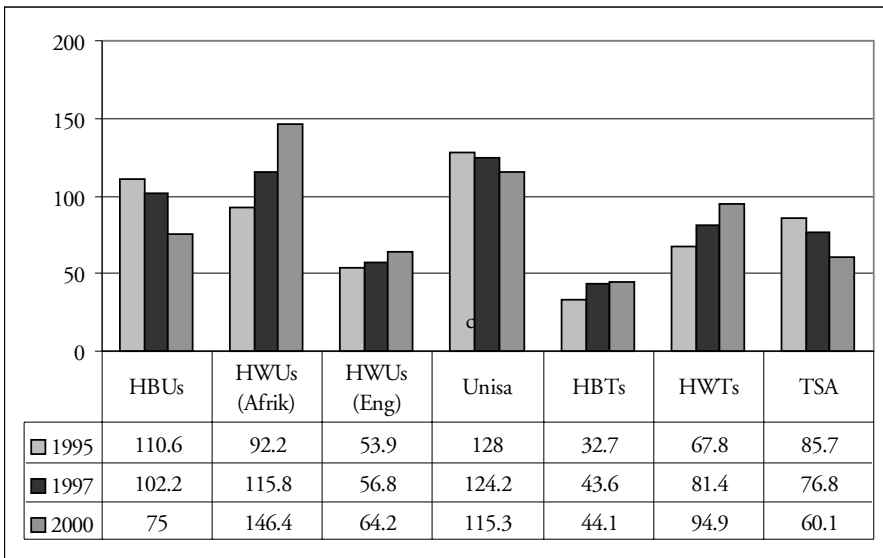
Figure 7 compares changes in headcount enrolments by sector over the period 1995 to 2000: The graph clearly depicts the sharp declines which have occurred in the historically black universities and in the dedicated distance education institutions in the period up to 2000. It also shows the sharp increases which occurred in the headcount enrolments of the historically white (Afrikaans-medium) universities and in the historically white technikon sectors.

Figure 6. Predicted and actual totals of matriculation exemptions (thousands): 1995–2000



Sources: Cloete & Bunting, 2000; Department of Education, 1999–2000

Figure 7. Headcount enrolment totals by sector (thousands): 1995–2000



Sources: Department of Education, 1994–1998; Department of Education, 1999–2000

1.4. Enrolments in the new private sector

During the 'period of optimism' between 1994 and 1997, a commonly held view was that a burgeoning private higher education sector would be needed to deal with levels of access-demand which the public sector would not be able to satisfy. The experiences of other developing countries were often cited in this regard: where the capacity of the public higher education sector is limited, the development of a new higher education sector funded by private capital should be encouraged by government.

The 1997 White Paper offered that encouragement to private capital in South Africa and after 1998 the private sector made major efforts to launch various higher education enterprises. These developments included attempts by South African companies to launch new private higher education institutions, as well as attempts by overseas institutions to establish satellite operations in South Africa. However, most of the effort seems to have gone into the formation of partnerships between South African companies and a small group of public universities and technikons.

These partnerships typically involved a public university or technikon permitting a private institution to offer one or more of the public institution's formal qualifications. The public institution provided the teaching materials used by the private institution, and provided general oversight of the teaching and examination processes at the private institution. Because the students concerned were registered for a public institution's formal qualifications, they appeared on its database as registered students, even though they received no direct instruction from that public institution. When public institution submissions were made for government subsidies, the students registered by the private institution were nevertheless included in the public institution's claim.

A question which arises regularly in South African higher education debates is just how many students are enrolled in the private higher education sector and in the absence of more research, the figures are strongly contested. One difficulty is that all students who appear on a public institution's government subsidy claim are automatically counted as public sector students, even though their primary registration is with a private provider. According to the Department of Education, a major portion of the enrolments claimed by the private higher education system in South Africa are students who they have registered for a qualification offered by a public university or technikon, in terms of a formal partnership agreement.

The student data tables of six public institutions (five historically white Afrikaans-medium universities and one historically white technikon) involved with private higher education providers show that in the 2000 academic year they claimed a total of 24,000 full-time equivalent (FTE) students whose primary registration would have been with a private provider. This FTE student total was generated in 2000 by a headcount student total of 65,000. So according to the Department of Education, in 2000 about 11% of the public higher education system's student enrolment was being carried by private providers. The tuition fees of students would normally have gone to the private provider, and government subsidies to the public institutions.

