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awarded NSFAS loans in the first five years 2000-2004

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THE FIRST FIVE YEARS PROJECT – A COHORT STUDY OF STUDENTS AWARDED NSFAS LOANS IN THE FIRST FIVE YEARS 2000-2004¹

1. Introduction

This study was commissioned by NSFAS to use available data to arrive at a picture that would reflect the successes and problems faced by NSFAS, including flows of students through the tertiary education system and graduation rates of students. The focus is on following the first five cohorts of students who entered the system in the period 2000-2004, and to track their performance. This was an immense task, given the fact that the data systems used are massive, and that they are not linked. For this reason the data management issues are dealt with in some detail in this report.

This report should be understood against the context of the current public financing of higher education in South Africa and how it changed over the last two decades. As will be discussed, tuition fees increases in real terms made higher education for the poor an even more unaffordable option than was the case before. The history of NSFAS will be briefly discussed as well as the relative success with which the students that received NSFAS awards progressed through the higher education system. In this process statistics made available by NSFAS as well as the Ministerial Committee will be quoted; these figures are often contradictory to each other.

The next section will be devoted to the process of data management that was undertaken to determine with what success these students progressed through the system. A profile is given of the students that received NSFAS awards, distinguishing by gender, racial groups, age, institutions attended as well as type of qualifications obtained.

- Section 7 turns to an analysis of the results of the five cohort groups that started studying at higher education institutions as first-year students in 2000 to 2004. The report shows the success rate of the original cohort groups that obtained qualifications, those that dropped out of the system without any qualifications as well as those that stayed in the system without obtaining qualifications. A distinction by field of study of these students between natural and social sciences is also undertaken, as well as between degrees and diplomas/certificates and between the type of institutions where those qualifications were obtained (traditional universities,

¹ This Research Report was initially published by NSFAS. Their financial contribution in making this study possible is hereby acknowledged.

comprehensive universities and universities of technology). Lastly information on the money spent on successful and unsuccessful students will also be provided.

Relevant information that was not included in the main report was added as an appendix. The information of most of the figures/graphs is attached as tables. The reader is referred to the appendix for more information than is given in the main report.

Summary of the main research findings:

- NSFAS has been remarkably successful in terms of student graduation (degrees, diplomas and certificates), even if one does not consider student home background. As NSFAS serves largely students from poorer backgrounds who are usually first generation university students, the success of these students in progressing through the higher education system is even more remarkable. The success of the NSFAS performance can be gauged from the fact that NSFAS students outperform non-NSFAS students, according to an analysis of HEMIS datasets for 10 years that were analysed. The better NSFAS performance compared to non-NSFAS students may perhaps be because of smaller drop-out among the former. This appears to be related to the financial support by NSFAS that allows these students to continue their studies even when not fully successful, whereas non-supported students tend to drop out more easily.
- There has been great consistency over time in graduation rates, implying that the first cohort studied (those starting higher education studies in 2000) have had about the same graduation rates as the subsequent cohort, up to the cohort of 2004. Yet when one considers the graduation rates, it is encouraging to note that NSFAS students increasingly obtained degrees rather than diplomas or certificates. This implies that, underlying the stability in the graduation rates, there has really been an improvement in quality of the graduates that NSFAS funding has delivered.
- Most students graduate late, a situation that applies to both NSFAS and non-NSFAS students. Amongst NSFAS students, a small number remain in the system far too long, but there are also some students who initially drop out and later drop back into the system, perhaps after a period in the labour market. On the other hand, there are some funded students who never obtain a qualification, and are in some cases funded too long.
- Most of the NSFAS disbursements are well spent, in the sense that students generally perform well. This is so especially if one considers that in the process of allocation of loans universities generally do not appear to really consider academic potential as a criterion for allocating loans, focusing instead almost exclusively on financial need, once students meet the entry requirements for the courses concerned. (Potential for success is supposed to be a criterion for support). However, there is nevertheless some financial

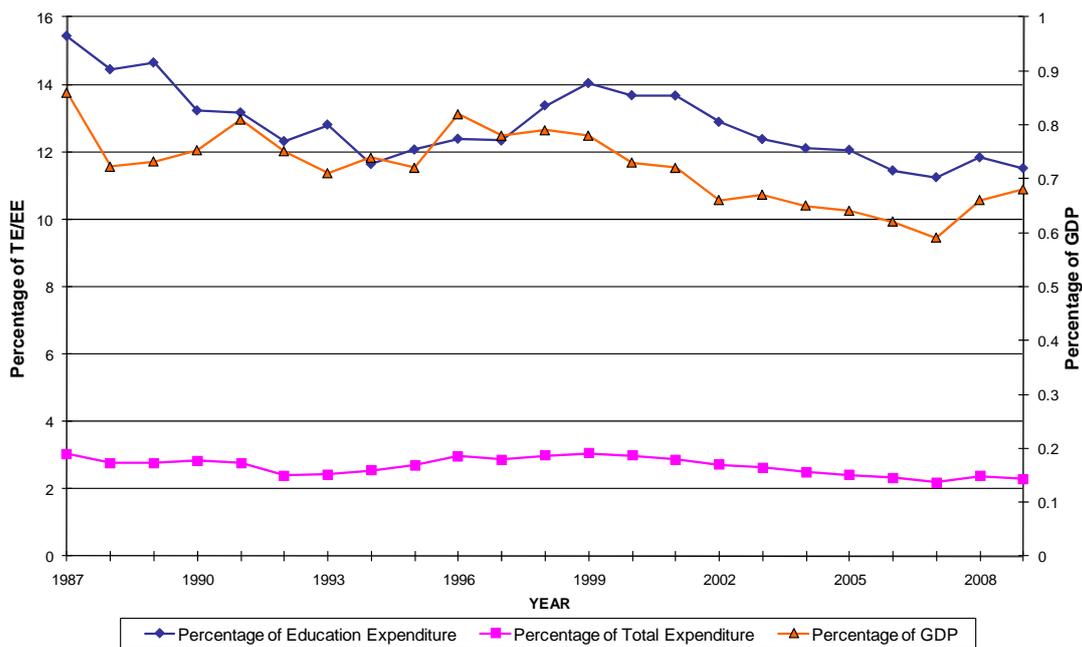
wastage which can be reduced by stricter application of the rules regarding length of support to students; there appears to be some cases where support to students far exceeds the rules. Also, some further improvement in targeting might be possible by even better selection of potentially successful students within universities.

- An information system regarding repayment rate of loans needs to be developed, given the alarming lack of clarity on who owes what to NSFAS, and which students are in a position to repay. However, this issue was not a part of this study.

2. Financing of the South African Higher Education System

In the past decades, the public financing of higher education decreased in real per capita terms. From 1987-2003 the number of weighted full-time equivalent students increased by 141.3% (from 183 604 to 442 962) but the number of weighted full-time equivalent instruction/research personnel increased by only 53.5% (from 14 036 to 21 510) [Steyn and de Villiers, 2007]. Over the same period the real state appropriation per student (subsidy) decreased by 37.2% in real terms, from R30 556 in 1987 to R19 494 in 2003 (in constant 2000 prices). In Figure 1 this can be clearly seen. While about 0.83% of GDP was spent on higher education in 1987 this declined to only 0.68% of GDP by 2009. Public spending on higher education decreased from 3.03% to 2.39% of total public expenditure over the same period. Within the educational budget, higher education's position deteriorated over time: In 1987 it received 15.43% of the total education budget, but higher education's share decreased quite substantially to 11.51% in 2009.

Figure 1: *Expenditure on higher education in South Africa: 1987-2009*



From **Table 1** it is clear that public expenditure on higher education in South Africa lags behind the rest of the world. While the government is currently spending 0.68% of GDP on higher education, the international average is a much higher 0.82% of GDP. Only the countries in East Asia and the Pacific spend a smaller percentage of GDP on higher education. Compared to more developed regions like North America and Western Europe South Africa lags even further behind. A disturbing factor is that even in the Sub-Saharan Africa region, South Africa (which is frequently seen as the growth train of Africa) lags behind the average.

However, the trend in public financing of higher education does not seem to indicate that this picture will change much in the immediate future. This clearly illustrates why HEIs became under more financial pressure and had to increase tuition fees (in real terms) to survive. Unfortunately this had very negative results on prospective students from poor communities, because it made higher education more unaffordable to the poor.

Table 1: *Total public expenditure on higher education as a percentage of GDP for 2007 according to continent/region*

Continent/region	Number of countries	% of GDP Average
Sub-Saharan Africa	22	0.69
South and West Asia	5	0.72
North America and Western Europe	21	1.05
Latin America and the Caribbean	21	0.81
East Asia and the Pacific	10	0.62
Central and Eastern Europe	15	0.90
Arab States	6	0.85
TOTAL	100	0.82

Source: Unesco, 2009: 53 and Table 13 (Author's own calculation)

Data on outstanding student debt at HEIs are not readily available. Steyn and de Villiers (2006) showed that for the 26 HEIs for which they could obtain data out of the 36 HEIs existing at the time, student debt almost doubled from R669.0 million in 2001 to R1 337.4 million in 2003. Student debt written off increased from R94.2 million in 2000 to R190.2 million in 2003. This clearly illustrates the problems students experience in financing higher education, which is the very reason why NSFAS was introduced: to make higher education more affordable for the poor and in this way to contribute to changing the demographic profile of students attending HEIs in South Africa.

3. The National Student Financial Aid Scheme (NSFAS)

3.1. Background

Since the early 1990s when South Africa started moving towards becoming a democracy, the problem of outstanding student debt was threatening to create a situation where certain HE institutions would have been unable to continue their activities. Some mechanism had to be put in place to help especially students from previously disadvantaged communities. The provision of additional financial aid to poor students was an effort to create equal opportunities and access to HEIs to all South Africans irrespective of race. The provision of financial aid to needy students was also seen as something that would impact on the racial skewness in access to higher education.

The National Commission for Higher Education advocated a national financial aid scheme in its report of 1996 (European Commission, 2000). This was also endorsed in the Education White Paper 3. The Tertiary Education Fund of South Africa (TEFSA), established in 1991 by the Independent Development Trust as a not-for-profit company to provide loans to HE students, had the necessary infrastructure to administer the new aid scheme, which would be mainly funded by the state. TEFSA was therefore contracted by the Minister of Education to administer the NSFAS. The first state allocation for the NSFAS by the state was made in 1995. The need for financial assistance was massive and there was no way that NSFAS could supply sufficient funds. For example, in 1996 223 000 students applied for loans, but only some 70 000 could be assisted. In 1999 the NSFAS was formally established by an Act of Parliament (Act no 56 of 1999). In 2000, TEFSA was reconstituted as the NSFAS – a statutory agency with a board, representing all major stakeholders in HE in South Africa, appointed by the Minister of Education. The NSFAS could also collect and allocate donor funding to use for providing loans and bursaries for needy students.

The aim of NSFAS is to ensure that most citizens have access and can afford higher education and training. The NSFAS receives allocations from the state but also donations from local and international donors and then provides assistance to disadvantaged students by means of bursaries and/or loans. According to the NSFAS Act of 1999 any student may apply in writing for financial assistance, but in order to be eligible for a NSFAS loan a student must:

- be a citizen of South Africa
- be accepted as a registered student at a university or technikon (after 2004 at a comprehensive university or university of technology) in South Africa when the award is made

- be studying for a first tertiary qualification or
- be studying for a second educational qualification provided that this second qualification would enable the student to practice a chosen profession
- be judged to have the potential to succeed
- be regarded as financially needy

For this process to be successfully undertaken a means test has to be applied. However, on enquiry it turned out that no information about the results of the means test for the first eight years is available in the database of NSFAS. The different HE institutions customized the means test to suit their specific context, but in general it can be summarized in one or more of the following 5 categories:

- Calculations of gross family income with applicants qualifying if their income is below a certain predetermined maximum.
- *Per capita* income which takes into account the gross income of the family, but also the number of dependants in that household.
- A points system that takes account of the above, but also takes into consideration if parents are divorced or other dependants in the household are also studying at a HE institution.
- A questionnaire and interview by a skilled interviewer to explore the complexities of the student's background.
- Notional disposable income that takes into account family size, what each member of the household needs to live on and the income available to finance the applicant's studies.

Because TEFSANSA/NSFAS could not handle all the administration they had to rely on the financial aid offices of the HEIs to act as local agents in executing the disbursement system. The institutions finalise the written agreement with NSFAS, grant the bursaries or loans, report on the progress of these students and notify the board if the borrower discontinues his/her studies.

To ensure that funds for NSFAS are equitably divided between the different HE institutions the institutional allocations are based on the number of disadvantaged students at the respective HE institutions, as well as the costs of study (according to study programme) at each institution. The average full cost of study (*FCS*) for all academic programmes at an

institution includes both tuition fee and residential fee. The weighted number of disadvantaged students (*WDS*) at each HE institution is determined by means of the following formula:

$$WDS = (FTE\ enrolled\ Black\ students \times 3) + (FTE\ enrolled\ Coloured\ students \times 2) \\ + (FTE\ enrolled\ Indian\ students \times 1)$$

Finally, the *WDS* and *FCS* measures for each institution are then used to apportion the total NSFAS allocation for a specific financial year between all the HEIs. The amount that each HEI will receive is thus solely determined by the racial composition of the students at that institution, especially the number of black students. However, at each institution itself no distinction is made according to race and the poorest students (those meeting the criteria of the means test) should receive NSFAS awards irrespective of their race. (It is to be noted that the provision that the student should show the potential to succeed

In determining the size of the award to qualifying students, because not all students need the maximum loan amount, the HE institutions are supposed to use the following formula (although most HE institutions actually experience that the maximum amount available through the NSFAS scheme is not enough to cover all the costs of a student):

$$NSFAS\ award = costs - bursaries - expected\ family\ contribution$$

3.2. Number of students helped

In 1995 NSFAS was formally founded. **Table 2** gives the number of students that was financially supported as well as the amount that was paid out in NSFAS awards. On average 88 122 students were helped each year; it is clear that an increasing number of students are supported each year. The amount paid out in terms of awards increased substantially over the years, from a mere R154.0 million in 1995 to R3.2 billion in 2009. Over the period 1995-2009 R15.3 billion was granted to needy students in the form of NSFAS awards. The maximum amount that a student could receive in 1999 was R13 300; this increased substantially to R47 000 in 2010 (NSFAS, 2007 and NSFAS website at <http://www.nsfas.org.za/profile-statistics.htm>). Although the percentage split between racial groups and sexes differ between years, on average about 54% of recipients are woman and 46% are men. Approximately 93% of recipients are black, 5% coloured, 2% white and 1% Indian (NSFAS website).

Government's contribution to NSFAS was a mere R40 million in 1995. From **Table 2** it is clear that government's contributions increased quite substantially over time. From 1995 to 2010 no less than R12.9 billion was paid to NSFAS and in the current year R5.4 billion is budgeted for NSFAS. The government's intention to make higher education more affordable for needy students through NSFAS awards is clear.