As is shown in Chapter 10, however, other research suggests that there are many more public/private partnerships than those considered above. Figures analysed by the

Education Policy Unit of the University of the Western Cape suggest that in 1998 there were as many as 108.700 FTE students, among whom were some 15.000 individuals enrolled with private providers in first-degree programmes. These data are however open to considerable doubt as they have been derived from the application forms submitted to the Department of Education by private providers applying for formal registration. Examination of the application forms of some private providers suggests firstly, that they did not understand basic notions such as those of 'full-time equivalent student' and that they were as a consequence claiming far more students than they should have; and secondly that most of those recorded by the researchers as private students were being included by their public partner in government subsidy claims and so were being recorded in the public higher education student total.

The task of establishing how many 'private-only' higher education students there were in South Africa is complicated by the reluctance of private providers to share information which constitutes 'business advantage'. Since the passage of the Higher Education Amendment Act of 1999, the Minister of Education has been able to require private providers to register and to make available details of student numbers and curricula. In future it will thus be possible to get more accurate statistics on this sector which emerged in South Africa after 1997.

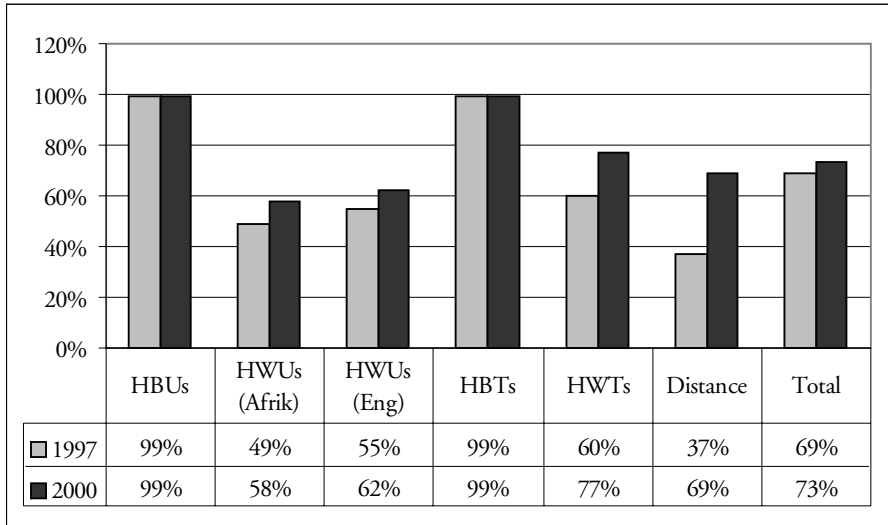
2. MEASURING CHANGES AGAINST THE POLICY GOALS

2.1. Enrolments by race group and gender

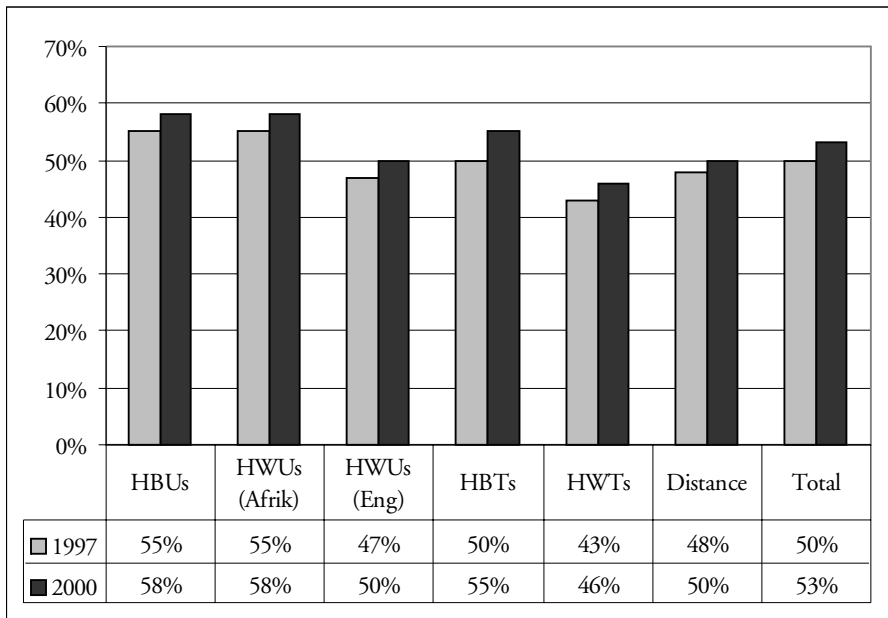
The enrolment data available suggests that the public higher education system has moved, in broad overall terms, towards the equity goals set by the 1997 White Paper. This can be seen in Figures 8 and 9 which show the percentage of black students and women in the headcount enrolment totals. The averages show that by 2000, 73% of students in the public higher education system were black and 53% female. This shows that the public higher education sector made substantial moves during the 1990s towards the achievement of race and gender equity. In 1993, 52% of students were black and 43% female.