Table 2: NSFAS awards paid out: 1995-2009 and state budget 1995-2011

Year	Number of awards	Number of students	Amount paid out (R million)	State Budget (R million)
1995	43 876	40 002	154.0	40.0
1996	73 140	67 641	333.3	300.0
1997	68 918	63 272	350.9	200.0
1998	75 720	67558	394.5	296.3
1999	75 900	68 363	441.1	384.8
2000	83 769	72 038	510.8	437.4
2001	97 517	80 513	635.1	440.0
2002	101 312	86 147	733.5	489.0
2003	112 264	96 552	893.7	533.0
2004	113 693	98 813	985.0	578.0
2005	122 696	106 852	1 217	864.0
2006	124 730	107 586	1 358	926.0
2007	140 901	113 519	1 791	1 113.0
2008	n/a	117 766	2 375	1 502.0
2009	n/a	135 208	3 154	2 015.0
2010	n/a	n/a	n/a	2 373.0*
2011	n/a	n/a	n/a	5 400.0**

* MTEF Estimates

** Announcement by Minister Blade Nzimande

Source: NSFAS 2007, 2008 and 2010; Steyn and de Villiers, 2006; Ministry of Education, 2004, 2005, 2006 and 2009 and Sapa, 2011.

3.3. Repayment of loans

The NSFAS functions as an income contingent loan and bursary scheme. This means that loan recipients only start repayments once they are in employment and earning above a threshold level of income. This threshold income level is currently set at R30 000 per annum.

A student will then be liable to pay 3% of his/her income as a premium on the loan (thus a mere R75 per month). This percentage increases on a sliding scale until it reaches a maximum of 8% of income once a person earns R59 300 (at this salary it translates to R395 per month). According to the Council of Higher Education (2004: 194) the initial student award is a 100% loan. (Here one has to add that certain donors may require that their funds be awarded as a bursary; in such cases the situation will differ from what is described here.) Up to a maximum of 40% of the loan can be converted into a bursary, with the extent of the conversion determined by the student's academic results. If 25% of the courses are passed 10% of the loan is converted into a bursary, if 50% of the courses are passed 20% of the loan is converted into a bursary, etc. Interest accrued on loans at approximately 2% above the inflation rate (based on the previous year's CPI), but since 1 April 2008 it is pegged on 80% of the repo rate as determined by the South African Reserve Bank (5.2% for 2010).

The payment of loans after recipients left the HEIs seems to be the biggest problem that such schemes experience internationally. NSFAS is no exception and the repayment of the NSFAS loans seems to be the most important problem experienced by the scheme. The tracking of debtors between the time when they exit the HE system and their first place of employment has proved to be very time-consuming and this is where most problems are experienced. The situation is even worse for students that fail and drop out of the HE system. Frequently the NSFAS office loses contact with these students. This makes the recovery of outstanding debt a difficult task. These problems are experienced despite the fact that employers are obliged by law to report when they employ NSFAS students.

Despite these problems it is clear from **Table 3** that the capital payments received from former receivers of NSFAS awards increased substantially over the years – from R30.3 million in 1998 to R636.3 million in 2009. However, a personal enquiry at the NSFAS headquarters made it clear that they do not know exactly what they are supposed to receive, because of the complexity of the situation and the lack of clear information system detailing repayment requirements and actual repayments. It is unclear whether South Africa is doing any better than countries elsewhere in the world that use a similar type of scheme. The percentage of capital payments received from former recipients that are re-injected into the fund to be paid out as new awards stayed fairly constant at around 30% of the amount received. As a result the amount received from former recipients that is paid out in new awards increased substantially over the years. For example, in 2009 a healthy R580.1 million of receipts was re-injected into the pool of funds to be used as new awards. For the period

2001-2009 on average 20.4% of disbursed funds were receipts that were re-injected into the fund.

Table 3: *Funds recovered from former students that received awards*

Year	Amount (R million)	Amount re-injected from loan recovery (R million)
1998	30.3	-
1999	67.7	13.7
2000	91.7	9.2
2001	112.4	149.3
2002	155.8	150.0
2003	208.5	168.8
2004	245.3	246.5
2005	329.0	261.3
2006	392.4	296.0
2007	479.2	294.8
2008	555.7	396.9
2009	636.3	580.1

Source: NSFAS, 2007, 2008, 2009, 2010

The provision for doubtful debt should give one an idea about the success with which repayment of loans takes place. **Table 4** gives a summary of provision for doubtful debt since 2004. The percentage written off is derived by taking into account the economic status of the country (which determines the unemployment rate of recipients of NSFAS awards once they completed their studies), the number of recipients that died (HIV/AIDS played an important role in this regard), recipients that became permanently disabled as well as the number of recipients that dropped out of the system. The lower rates from 2005 can probably be attributed to improved loan recovery strategies that were put into place as well as lowered mortality from HIV/AIDS. In 2010 the scheme undertook a student Loan Book review that took into consideration the impact of legislation and economic factors (NSFAS, 2010). According to the NSFAS Annual Report an impairment of R2.6 billion was effected on student loans. This explains the very low 2.9% provision for doubtful debt in 2010, although it is not clear from the report why exactly this was the case.

Table 4: Provision for doubtful debt

Year	Amount (R million)	Percentage
2004	1 239.9	38.4
2005	1 115.5	29.9
2006	1 264.3	27.4
2007	1 234.4	22.8
2008	1 464.9	23.2
2009	1 774.1	23.8
2010	174.9	2.9

Source: NSFAS, 2008 and 2010

Table 5: Percentage of courses passed by recipients of NSFAS awards and of capital converted into bursaries: 1996-2009

Year	Percentage	Per cent of capital converted into bursaries
1996	72.6	26.6
1997	75.3	28.9
1998	76.1	29.4
1999	73.8	28.8
2000	74.6	29.4
2001	73.1	28.9
2002	73.9	28.7
2003	72.3	28.2
2004	74.3	29.1
2005	75.6	28.6
2006	73.4	27.5
2007	75.1	27.9
2008	76.5	28.3
2009	74.0	28.0
Average	74.3	28.5

Source: NSFAS, 2007; 2010 and NSFAS website available at <http://www.nsfas.org.za/profi-statistics.htm> (Accessed 12 August 2011)

As was explained earlier, there is an incentive built into the scheme for students who are successful in their studies to convert part of the loan into a bursary. Up to 40% of the loan can be converted into a bursary if a student successfully passes all the courses. From **Table 5** it is clear that if the reported statistics of NSFAS are correct, then their students are very successful with their studies. Over the period 1996-2009 NSFAS reports that students passed on average 74.3% of the courses for which they entered. However, the Ministerial Committee (2010: 69-70) reported that, of all the students NSFAS funded over the years 33% are still studying while the other 67% are not at HEIs anymore. Of these students no longer studying, only 28% had graduated, while the remaining 72% had dropped out or did not complete their studies. If one takes into consideration that on average 28.5% of loans of the maximum of 40% that can be converted were converted into bursaries, this is consistent with an approximately 70% success rate. Thus the NSFAS and Ministerial Committee statistics are contradictory.

Over the years NSFAS contributed to make higher education more affordable to the poor and also helped HEIs that traditionally serviced poorer communities to balance their books. Without these NSFAS payments some of these institutions may not have been able to continue with their normal functioning. Without question the scheme contributed positively to making higher education more accessible and affordable to the poor. But the currently available indicators of the success with which students progressing through the system tend to contradict each other. The rest of the report allows some improvement in this respect. It outlines the procedures that must be put in place to determine the success with which students progress through the system and then discusses the results of the first year NSFAS cohort groups of 2000 to 2004.

4. The Data Management Process

4.1. Introduction

This section deals with the process that was followed to analyse the performance of the students that received NSFAS loans in the period 2000-2004. One of the first steps in creating an analytical solution is to understand the data and transform it into a relevant format for further analysis. The authors had several meetings with NSFAS to clarify uncertainties about data received.

4.2. Objective

The purpose of the data management process is to create an integrated information system using various operational data sources and can be summarised as follows:

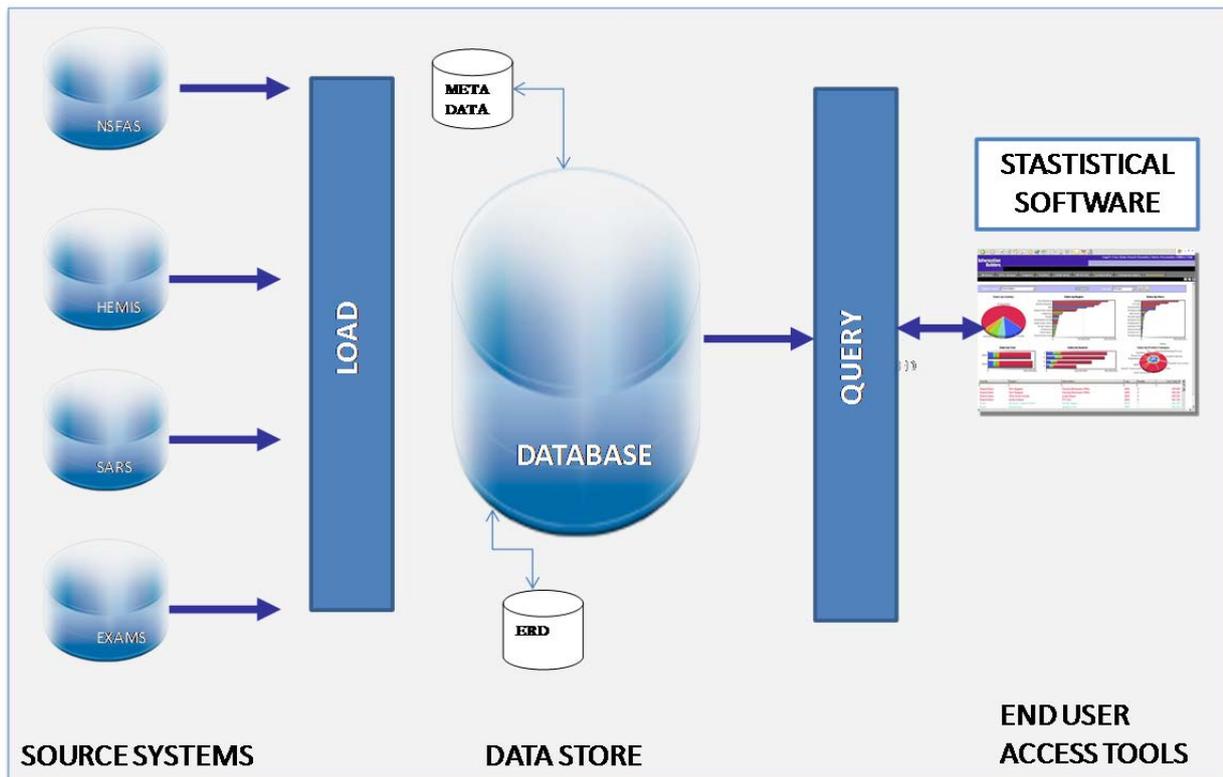
- To integrate all the datasets received using a unique identifier (identity number)
- To identify all the students in each cohort to develop a single source of standardized individual student records
- To develop an information system with the relevant master files and data elements in order to do a cohort analysis (for example, determine through put ratios, profiling and tracking of students) of those students that received loans for the years 2000, 2001, 2002, 2003 and 2004 as required by the Terms of References.

4.3. The overall architecture of the information system

The overall architecture of the information system for this study consists of the following clearly defined steps (See **Figure 2** for a diagrammatic representation):

- The data source systems
- Loading of the data into the data store
- The data store
- Querying and transferring the data into a statistical software package

Figure 2: Overall Architecture of the Information System for this Study



4.3.1. Data source systems

The following datasets were received from NSFAS:

- NSFAS LMS: tblDcapBatch, tblDebtor, tblLoan, tblDonor and tblInstitution
- HEMIS tables from 2000 to 2009: NSFASSTUD20090404, NSFASQUAL20090404, NSFASCRED20090404, NSFASCREG20090404 and NSFASINST20090404
- SARS table

4.3.2. Uploading of data into the database

An important step in the data management process was the uploading of the text files into a database. A converter, StatTransfer, was used to transfer text files directly to a database. The converter created the tables and loaded the information into it as well. The data was uploaded at student unit-level from the text files into the database.

4.3.3. The Data store

The NSFAS datasets on its own are not comprehensive enough to do a cohort analysis of the students who received an award. There is also not one file in the NSFAS database containing all the relevant information to profile award recipients. Therefore the relevant information has to be extracted from different files before it is compiled into a single master file. In the same vein the HEMIS datasets are stored separately per year and should be integrated through a

unique identifier to create longitudinal student unit-record information system. Such a system facilitates the process to track the movement of students throughout the higher education system. Salient characteristics of these data sources include the following:

- Unique identifier

In all these databases the identity number is a core data element and makes it possible to link these datasets and to analyse institutional longitudinal data. A unique student identifier (identity number) is used to link all these datasets and makes it possible to follow a student's progress through the system using this identifier in longitudinal data (data gathered on the same student from year to year).

- Key data Elements

Core Data Elements in the longitudinal student unit-record HEMIS and NSFAS datasets, such as the entrance category, requirements and CESM codes and qualification codes enable a more detailed analysis that is not possible with aggregated data. This requires experience with linking of databases and is a challenging exercise because a set of linked databases can eventually contain more than 20 million records.

4.3.3.1. The database

The data of NSFAS and HEMIS students were uploaded at student unit-level into relational database management system (RDMS). **MySql** was used as the relational database management system (RDMS) to store and manage the datasets. With the RDMS the data as well as the relationship between the tables are stored in the form of tables. This format makes it easy to integrate large datasets from multiple information systems, to gain easy access to it and to query the database.

4.3.3.2. Data dictionary

The data dictionary (sometimes referred to as metadata) gives a description of the data in the system in terms of its structure, content and context. The data dictionary contains the metadata, for example all the tables in the database, the names (code and description) and types of each field. It will be attached as an addendum in the final report.