But taken overall, this achievement hides major inequities which persist in the public higher education system. Black and female students remain under-represented in postgraduate programmes, as well as in all programmes in business and management, and in science, engineering and technology. Another factor hidden by the data is the extent to which black and female students are enrolled in distance education rather than contact programmes. In 2000, for example, 78% of distance education students and 68% of contact students were black. The proportions for female students were 53% for contact students and 55% for distance education students.

A further equity problem which remains hidden in the changing racial patterns is that of a decline in participation rates in South Africa's higher education system. Changes in the racial distribution of student enrolments are not the result of a major increase in the rate of participation among those who were previously excluded from the higher education system. They stem primarily from a sharp decline in the enrolment of white

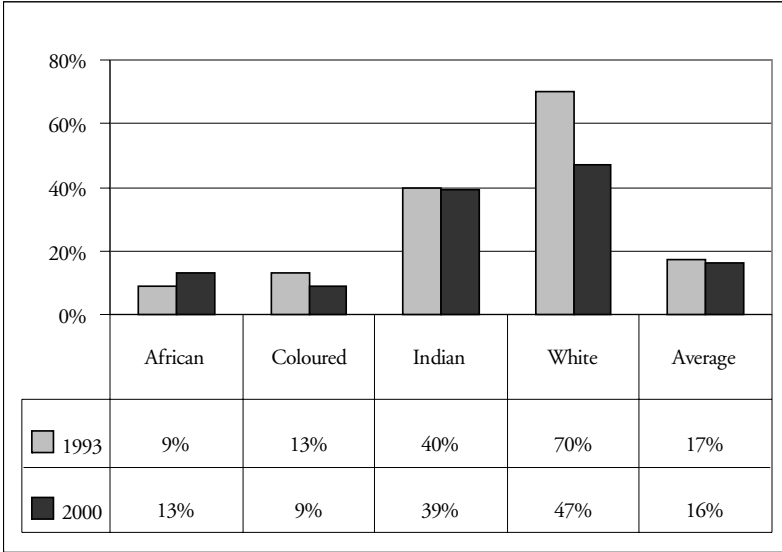
Figure 8. Percentage of black⁴ students in headcount enrolment totals: 1997 and 2000

Sources: Department of Education, 1994–1998; Department of Education, 1999–2000

Figure 9. Percentage of female students in headcount enrolment totals: 1997 and 2000

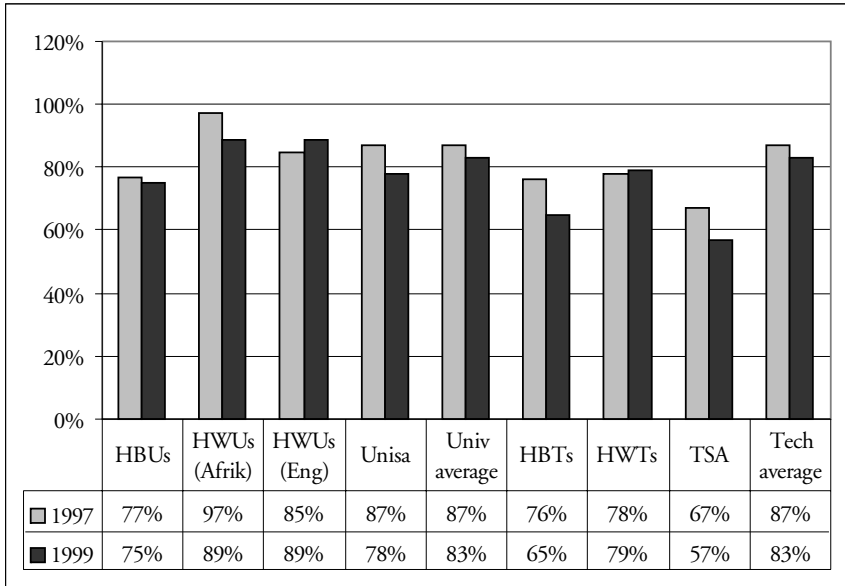
Sources: Department of Education, 1994–1998; Department of Education, 1999–2000