4.3.3.3. Data integration

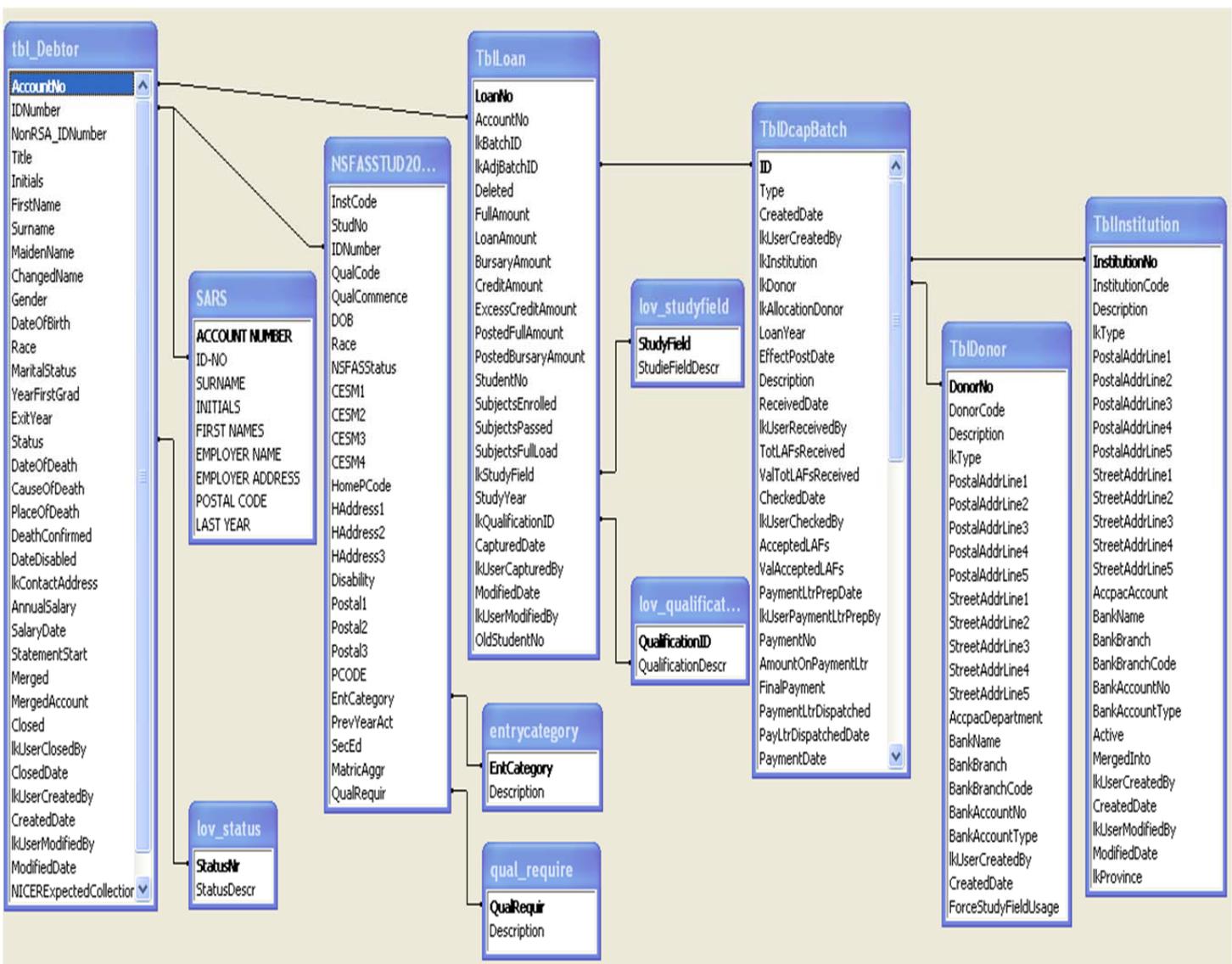
By assigning unique identification codes to each level of data collected, data from different data sources (e.g. NSFAS, SARS, EXAMINATIONS, HEMIS, PERSAL) can be linked,

integrated or merged. With this project an integrated information system was developed by using the identity number of the student to link the different data sources.

4.3.3.4. Entity-relationship Diagram (ERD)

The ERD is a database tool that lists data elements, attributes of the elements and the relationships amongst the elements and tables. **Figure 3** gives a graphical description of the data elements of this project, the relationship that exists between the different tables in the system and how it can be joined in a meaningful way.

Figure 3: Entity-relationship Diagram



4.4. End-user access tools

4.4.1. Query Writing Tools

Microsoft Access is used as query writing tool. It's easy to use interface and flexibility enabled us to extract all the necessary datasets to obtain all the variables needed in the study. Microsoft Access was used to compile the different student cohorts (2000-2004). It was also used to determine the flow through of the students for each cohort and to compile the different datasets for the flow through processes. The processes and technical steps are described in the *Technical Procedures* in Section 5. These datasets were then transformed into STATA.

4.4.2. Data Cleaning

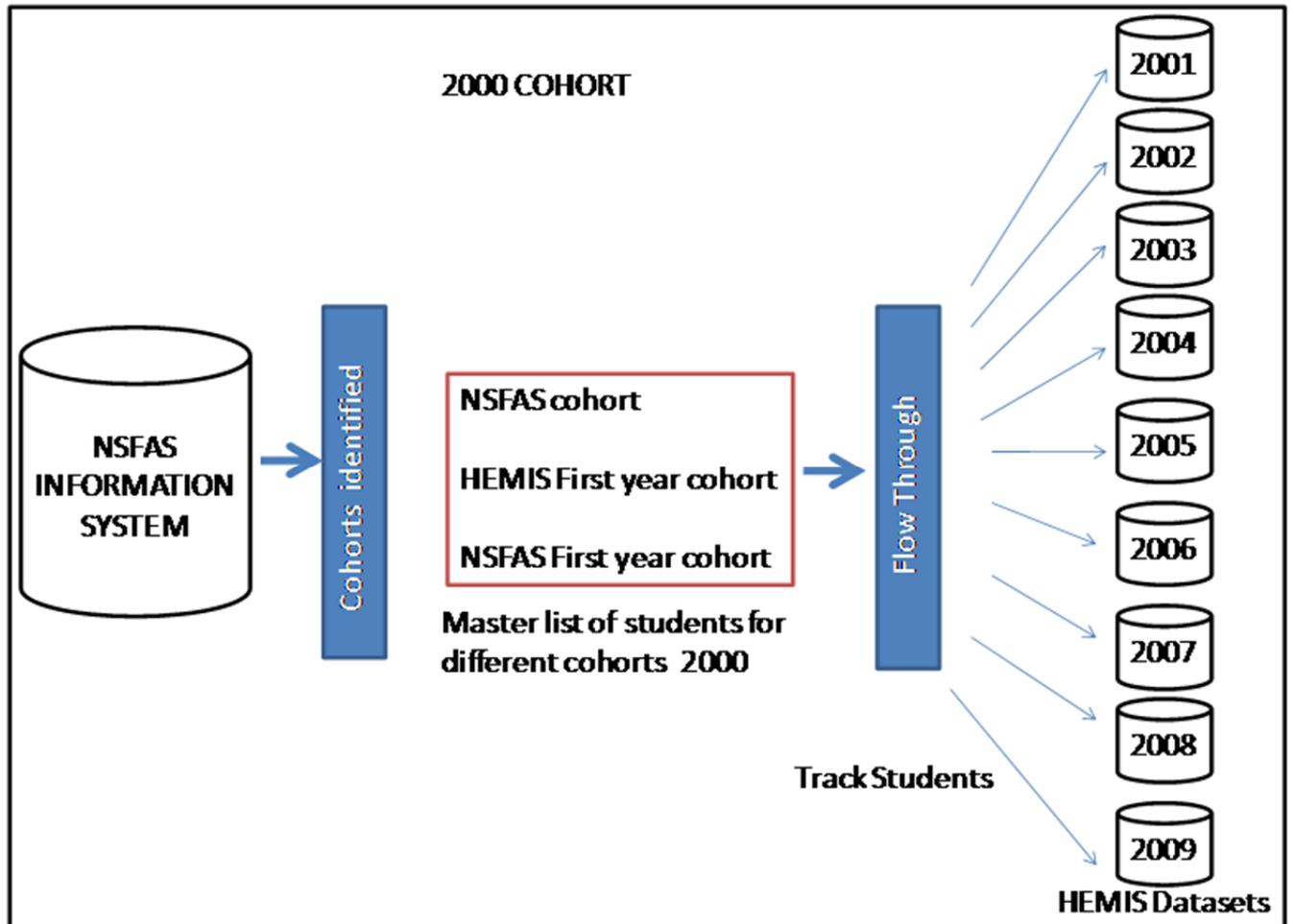
The following steps were taken to ensure the quality and reliability of the data used in the project:

- The table tblDebtor was used to create the master lists for each cohort
- Students without an ID number was dropped from the system
- Students with different Account Numbers were identified and corrected with the support of NSFAS staff
- In the HEMIS datasets students with no ID number, the same ID numbers (more than one students that had 1, ZZZ, etc as ID number) were dropped from the dataset

5. Technical Procedures

Figure 4 graphically depicts the steps to identify the students and track them through the system and create a master list with records of all the students (not only students that received NSFAS loans) that flowed through the system from 2000 to 2004.

Figure 4: *The Process to identify the 2000 cohort and track students through the system*



5.1. Steps to identify the students for each cohort

In this study the following cohorts were identified and 15 master files created, 5 for each cohort year, as indicated in **Table 6** below:

- All students in the NSFAS cohorts (2000-2004)
- Only the first-first year students in the NSFAS cohorts (2000-2004)
- HEMIS without NSFAS first-first year students (2000-2004)

Table 6: NSFAS and HEMIS cohort groups 2000 - 2004

Cohort year	NSFAS All	NSFAS First-first	HEMIS without NSFAS First-first
2000	31 864	15 345	113 346
2001	38 226	21 584	117 894
2002	38 299	21 943	136 287
2003	44 283	27 030	136 615
2004	41 409	24 381	144 247

These cohorts will be used to determine the structure of the student profiling and the cohort analysis.

NSFAS cohort: The following procedures were used to identify the students in each cohort from 2000 to 2004:

- a) Create a master list of all the NSFAS students using the tables *tblDebtor*, *tblLoan* and *tblBatch*
- b) For the 2000 cohort count the number of years the student received a loan using the loan years field less than 2001
- c) Compare (b) with the master list. Students with a count of 1 and a loan year of 2000 are the students that should be included in the 2000 cohort
- d) Repeat the steps (b) and (c) to compile the other cohorts
- e) The next step is to determine how successful a cohort group progressed through the education system. Therefore you compare the students of the master list (as determined in **steps (a) to (c)**) with the HEMIS students for each year over time to determine how many students progress from year to year (refer to Figure 3) in the following way:
 1. Compare the students of the 2000 cohort with the HEMIS students for each year from 2001 to 2009.
 2. Identify all the students that flow through the system for each year
 3. According to 2 one can thus determine whether the student is still in the system, received a qualification or dropped out.
 4. Store these students that are identified in 2 for each year as one dataset (refer to Figure 3)
 5. Repeat step (e) for the other cohort groups
- f) The master table contains all individual records of all the students for each of the cohorts 2000 to 2004

First-first year students in the NSFAS cohorts

- g) Use the NSFAS cohort tables and link it with the HEMIS datasets for each particular year
- h) Use the field entcategory in the HEMIS data (F = first year) as the selection criteria to identify the cohort of first years for each year
- i) Create the master tables for NSFAS first-first year students for each year according to (g) – (h)
- j) Repeat step (e) to identify all the NSFAS first year students for each year that flow through the system

First-first year students in the NSFAS minus HEMIS cohorts

- k) Use the NSFAS cohort tables and link it with the HEMIS datasets for each particular year to identify the NSFAS first-first year students in the HEMIS datasets
- l) Delete all the students in the HEMIS datasets identified in step (k)
- m) Take the HEMIS data tables and use the entcategory field (F = first year) as the selection criteria to identify all the first year student for each year
- n) Create the master tables of HEMIS - NSFAS first-first year student for each year according to steps (k) – (m)
- o) Repeat step e) to identify all the HEMIS – NSFAS first-first year students for each year that flow through the system

5.2. An analysis of the flow through of students in the higher education system

The basic principle of this method is that one can determine the flow of an entrance cohort of students, as identified in Section 5.1, using the HEMIS longitudinal dataset and calculate the eventual outcomes at the end of the cycle.

Four basic transition rates are necessary to determine the flow through of a cohort of students through a cycle, namely the rates of those who:

- progressing through the system (progression rate)
- exiting the system without any qualification (dropping out)
- re-entering the system (after previously dropped out)
- receiving a qualification (certificate, diploma or degree)

Students progressing through the system

The progression rate is calculated by comparing the master list of the specific cohort (as identified in Section 5.1) with longitudinal student unit-record of HEMIS to determine how many students progressing (remain in the system) from year to year as indicated in **Figure 4**. The HEMIS datasets are used because it is the official student unit-record system indication amongst other the student's field of study (CESM), qualification obtained, the entering category, etc. When the results of the analysis are discussed in Section 7 to these students will be referred to as those that continue in the system although they have not received any qualifications.

Students exiting the system without any qualification

Those who exited without any success can be determined by using enrolment from year one minus enrolment (progression) from year two and subtracting all those who graduated at the end of year one. However, these students who dropped out after one year can enter the system in the future again even with a different study field or at another institution. In the discussion of the analysis these students will be referred to as drop outs, meaning that they left the system without any qualifications.

Students receiving a first qualification

The students who obtained a first qualification are calculated by using the requirement qualification field in the HEMIS data set and compare it with the HEMIS longitudinal student unit-records for each student. A student is counted only once irrespective of how many qualifications are obtained over time. In the discussion of the analysis these students will be referred to as those that qualified, meaning that they received at least one qualification.

With this cohort analysis method one can thus determine exactly how many students of a specific cohort dropped out without any qualification, how many graduated and how many are still in the system that have not received any qualifications at all.

6. Profiling students in the various cohorts

This section will specify the different cohorts and describe the profile of the students within each. To construct a student profile, the different cohorts as identified in Section 5.2 were used to determine the structure and content of this section.

6.1. Student profile for the student cohort receiving first time NSFAS awards from 2000-2004

The student profile discussed in this section presents all the students who received their first loan/bursary through NSFAS in the academic years 2000 to 2004 by several profile characteristics. The report provides a comparative statistical summary for the cohort years 2000 – 2004 (inclusive) and includes student totals, gender, age, qualifications and dropouts. **Table A1** is attached in the **Appendix** as a summary to compare the NSFAS and HEMIS datasets.