Figure 10. Gross participation rates in public higher education in 1993 and 2000



Sources: Cloete & Bunting, 2000; calculations based on headcount enrolment totals and on census data derived from Statistics South Africa at www.statssa.gov.za

Figure 11. Retention rates in the public higher education system: 1997 and 1999



Source: Calculations based on data obtained from Department of Education, 1994–1998 and 1999–2000

students in the public higher education system. White enrolments fell from a total of 215.000 in 1995 to 164.000 in 2000, a decline of 41.000 (or 19%) over this period. Nevertheless it must be stressed that the growth in African student enrolments did have a positive effect on this group's overall participation rate.

The gross participation rates for the higher education sector in 1993 and 2000 are reflected in Figure 10. The graph shows that while there was an increase in the participation rate of Africans in the public higher education system, the loss of white student enrolments from the public sector had the effect of lowering the average participation rate from 17% in 1993 to 16% in 2000.

2.2. Responsiveness to development needs

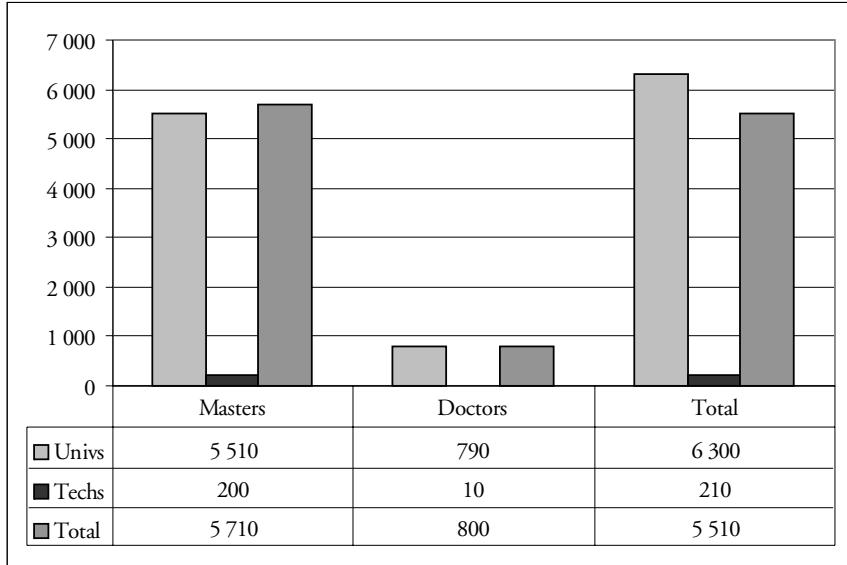
The 1997 White Paper's goal of achieving higher levels of responsiveness to development needs by changing the shape of the public higher education system had not been achieved by 1999 and 2000. The public higher education system remained a university-dominated one, even though changes had occurred between 1994 and 2000. In 1994, 69% and in 2000, 65% of all headcount student enrolments were in universities.

By 2000 the proportion of the public sector's enrolments by major field of study had also not changed in the way envisaged by the White Paper. The system remained dominated by students following majors in the humanities (49%), with only 24% following majors in science, engineering and technology and 26% majoring in business and management.