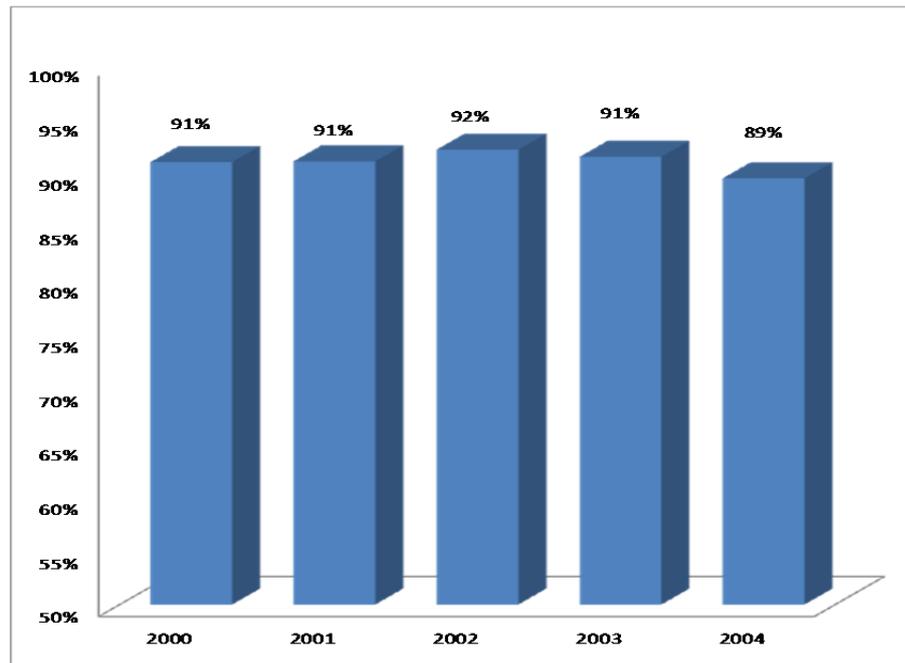
6.1.1. NSFAS student enrolment totals per cohort

A comparison of the totals across the different cohorts for students who received their first loan/bursary through NSFAS in the academic years 2000 to 2004 is summarised in **Table 7** below. **Table 7** and **Figure 5** below show comparative student totals in the NSFAS loan system and the student totals when linked with HEMIS for all the cohorts. Based on the data in **Table 7** and the graph (**Figure 5**) it is clear that a relatively high percentage of students in both systems could be matched. It is important to link these systems in order to use data elements and characteristics of both datasets in order to do a comprehensive cohort analysis. The records that could not be linked were due to students with no or wrong ID numbers.

Table 7: *Comparative student total for the NSFAS and HEMIS by cohort*

Cohort Year	NSFAS	HEMIS	Percentage
2000	31 864	28 978	91
2001	38 226	34 793	91
2002	38 299	35 274	92
2003	44 283	40 495	91
2004	41 409	37 043	89

Figure 5: *Percentage of NSFAS cohorts that could be linked with HEMIS datasets: 2000-2004*

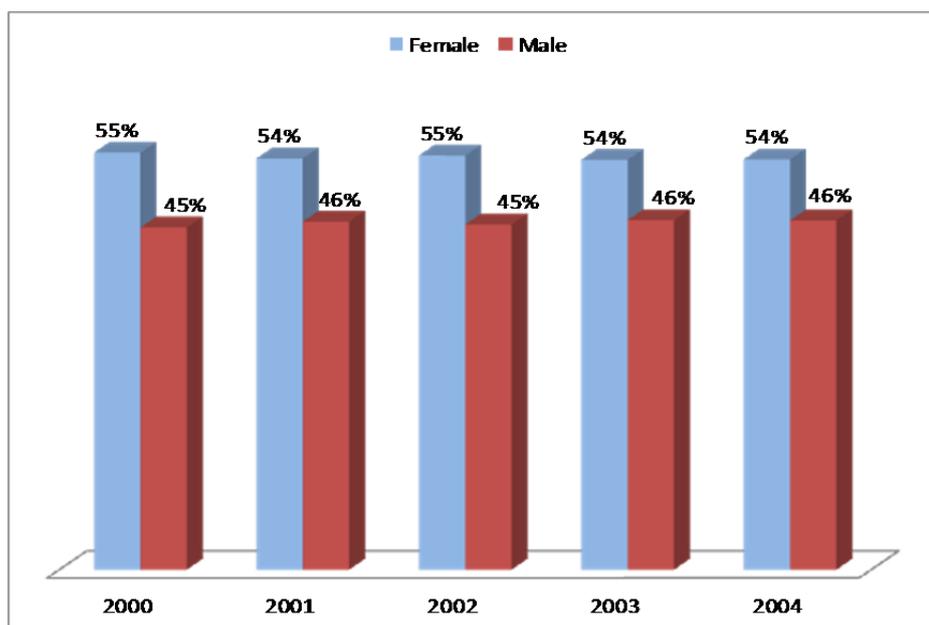


6.2. NSFAS student enrolment characteristics

Gender Distribution

The gender enrolment figures are consistent throughout all the cohorts. The enrolment characteristics by gender, as indicated by **Figure 6**, revealed that female students represent the majority of NSFAS students, or about 54% and 55% of the total students for the cohorts 2000 to 2004. The male students constitute average 46% of the total student headcount for NSFAS for the cohorts 2000 to 2004.

Figure 6: *Enrolment by gender for the cohorts 2000 – 2004*



Race Distribution

African students represented between 89% and 91% for all the cohorts as indicated by **Figure 7**.

Figure 7: *Proportion of African students for each cohort*

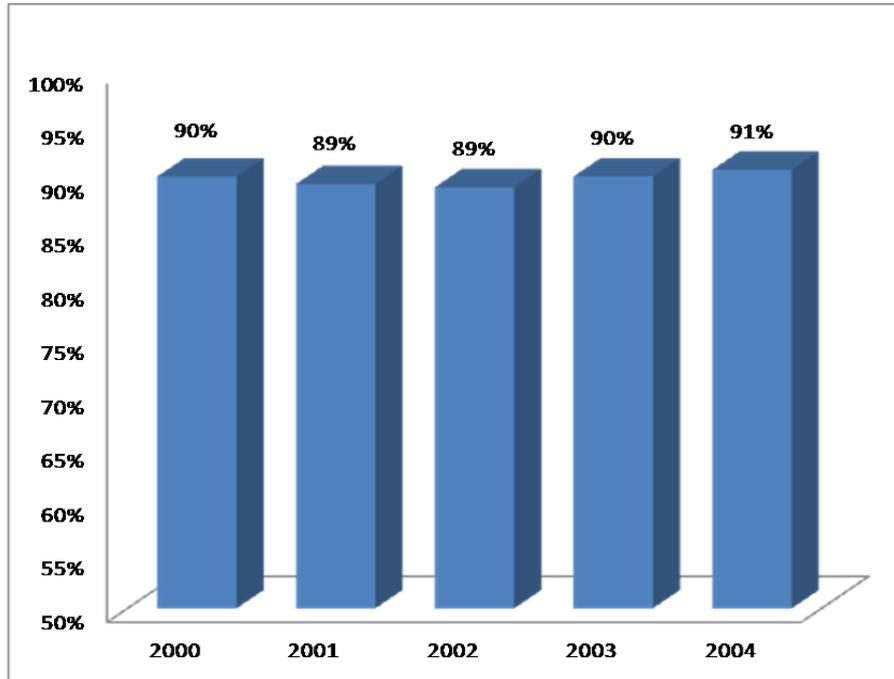
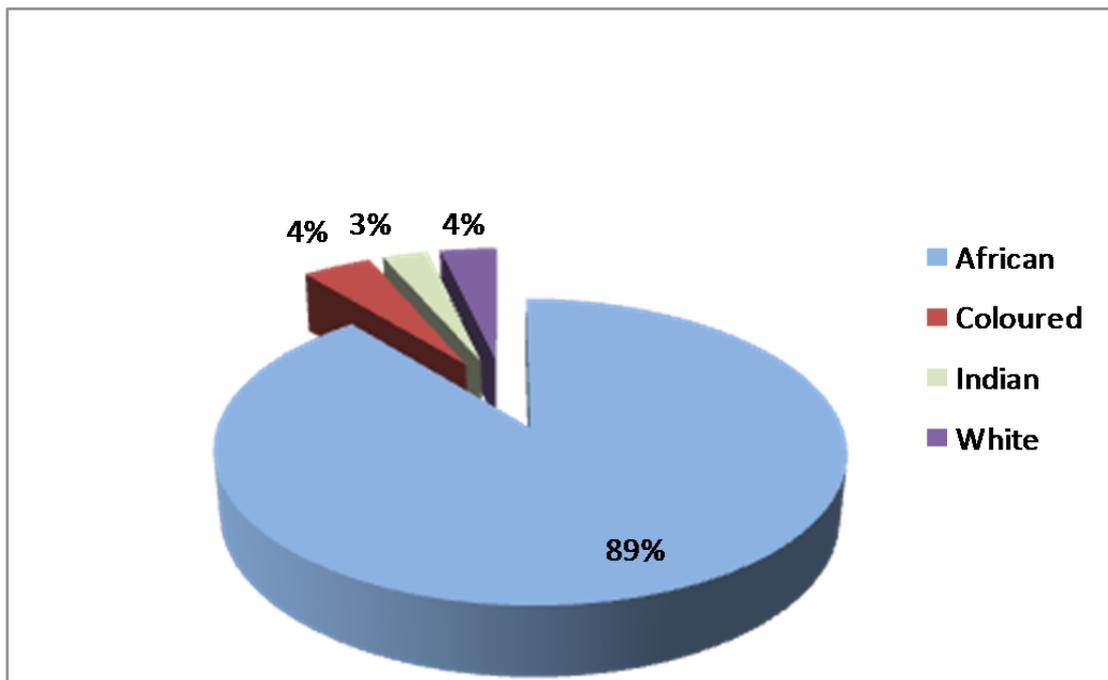


Figure 8 illustrates a typical race distribution for the 2000 cohort. All other cohorts have a similar race distribution with a slight variation for each race within the different cohorts.

Figure 8: *Race distribution for cohort 2000*



*Age Distribution**NSFAS students*

The majority of NSFAS students receiving their first award were 21 or younger although almost 20% were 24 and older (See **Table 8** below).

Table 8: *NSFAS students age distribution*

	2000	2001	2002	2003	2004
N =	31 864	38 226	38 299	44 283	41 409
18 and younger	10%	11%	11%	13%	13%
19	17%	20%	20%	22%	23%
20	17%	18%	19%	20%	20%
21	14%	14%	14%	15%	15%
22	11%	11%	10%	9%	10%
23	8%	7%	7%	6%	6%
24-30	18%	16%	15%	13%	12%
Older than 30	4%	4%	3%	3%	1%

NSFAS first-first year students

The age group younger than 21 for the NSFAS students receiving their first award accounted for more than 73% of the relevant cohort group.

Table 9: *Age distribution for NSFAS first-first year students*

	2000	2001	2002	2003	2004
N =	15 385	21 640	22 003	27 177	24 681
18 and younger	17%	17%	16%	18%	18%
19	24%	25%	26%	27%	28%
20	18%	18%	19%	19%	19%
21	12%	13%	12%	12%	12%
22	8%	8%	7%	7%	7%
23	6%	5%	5%	5%	5%
24-30	13%	12%	10%	10%	11%
Older than 30	2%	2%	2%	2%	2%

6.3. NSFAS student enrolment by qualifications

Table 10 shows a summary of the study years of the NSFAS students for each cohort. Most of those students receiving a first time NSFAS award are in their first study year. It is important to note that when the NSFAS data were linked with the HEMIS data the number of the first year students in **Table 10** was somewhat different from **Table 6** because ID numbers were wrong or absent. For example, the NSFAS indicates 18 366 first-first year students in 2000 (See Table 9), while when NSFAS was linked with HEMIS only 15 385 first-first year students could be identified.

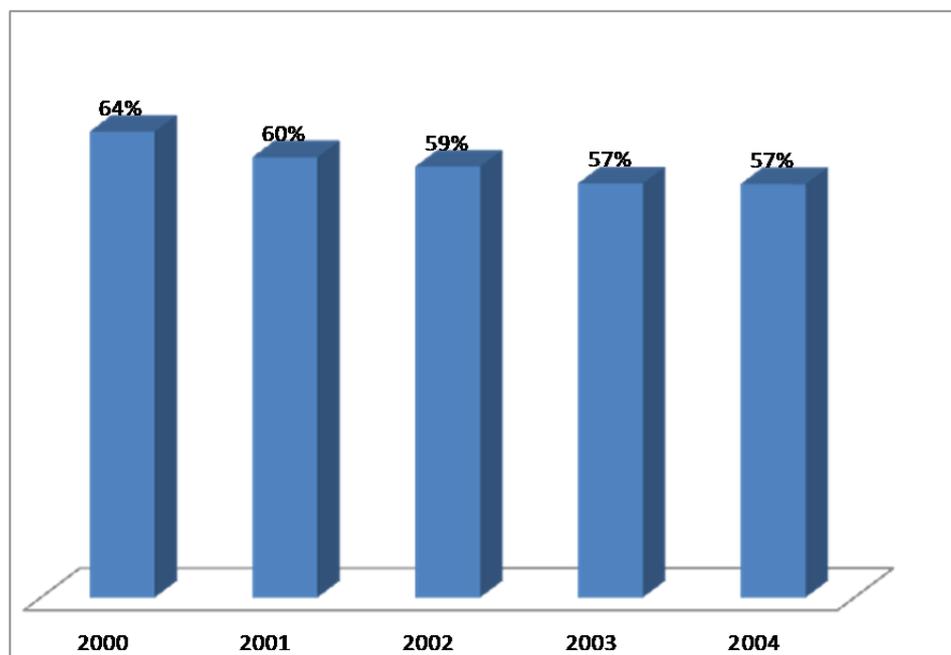
Table 10: Study years of NSFAS students receiving a first award: 2000-2004

Cohort year	1	2	3	4	5	6	7	8	9	Total
2000	18 366	7 746	4 419	1 018	100	38	2	175	0	31 864
2001	26 298	7 596	3 542	712	56	21	0	1	0	38 226
2002	26 682	7 710	3 143	676	64	21	2	1	0	38 299
2003	32 621	8 078	3 015	520	36	11	1	0	1	44 283
2004	30 944	7 292	2 614	499	43	17	0	0	0	41 409

NSFAS student qualifications

Figure 9 shows the percentage of successful students receiving first time NSFAS awards for each cohort. These percentages are not comparable with any other cycle because the students of each cohort year are in different study years. It was therefore decided to use NSFAS first-first students, i.e. students who were first years for the first time and received NSFAS rewards, because it provides a better option to compare it with the first-first year students who qualified in HEMIS without NSFAS, as will be discussed in section 7.

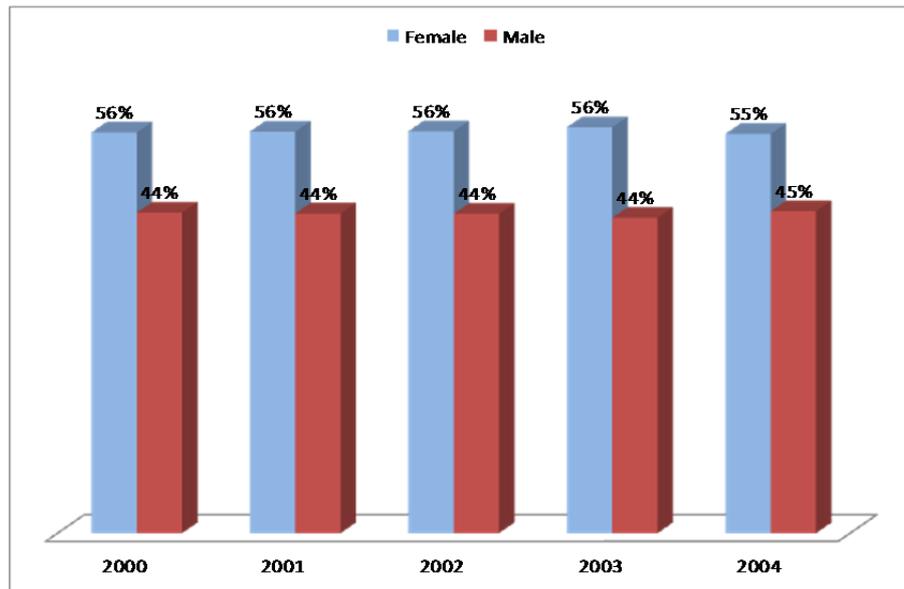
Figure 9: Percentage of students of each cohort that qualified: 2000-2004



Qualifications by Gender

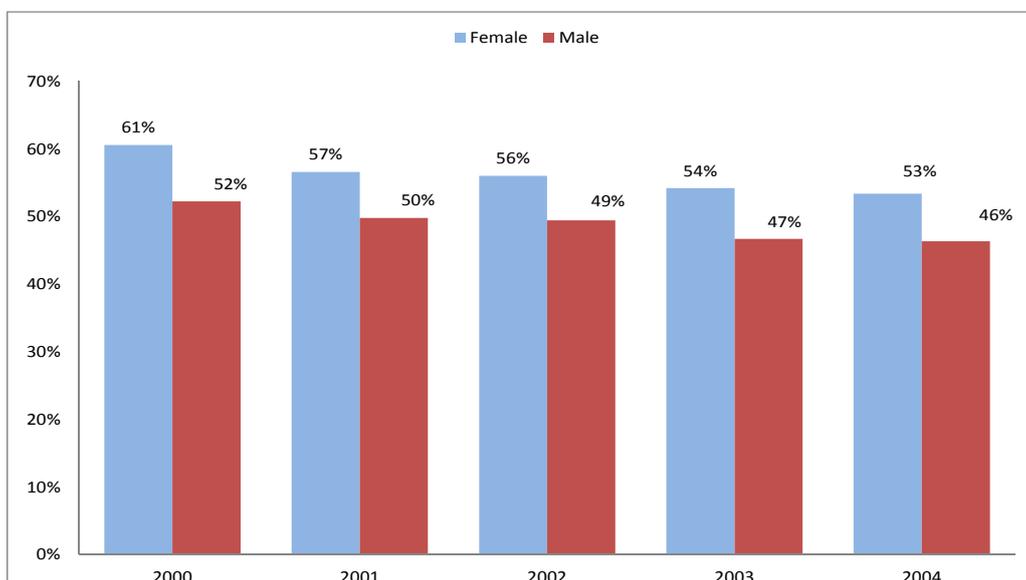
Of the NSFAS first-first year students who qualified in each cohort the female students have the highest percentage, namely between 55% and 56 %, as indicated by **Figure 10**. From the figure it is obvious that the highest percentage of NSFAS first year students who dropped out without any qualifications are male.

Figure 10: *First-first year students that qualified by gender*



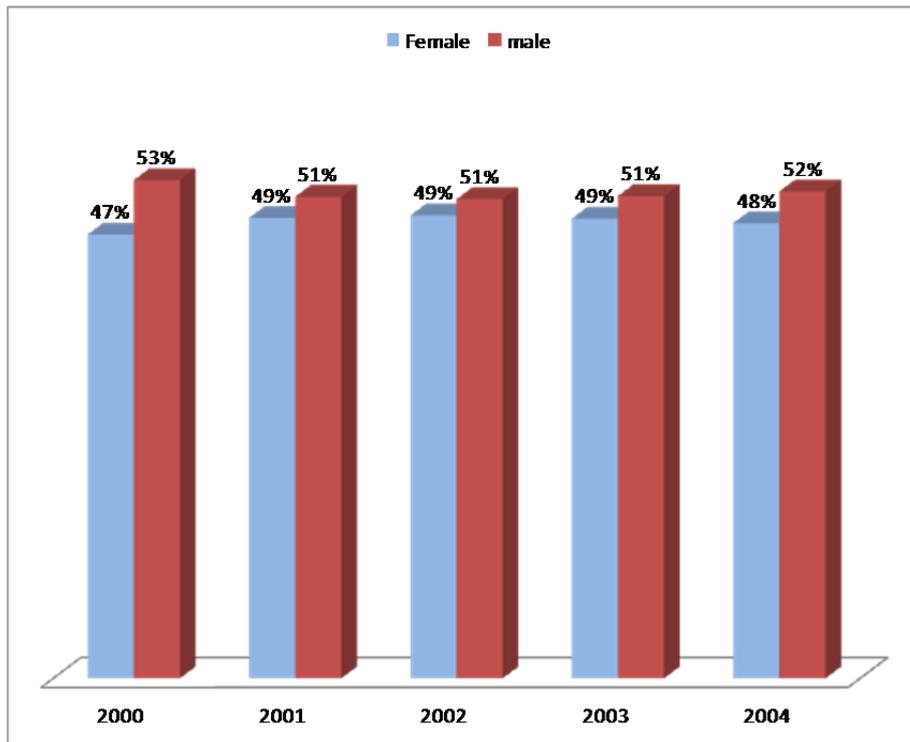
61% of the NSFAS first-first year female students of the 2000 cohort (2000_F) qualified (See **Figure 11**). This percentage drops to 53% for the 2004_F group, because they are in the system for a shorter time period than the 2000_F group. Males are not so successful and 52% of the 2000_F group qualified, while only 46% of the 2004_F group qualified.

Figure 11: *Percentage of gender group of 2000_F to 2004_F cohort groups that qualify*



From **Figure 12** it is clear that the majority of students that leave the system unsuccessfully are males. Although females represented 52% of first-first year students that received NSFAS awards in 2000, males represented 53% of the number of students that dropped out unsuccessfully by the end of the year. The same trend is repeated for the other cohort groups as well.

Figure 12: Comparison between males and females of the 2000_F to 2004_F cohort groups that left the education system without a qualification



7. Results of the analysis

To understand the specific cohort groups that are referred to in this section you must understand the convention that was followed in naming the specific groups. All NSFAS students that received an award in 2000 are referred to as the 2000_all group. If the analysis is done for only first-first year NSFAS students, the term 2000_F is used for that group. Lastly, all the first-first year students of 2000 in the 21 higher education institutions in South Africa *excluding* the NSFAS students as the 2000_HF_NF group (nF refers to these students being Non-NSFAS).

As was discussed earlier, it is not possible to analyze the performance of all students that received NSFAS awards in a specific year. They were discussed in Section 6 and a demographic profile of the group was given. They will not be further discussed in this section because this group cannot be compared to the same group in a different year. The reason is that the group includes first-first year students, non-final year students, final year students as well as post graduate students. The composition of this spread differs from year to year and is thus not directly comparable.

The analysis for students that were first-first year students in e.g. 2000 (2000_F) will be handled in a different way. With this cohort group all students start at the same point and it makes sense to compare the progress of different cohort groups. Bear in mind that to compare the different cohort groups one cannot work with calendar years, because the third year of study of the 2000_F students was in 2002, but the third year of study for the 2004_F students was in 2006. However, the progress of the 2004_F students in 2006 must be compared to the progress of 2000_F students in 2002. Therefore the number of study years will be used as a yardstick to measure progress and not the calendar years as such.

7.1. First-first year students

The first-first year students are used for this analysis, because a student may also be a first year student in their second study year (or even at a later stage) when they drop out of a specific programme and start with a new one. In the HEMIS data it is indicated whether a student is a first-first year student, a non-final year student or a final year student. The HEMIS data sets also indicate in which year a student obtained a qualification. In interpreting the data and graphs in the rest of this section the following must be borne in mind. The students who are referred to as having qualified are those that received at least one qualification. If they are labeled 'drop outs' it means that they dropped out of the system without obtaining any qualifications. The students that continue in the system are those that stay in the system, but did not obtain any qualifications. Obviously some of the students that received a qualification stay in the system to obtain a second (or more) qualification, but one cannot count them with those that continue in the system because then they are double counted.

When splitting up the qualifications obtained per institution one has to remember that the higher education playing field in South Africa changed rather dramatically in 2004 with the merging of the different institutions. Before 2004 there were 21 universities and 15 technikons and these institutions then merged into 21 universities. However, these universities can be split into traditional universities, comprehensive universities and universities of technology. The former institutions were divided into these three types of institutions by taking into account how the institutions merged. The only institution that was rather problematic to divide between the current institutions was Vista University. Vista was split between 7 institutions and the qualifications obtained at Vista were split between the three types of institutions according to these percentages. The traditional universities are University of Cape Town, University of Fort Hare, University of the Free State (former institution plus 0.093% of Vista), University of Kwazulu-Natal (University of Durban Westville plus University of Natal), University of Limpopo (Medical University of South Africa plus University of the North), North West University (University of North West plus Potchefstroom University of CHE plus 0.093% of Vista), University of Pretoria (former institution plus 0.093% of Vista), Rhodes University, University of Stellenbosch, University of Western Cape and the University of Witwatersrand. The comprehensive universities are the University of Johannesburg (Rand Afrikaans University plus 0.093% of Vista plus Witwatersrand Technikon), Nelson Mandela Metropolitan University (University of Port Elizabeth plus 0.093% of Vista plus PE Technikon), University of South Africa (former institution plus 0.442% of Vista plus Technikon South Africa), University of Venda, Walter Sisulu University (University of Transkei plus Border Technikon plus Eastern Cape Technikon) and the University of Zululand. The universities of technology are Cape Peninsula University of Technology (Cape Technikon plus Peninsula Technikon), Central University of Technology, Free State (Free State Technikon plus 0.093% of Vista), Durban University of Technology (ML Sultan Technikon plus Natal Technikon), Tshwane University of Technology (Pretoria Technikon plus Technikon North West plus Northern Gauteng Technikon), Vaal University of Technology (former Vaal Triangle Technikon) and Mongosuthu University of Technology (former Mangosuthu Technikon).

7.1.1. First-first year students in 2000 (2000_F)

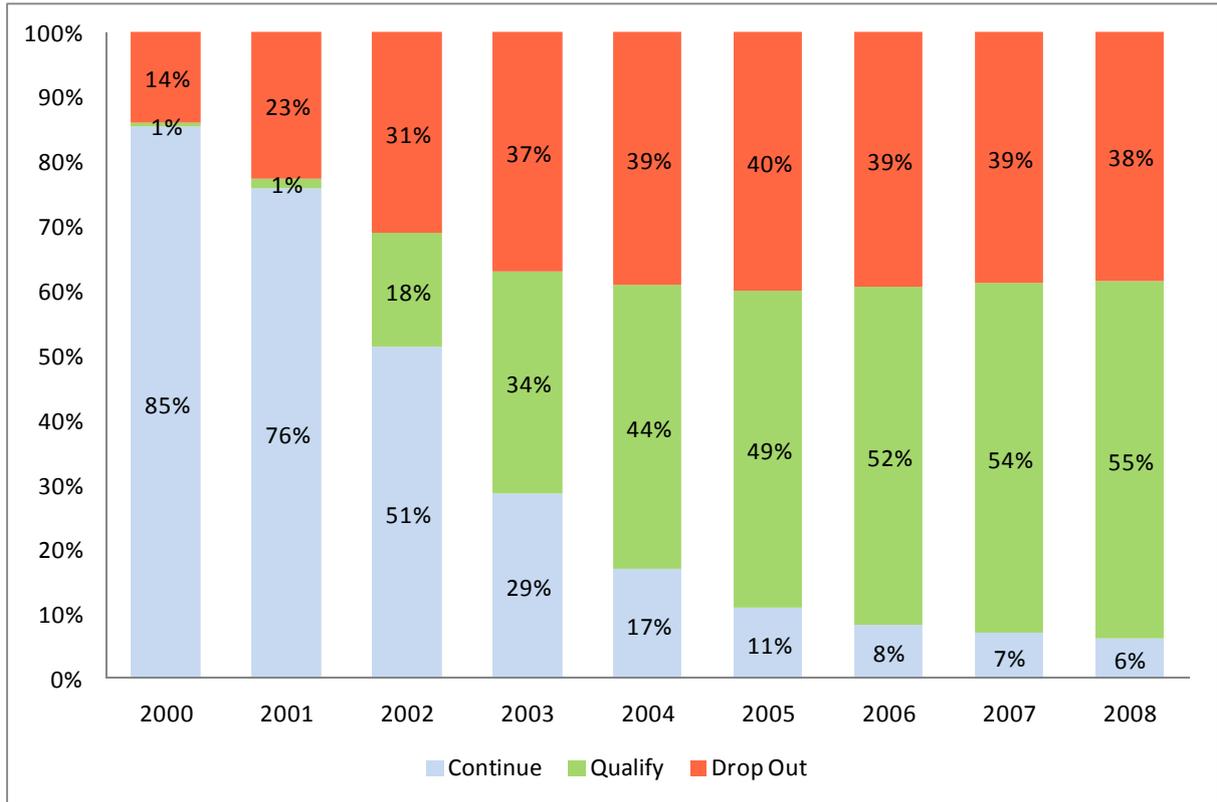
Flow through of 2000_F

In 2000 15 345 first-first year students that received NSFAS awards could be linked with the HEMIS database. **Table 11** gives an indication how those students progressed through the system. Bear in mind that not all students received NSFAS awards for every year, but the table gives a summary of what happened to the NSFAS students that started in 2000 (irrespective of whether they received an award again or not). In interpreting the tables one must remember that 15 345 students entered the higher education system *at the beginning* of 2000, but 122 obtained some form of qualification *at the end* of 2000. At the end of 2000 2 133 dropped out of the system without any qualifications and 13 090 of the original group

continued their studies in 2001, but did not receive a qualification at the end of 2000. The information in the table thus gives an indication of what the situation was at the end of each year. At the end of 2009 it is not known how many continued their studies in 2010; that is the reason why no values are given for those that continued or dropped out (HEMIS data not available for 2010 and 2011). However, it is known how many obtained a qualification and therefore this could be included in the table. It is important that the numbers given in the ‘Qualify’ column must be interpreted correctly. The total qualification of each year in **Table 12** was used to calculate the cumulative qualification in the “Qualify” column in **Table 11**. At the end of 2000 122 students received a qualification and in 2001 another 102 to give a total number of 224. Although some students received a second (or third) qualification, these those qualifications were not added to the total, because that would be double counting those students. The table indicates how many *students* obtained at least one qualification and not how many qualifications those students obtained. From the table one can deduce that 8 678 students of the original 15 345 received at least one qualification in the 10-year period portrayed in the table.