2.3. Retention rates

A major problem which began to emerge in 1998, and which ran counter to key goals of the White Paper, was a drop in the retention rates of students in the public higher education system. Figure 11 offers a summary of retention rates by sector for 1997 and 1999. The following should be noted:

- The proportions contained in the graph were calculated in this simple way: retention rate equals (headcount enrolment total in year n less first-time entering undergraduate total in year n) divided by (headcount enrolment total in year n-1). The percentages derived can serve at best as proxies for a retention rate because they do no more than express the non-first-time-entering undergraduate enrolment of an institution as a percentage of the total enrolment of the previous year. But it is clear that if an institution has a high percentage of (say) 85% or higher, then that institution has reasonably low drop-out rates and is able to retain large numbers of its graduating students for further higher level studies. It is also clear that if an institution has a retention rate of 75% or lower, then it does have high drop-out rates and is not able to retain in its postgraduate programmes large numbers of those completing first degrees or diplomas.

Figure 12. Masters and doctoral graduates by sector in 2000

Source: Department of Education, 1999–2000

The graph shows clearly the extent to which retention rates in the university plus technikon sectors dropped after having reached a peak in 1997. The effect which the drop in retention rates had on the system after 1997 can be demonstrated in this way: if the system's average retention rate had remained at the 83% level of 1997, then even if the average annual flow of new students into the system had stayed at 120.000, the system would have continued to grow. The headcount total in 1998 on a retention rate of 83% and an intake of 120.000 first-time entering undergraduates would have been 620.000 (or 14.000 higher than the actual total). The headcount total in 1999, on this same set of assumptions, would have been 630.000 rather than the actual total of 586.000. In other words, the decline in retention rates cost the higher education system an aggregate of 60.000 students in 1998 and 1999.

The historically white universities had considerably higher retention percentages than the historically black universities throughout the period 1996 to 1999. This indicates that they had lower drop-out rates and had higher proportions of first-degree or first-diploma completers than the historically black universities. The university sector as a whole had better throughput rate percentages than the technikon sector, which suggests that technikons tend to have higher drop-out rates than universities.

The large numbers of 'financial exclusions' which occurred in the system in 1998 and 1999 were probably a major cause of the fall in retention rates described above. The term 'financial exclusion' is generally used in South Africa to refer to students who are refused permission to register at a university or technikon either because they have debit balances on their fee accounts from the previous year or because they are not able to pay in advance a proportion of their fees for the current year.

Large-scale financial exclusions began in 1998 when a number of historically black institutions were forced by commercial banks to produce cash-flow plans showing both their government subsidy income and their private income before extensions could be given to their overdraft facilities. Because most of the private income of the institutions affected came from the tuition fees paid by students, the cash-flow plans had to assume that students with fee debts would settle these before registering. They also had to assume that substantial up-front fee payments would be made by other students before they registered. In most cases these assumptions about cash flows turned out to be false. Far fewer students than expected were able to pay outstanding fees or make the required advance payments. Those not able to satisfy these financial requirements were refused permission to register, and enrolment totals at the historically black institutions dropped sharply as a consequence.

The majority of students affected by financial exclusions were black students from economically disadvantaged backgrounds. The national student financial aid scheme was intended to help these students register at and remain registered at higher education institutions, but the exclusion of many from university or technikon studies was a clear signal that the national financial aid scheme was being funded at inadequate levels.