Table 11: *Progress of 2000_F cohort group*

Year	Continue	Qualify	Drop Out	Original cohort size
2000	13 090	122	2 133	15 345
2001	11652	224	3 469	15 345
2002	7 864	2 724	4 757	15 345
2003	4 402	5 282	5 661	15 345
2004	2 605	6 735	6 005	15 345
2005	1 672	7 543	6 130	15 345
2006	1 289	8 007	6 049	15 345
2007	1 090	8 288	5 967	15 345
2008	949	8 510	5 886	15 345
2009	n/a	8 678	n/a	15 345

Figure 13: *Percentage of 2000_F cohort group progressing through the system***Table 12:** *Qualifications obtained by 2000_F cohort group*

Year	First qualification	Second qualification	All qualifications
2000	122	0	122
2001	102	12	114
2002	2 500	35	2 535
2003	2 558	526	3 048
2004	1 453	491	1 944
2005	808	358	1 166
2006	464	269	733
2007	281	267	548
2008	222	233	455
2009	168	259	427
Total	8 678	2 450	11 128

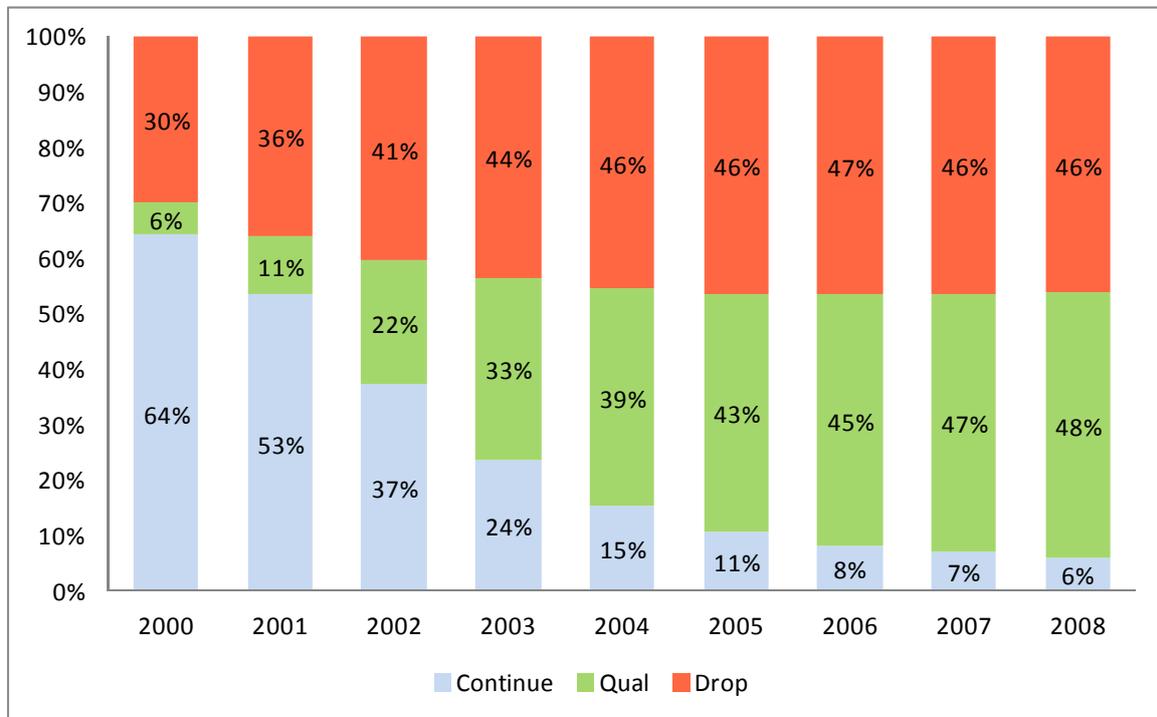
Figure 13 gives an indication of what happened to the 2000_F cohort group if one looks at percentages and not numbers. Of the original group of 15 345 students 55% obtained at least one qualification. By far the majority of those that obtained a qualification received the qualifications three to six years (2002 to 2004) after this group started with their studies. This is also clearly indicated in **Table 11**. Also take note that this cohort group obtained 2 450 second or third qualifications. These students are however part of the 55% indicated in **Figure**

9 that is indicated as the group that qualified. Of the original 2000_F group 38% dropped out of the system without obtaining any qualification. Interestingly, one can see in the figure that the percentage of dropouts decreased in the latter number of years. Clearly some of the students that dropped out of the system previously dropped into (re-enter) the system again (perhaps after earning an income and can now better afford higher education).

Comparison of flow through rates between cohort 2000_F and cohort 2000_HF_NF

It is interesting to compare the progress of the students that received NSFAS awards with all the other students in South Africa that started their higher education career in 2000 (the 2000_HF_NF cohort). The latter's progress are portrayed in **Figure 14**.

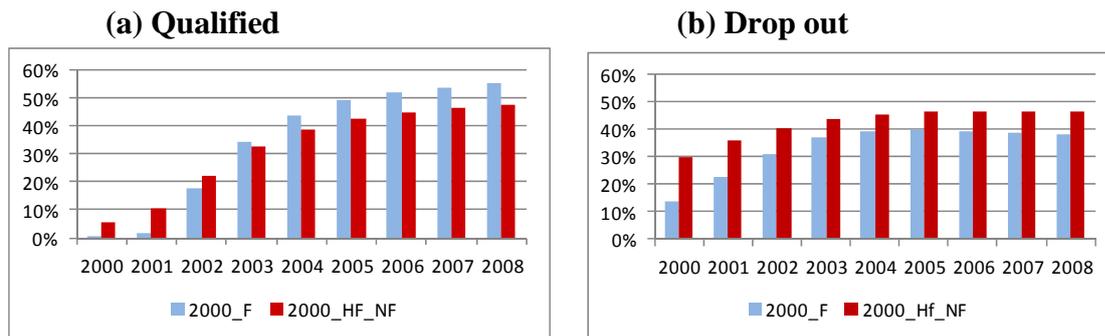
Figure 14: Percentage of 2000_HF_NF cohort group progressing through the system



A comparison between the percentage of these two groups that qualified or dropped out is portrayed in **Figure 15**. Clearly more of the non-NSFAS students obtain a qualification within the first three years of study, but for the other years the NSFAS students outperforms the other students. For example, after 2 years only 1% of NSFAS students obtained a qualification while 11% of non-NSFAS students obtained a qualification. After eight years of study 48% of the non-NSFAS students that started as first-first year students in 2000 (excluding NSFAS students) obtained a qualification while 55% of the NSFAS cohort group successfully achieved some form of qualification. With the drop out rates exactly the opposite is true. After 2 years 36% of the non-NSFAS cohort group dropped out while only 23% of the NSFAS group dropped out. This pattern is continued for the length of their studies and after 9

years of study 46% of the non-NSFAS students dropped out, but only 38% of the NSFAS cohort group unsuccessfully dropped out of the system. In summary, a greater percentage of NSFAS students obtained a qualification and a smaller percentage of the cohort dropped out of the system without a qualification. For both groups it is rather surprising that 6% of the original cohort group was still in the system 9 years after they started studying in higher education, but had not obtain any form of qualifications.

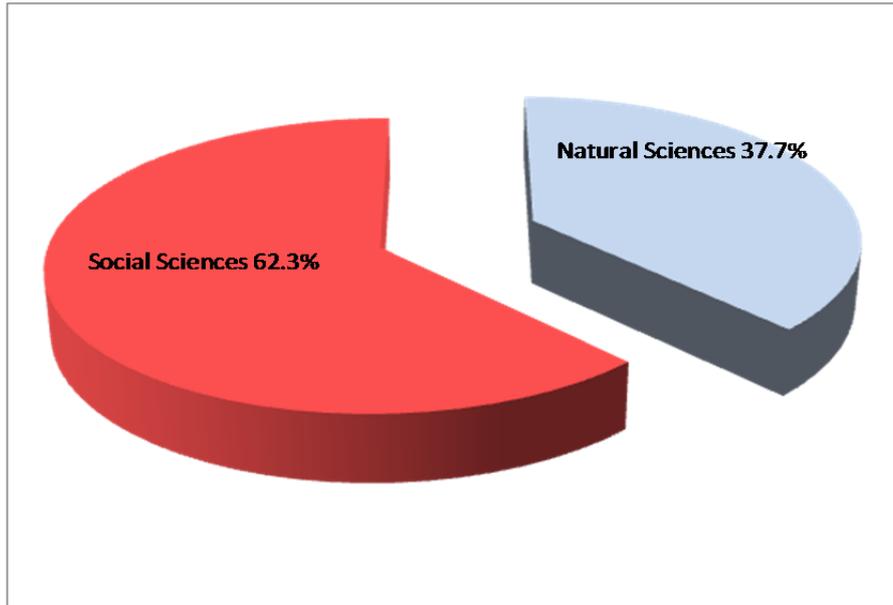
Figure 15: Comparison of the percentage of the 2000_F and 2000_HF_NF cohort groups progressing through the system



Field of Study of cohort 2000_F

The next thing that was investigated is in what study fields did the NSFAS students received their qualification. Not surprisingly the majority of qualifications were in the social sciences – 62.7% -while only 37.7% were obtained in natural sciences (See **Figure 16**). Although the qualifications of each student are available according to its CESM category, it was decided to make only the split between natural and social sciences. One of the reasons is that it does not make sense to split the 22 CESM categories according to their funding category, because study field in both natural as social sciences are grouped in one funding category. To split the qualifications into 22 categories will also make it very difficult to interpret.

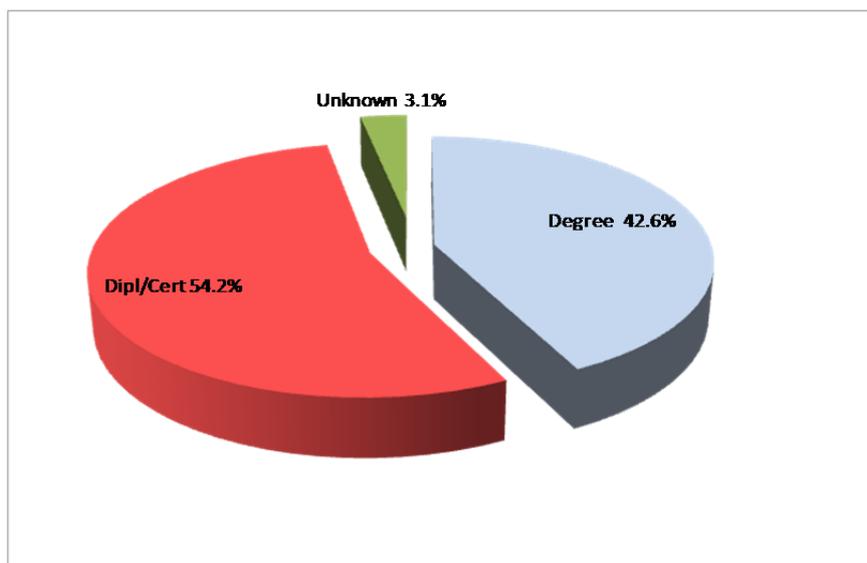
Figure 16: *Qualifications obtained by 2000_F cohort group according to field of study*



Type of Qualification of cohort 2000_F

Another thing that was investigated is what the split was between degrees and diplomas/certificates that NSFAS students obtained. This is summarized in **Figure 17**. Clearly more diplomas/certificates were obtained than degrees. This is hardly surprising as degrees take at least three years to complete while many diplomas and certificates can be completed within one year. There is a small fraction of the qualifications that could be split between social and natural sciences, but could not be classified as degrees or diplomas/certificates due to data problems. This explains the unknown section in **Figure 17**.

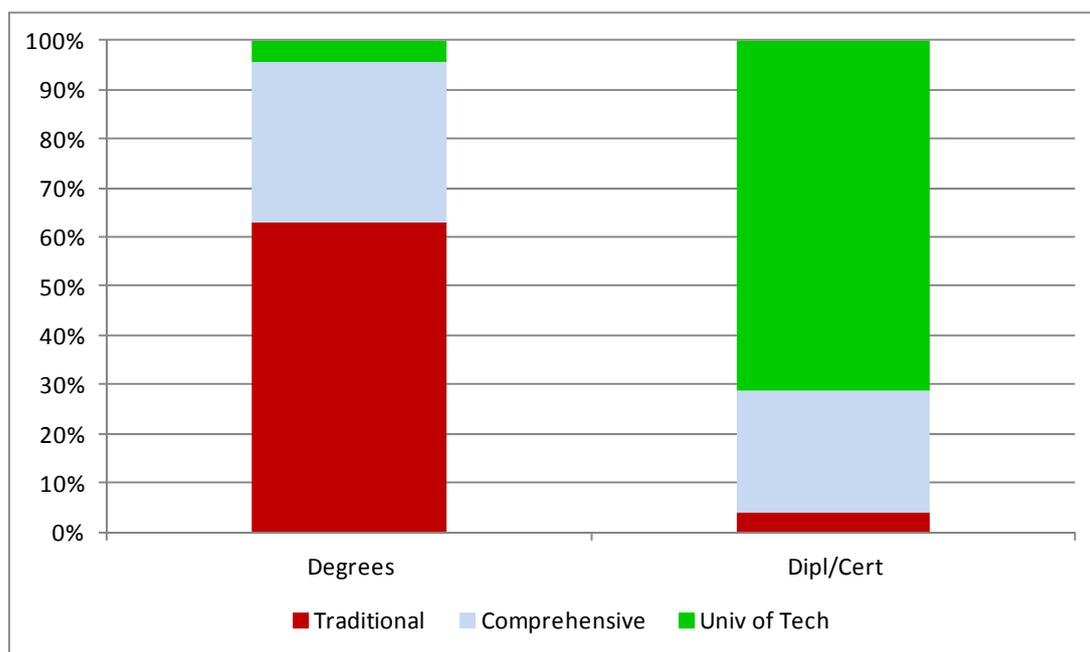
Figure 17: *Qualifications obtained by 2000_F cohort group according to type of qualification*



Type of Qualification per Institution of cohort 2000_F

It was also determined how many qualifications were obtained in each institution. From **Figure 18** certain clear trends can be seen. Almost two-thirds of all degrees obtained were at traditional universities, while almost no degrees were obtained at universities of technology. Just more than 30% of degrees were obtained at comprehensive universities. The reverse is true for diplomas and certificates. Almost no diplomas or certificates are obtained at traditional universities while almost 70% are obtained at universities of technology. About 26% of diplomas/certificates are obtained at comprehensive universities.