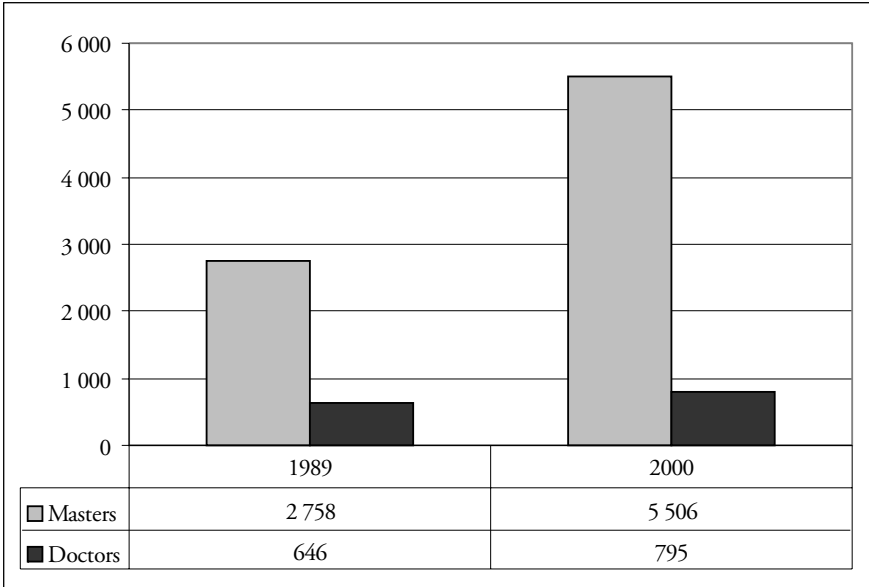
2.4. Graduates and graduation rates

The 1997 White Paper's goal of a public higher education system displaying high levels of efficiency had not been realised by the end of the 1990s. For example, the system's output of graduates remained low in relation to its headcount enrolment totals: in 1993 only 17% of students registered at a university completed their degrees or diplomas and only 10% of students registered at a technikon completed theirs. The data available for the 2000 academic year suggest that these proportions have remained at the low levels of 1993. The proportion of graduates to enrolments in the university sector in 2000 was only 16% and in the technikon sector only 9%. To satisfy the efficiency requirements set out in the White Paper, the system's average should have reached at least 20% by 2000. This implies that the system produced nearly 30.000 fewer graduates than it should have in 2000.

In the three-year period from 1998 to 2000, South Africa's universities and technikons produced a total of less than 2.500 doctoral graduates. Details of the production of masters and doctoral graduates by sector in 2000 can be seen in Figure 12. Figure 13 compares the system's total production of masters and doctoral students in 2000 with the total achieved in 1989. As will be seen, the most significant change has been in the output of masters graduates. This total doubled by 2000 compared with 1989, while the doctoral graduate total in 2000 was only 22% higher than that of 1989.

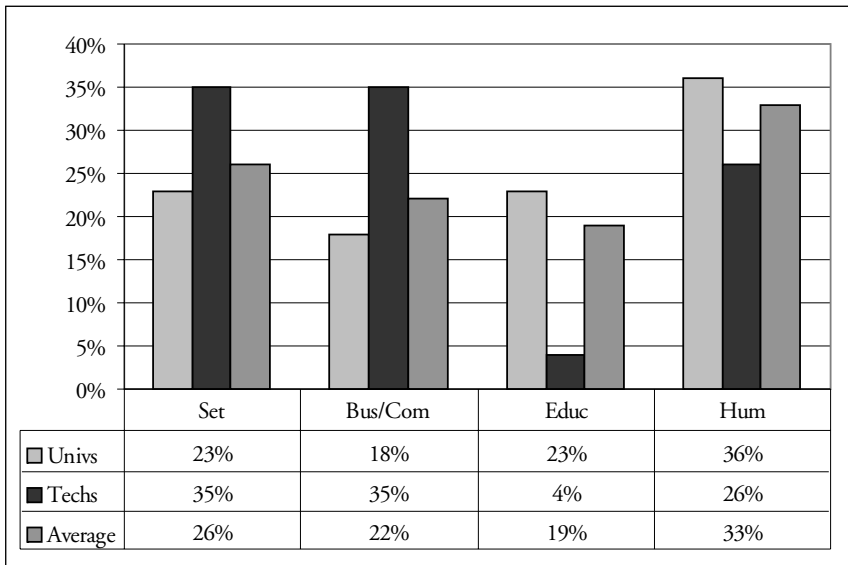
A final issue to note is that by the end of the 1990s the public higher education system had not produced the increased numbers and proportions of science, engineering and technology graduates which the White Paper stated were necessary for national development needs. The graduate outputs of the higher education system continued to be dominated by the fields of education and the broad humanities. This can be seen in Figure 14 which shows the major fields of study in which graduates were produced in the 2000 academic year.

Figure 13. Total masters and doctoral graduates in 1989 and 2000



Source: Hendry & Bunting, 1993a and 1993b; Department of Education, 1999 and 2000

Figure 14. Graduates by major field of study: 2000



Source: Department of Education, 1999–2000

NOTES

- ¹ Unless otherwise specified, student data referred to in this chapter are for the public sector institutions.
- ² These rates are adjusted versions of those reported by the NCHE. The adjustments take account of under-counts in the 1991 census. They remain gross rates which have been derived by dividing the total numbers of students in the public higher education system by the numbers of the population in the age group 20–24 years.
- ³ These calculations are based on the Unesco method which uses the totals of 20–24 year olds in the population as the base.
- ⁴ For the purposes of the graph 'black' comprises African, coloured and Indian South Africans.

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