Figure 18: *Qualifications obtained by 2000_F cohort group according to type of institution*



Money Spent on cohort 2000_F

Perhaps the most important aspect is whether funds were allocated efficiently, in other words were money spent on students that were successful? In **Figure 19** the proportion of successful (those that received at least one qualification) versus the unsuccessful (those that dropped out without any qualification) students are portrayed according to the number of years that these students received NSFAS awards. Once again calendar years cannot be used, because students received NSFAS funds in certain years, then may not have received funds for a couple of years and then received awards again. Therefore the numbers are portrayed according to the number of years that they did receive a NSFAS award and not calendar years. For example, not all students that received 5 awards received it for the same years. Therefore one cannot say that there was a rather dramatic decrease in students of the 2000_F cohort group that received NSFAS awards in 2001. The figure only illustrates that much less students received only two awards compared to those that received one award. Clearly the most unsuccessful

students are those that drop out of the system in the first three years of study and especially the first year. It seems as though NSFAS is fairly successful in identifying the more successful students and gives them awards again. As indicated by the vertical line at 5 years almost all unsuccessful students have already left the system, while only very few students obtain qualifications after five years. The question can be asked why certain students continuously received funds, but only received a qualification after 8 or 9 years or no qualification at all. That cannot be regarded as money well spent.

From **Figure 19** it is clear that the majority of money spent on unsuccessful students is on those students that received up to four awards without obtaining a qualification. Thereafter it is mainly students that are successful that receive awards. In the process a lot of money is wasted. R102.4 million was spent on the 2000_F cohort on students that never received a qualification. If the rules of NSFAS are strictly applied that students are allowed to take one more year than the minimum years required for a qualification and if one assumes that many of these students are on extended programmes, one could make the assumption that a student should not take more than 5 years to obtain a qualification (ignoring the fact that many certificated and diplomas can be obtained in one year). In that sense one can question the R26.9 million that was spent on students that took more than 5 years to obtain a qualification.

Figure 19: *Number of successful and unsuccessful students of the 2000_F cohort group according to the number of years they received a NSFAS award*

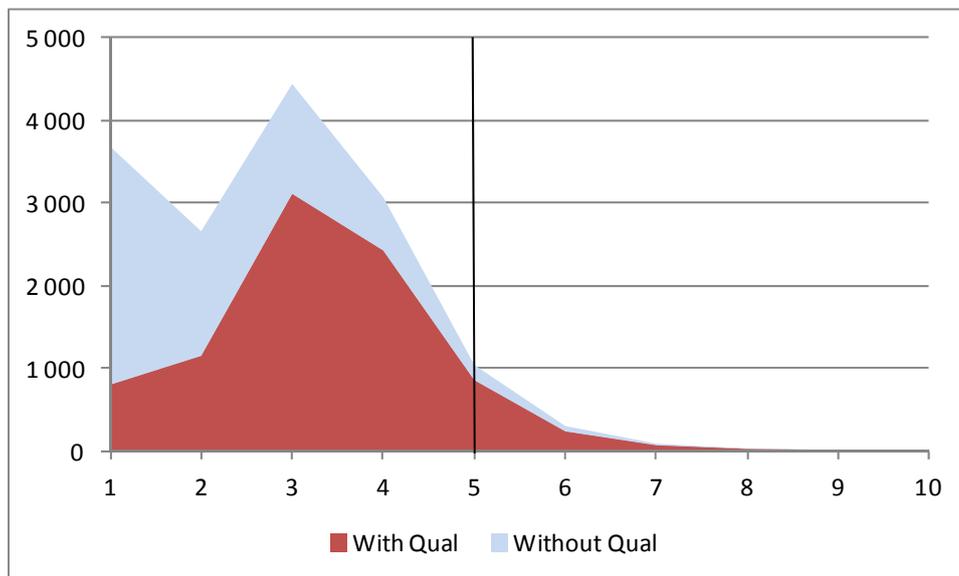
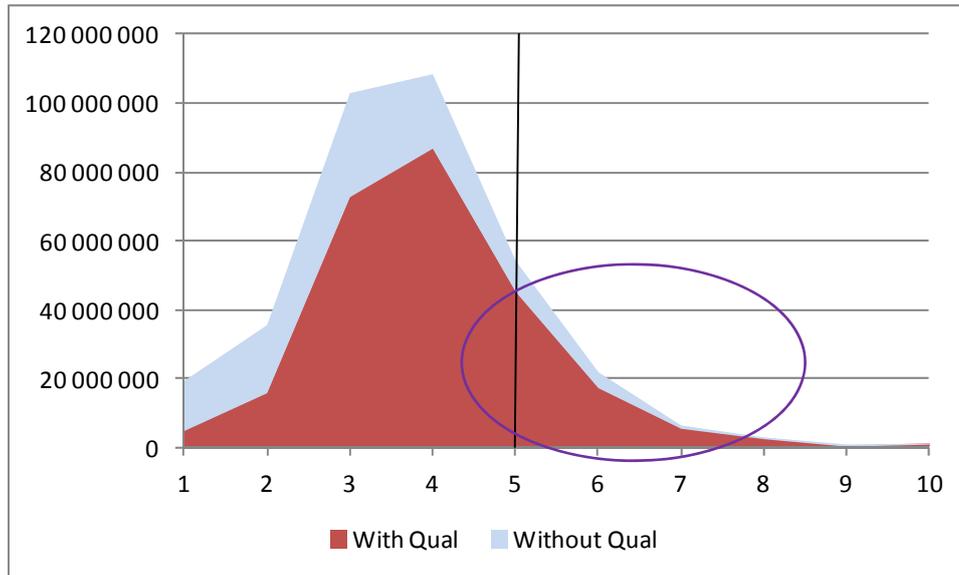


Figure 20: Money spent on successful and unsuccessful students of the 2000_F cohort group according to the number of years they received a NSFAS award



In summary one can say that NSFAS was fairly successful in screening the students and that the majority of awards were given to students that obtained a qualification. Of the money given out as NSFAS awards on the 2000_F cohort no less than 71.2% of the funds was spent on successful students, while the remaining funds was spent on students that dropped out of the system without qualifications. There seems to be room for improvement to identify those students that will not succeed at an earlier stage while some students are receiving funds clearly for too many years before they obtain a qualification or even not obtaining a qualification.

7.1.2. First-first year students in 2001 (2001_F)

Flow through of 2001_F

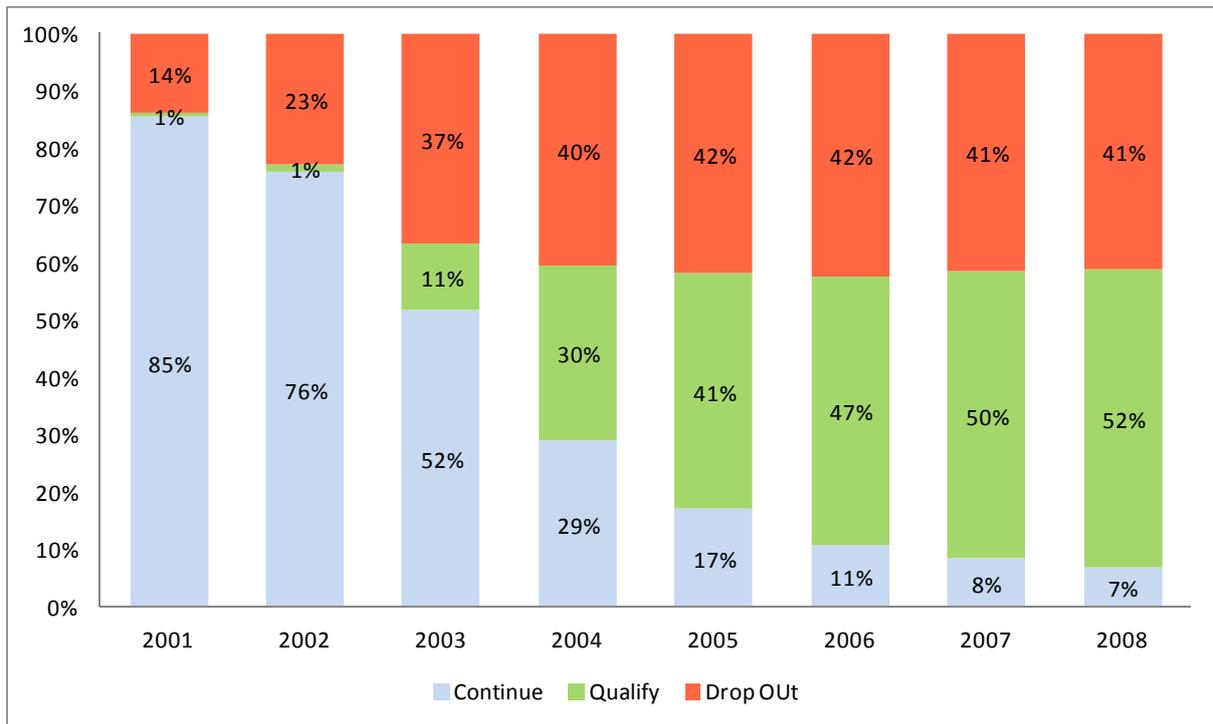
In 2001, 21 584 first-first year students who received NSFAS awards could be matched with the HEMIS datasets. **Table 13** shows how those students progressed through the higher education system. It is important to note that not all students received NSFAS awards for every year, but the table gives a summary of what happened to the NSFAS students that started in 2001 (irrespective of whether they received an award again or not). In interpreting the tables one must remember that 21 584 entered the higher education system *at the beginning* of 2001, but 154 obtained some form of qualification *at the end* of 2001. At the end of 2001 3008 dropped out of the system without any qualifications and 18 422 of the original group continued their studies in 2002 but did not receive a qualification at the end of 2001. The information in the table thus gives an indication of what the situation was at the end of each year. At the end of 2009 one cannot determine how many continued their studies in 2010 (HEMIS data for 2010 and 2011 were not available at the time of this study); that is the reason why no values are given for those that continued or dropped out. However, one knows

how many obtained a qualification in 2009 and therefore it could be included in the Table 13 for the qualifications obtained at the end of each year. It is important that the numbers given in the ‘Qualify’ column must be interpreted correctly. The total qualification of each year in **Table 14** was used to calculate the cumulative qualification in the “Qualify” column in **Table 13**. At the end of 2001 154 students received a qualification and at the end of 2002 another 152 to give a total number of 306. Although some students received a second (or third) qualification, those qualifications were not added to the total, because then one would double count those students. **Table 13** indicates how many *students* obtained at least one qualification and not how many qualifications those students obtained. From **Table 13** one can deduce that 11 516 students of the original 21 584 received at least one qualification in the 9-year period portrayed in the table.

Figure 21 indicates what happened to the 2001_F cohort at the end of 2009. **Figure 21** shows that of the original group of 21 584 students 52% eventually obtained at least one qualification. By far the majority of those that obtained a qualification received the qualifications three to six years (between 2003 and 2006) after this group started with their studies clearly indicated in **Table 14** below. Also take note that this cohort group obtained 2867 second or third qualifications, see **Table 14**. These students are however already part of the 52% indicated in **Figure 21** that is indicated as the group that qualified. Of the original 2001_F group 41% dropped out of the system without obtaining any qualification. Interestingly, one can see in the figure that the percentage of dropouts decreased in the latter number of years. Clearly some of the students that dropped out of the system previously, dropped-in (re-enter) into the system again (perhaps after earning an income and can now better afford higher education). Note that the percentages for drop outs, students that continue and those that qualify in **Figure 21** are cumulatively calculated.

Table 13: Progress of 2001_F cohort group

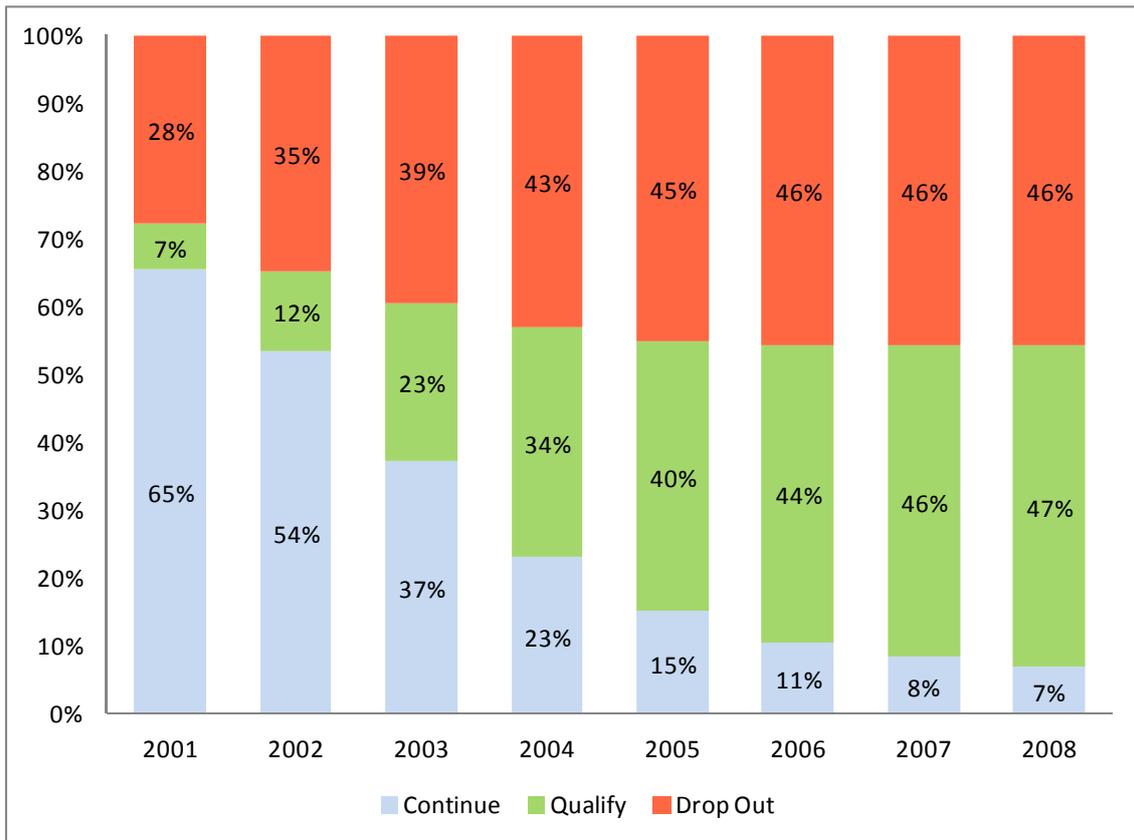
Year	Continue	Qualify	Drop Out	Original Cohort size
2001	18 422	154	3 008	21 584
2002	16 348	306	4 930	21 584
2003	11 194	2 459	7 931	21 584
2004	6 279	6 565	8 740	21 584
2005	3 699	8 846	9 039	21 584
2006	2 322	10 137	9 125	21 584
2007	1 815	10 827	8 942	21 584
2008	1 493	11 223	8 868	21 584
2009	n/a	11 516	n/a	21 584

Figure 21: *Percentage of 2001_F cohort group progressing through the system***Table 14:** *Qualifications obtained by 2001_F cohort group*

Year	First qualification	Second qualification	All qualifications
2001	154	0	154
2002	152	7	159
2003	3 145	58	3 203
2004	3 531	624	4 155
2005	2 049	576	2 625
2006	1 180	427	1 607
2007	616	384	1 000
2008	396	392	788
2009	293	399	692
Total	11 516	2 867	14 383

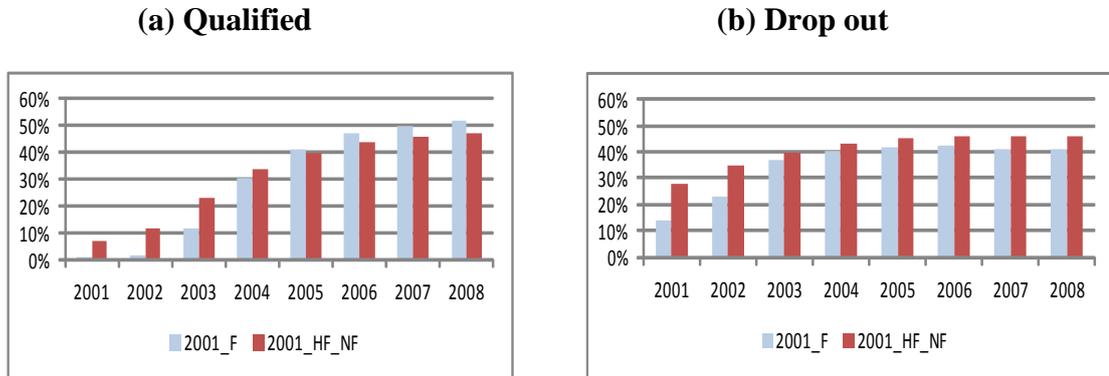
Comparison of flow through rates between cohort 2001_F and cohort 2001_HF_NF

This section shows a comparison of flow through rates between the first-first students of the NSFAS 2001 cohort and the all the 2001 first-first year students of HEMIS without the NSFAS students. **Figure 22** above shows the progress of the 2001_HF_NF cohort.

Figure 22: *Percentage of 2001_HF_NF cohort group progressing through the system*

A comparison between the percentage of these two groups that qualified or dropped out is portrayed in **Figure 23** below. Clearly more of the non-NSFAS students obtain a qualification within the first three years of study, but for the other years the NSFAS students outperforms the other students. For example, after 2 years only 1% of NSFAS students obtained a qualification while 12% of non-NSFAS students obtained a qualification. After eight years of study 47% of the non-NSFAS students that started as first-first year students in 2001 (excluding NSFAS students) obtained a qualification while 52% of the NSFAS cohort group successfully achieved some form of qualification. With the drop out rates exactly the opposite is true. After 2 years 35% of the non-NSFAS cohort group dropped out while only 23% of the NSFAS group dropped out. This pattern is continued for the length of their studies and after 8 years of study 46% of the non-NSFAS students dropped out, but only 41% of the NSFAS cohort group unsuccessfully dropped out of the system. In summary, a greater percentage of NSFAS students obtained a qualification and a smaller percentage of the cohort dropped out of the system without a qualification. For both groups it is rather surprising that 7% of the original cohort group was still in the system 8 years after they started studying in higher education, but had not obtain any form of qualifications.

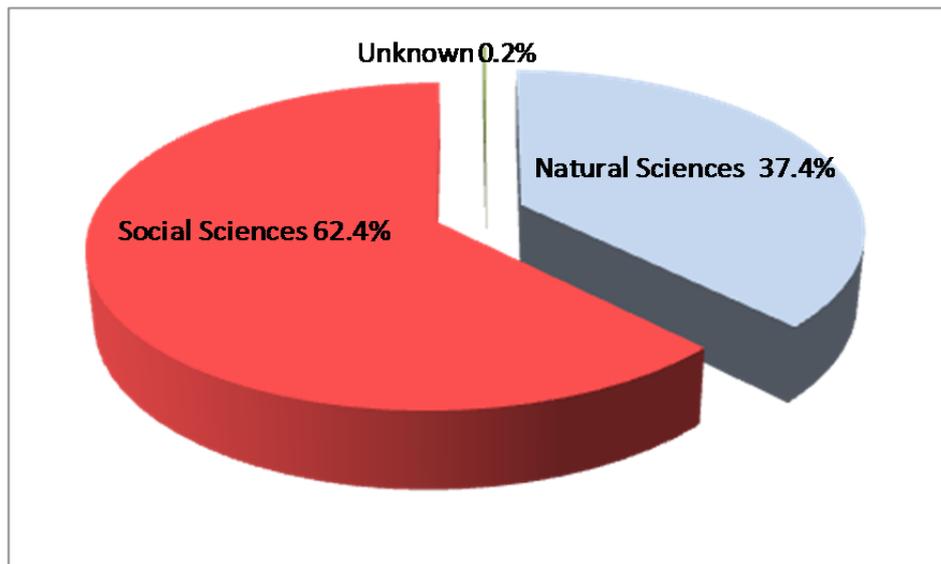
Figure 23: Comparison of the percentage of the 2001_F and 2001_HF_NF cohort groups progressing through the system



Field of Study of cohort 2001_F

Not surprisingly the majority of NSFAS students received their qualifications in the social sciences, namely 62.4%, while only 37.4% were obtained in natural sciences (See **Figure 24**). Although the qualifications of each student are available according to its CESM category, the CESM categories were grouped into two broad categories, namely natural and social sciences. One of the reasons is that it does not make sense to split the 22 CESM categories according to their funding category, because study fields in both natural and social sciences are grouped in only one funding category. To split the qualifications into 22 categories will also make it very difficult to interpret.

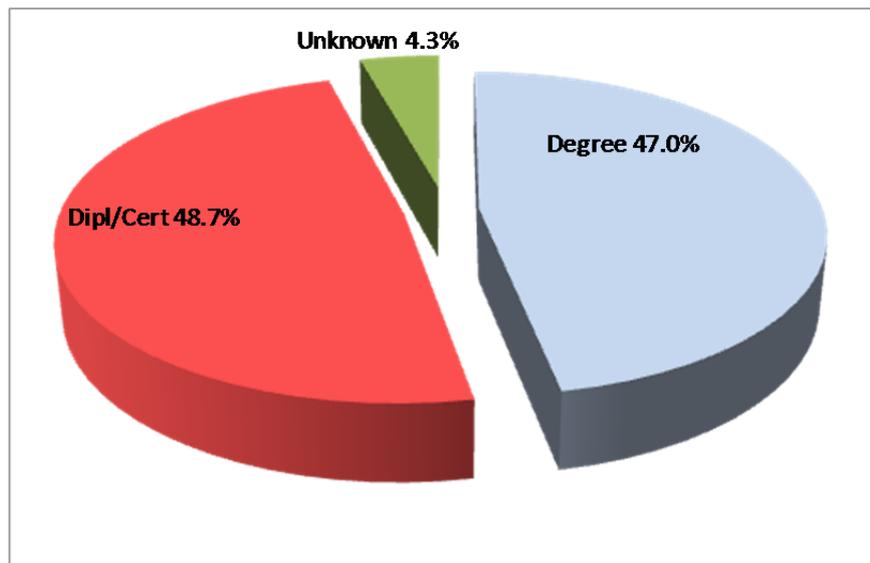
Figure 24: Qualifications obtained by 2001_F cohort group according to field of study



Type of Qualification of cohort 2001_F

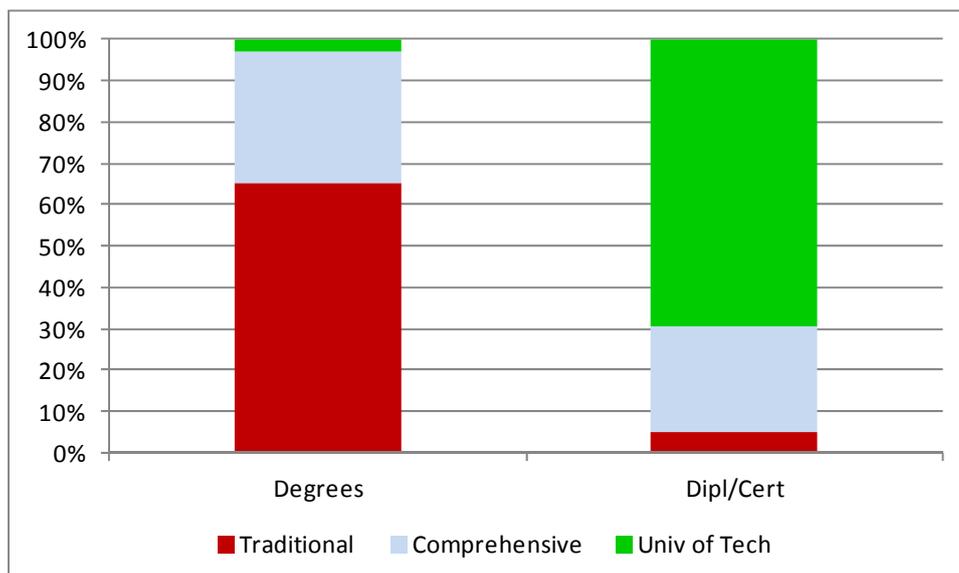
The split between degrees and diplomas/certificates obtained by the NSFAS students is summarized in **Figure 25**. Slightly more diplomas/certificates were obtained than degrees. There is a small fraction of the qualifications that could be split between social and natural sciences, but could not be classified as degrees or diplomas/certificates due to data problems. This explains the unknown section in **Figure 25**.

Figure 25: *Qualifications obtained by 2001_F cohort group according to type of qualification*



Type of Qualification per Institution of cohort 2001_F

Figure 26: *Qualifications obtained by 2001_F cohort group according to type of institution*

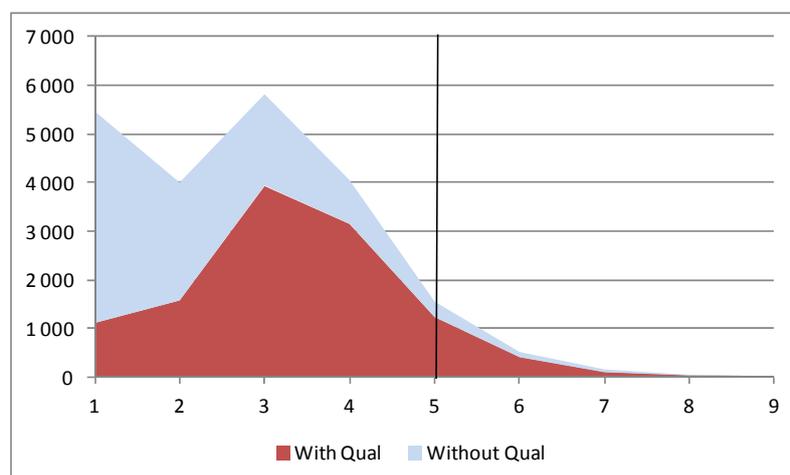


It was also possible to determine how many qualifications were obtained in each institution. From **Figure 26** certain clear trends can be seen. Almost two-thirds of all degrees obtained (65.1%) were at traditional universities, while almost no degrees were obtained at universities of technology. Just more than 30% of degrees were obtained at comprehensive universities. The reverse is true for diplomas and certificates. Almost no diplomas or certificates are obtained at traditional universities while almost 70% are obtained at universities of technology. About 25.5% of diplomas/certificates are obtained at comprehensive universities.

Money Spent on cohort 2001_F

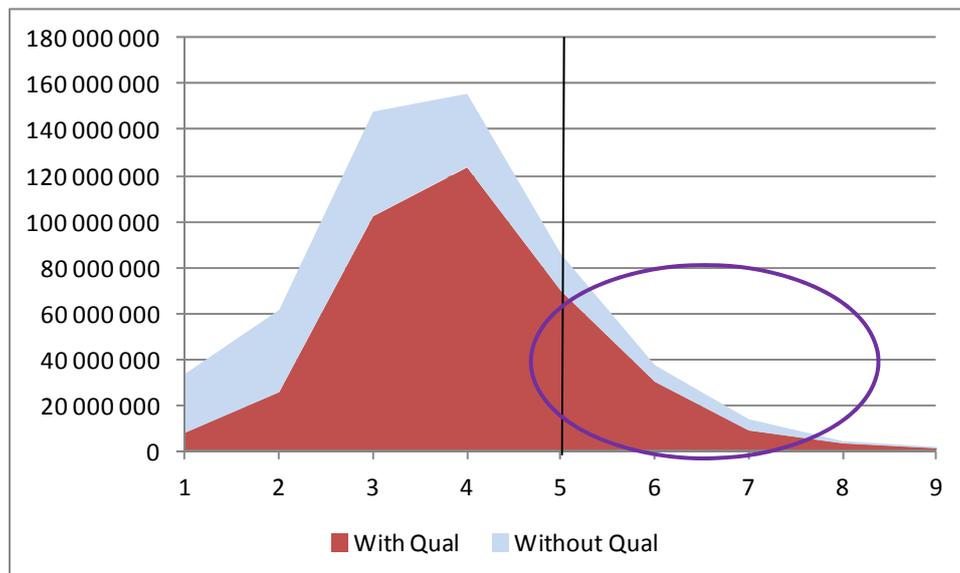
Perhaps the most important aspect is whether funds were allocated efficiently, in other words were money spent on students that were successful? In **Figure 27** the proportion of successful (those that received at least one qualification) versus the unsuccessful (those that dropped out without any qualification) students are portrayed according to the number of years that these students received NSFAS awards. Once again calendar years cannot be used, because students don't always received funds for consecutive years. Therefore the numbers are portrayed according to the number of years that they did receive a NSFAS award and not calendar years. For example, not all students that received 5 awards received it for the same years. Therefore one cannot say that there was a rather dramatic decrease in students of the 2001_F cohort group who were unsuccessful that received NSFAS awards in 2002. **Figure 27** only illustrates that much less students received only two awards compared to those that received one award. Clearly, the most unsuccessful students are those that dropped out of the system in the first three years of study and especially the first year. It seems as though NSFAS is fairly successful in identifying the more successful students and gives them awards again. As indicated by the vertical line at 5 years almost all unsuccessful students have already left the system, while only very few students obtain qualifications after five years. The question can be asked why certain students continuously received funds, but only received a qualification after 8 or 9 years or no qualification at all. That cannot be regarded as money well spent.

Figure 27: *Number of successful and unsuccessful students of the 2001_F cohort group according to the number of years they received a NSFAS award*



From **Figure 28** it is clear that the majority of money spent on unsuccessful students is on those students that received up to four awards without obtaining a qualification. Thereafter it is mainly students that are successful that receive awards as indicated by vertical line and oval on figure. In the process a lot of money is wasted. R168.7million was spent on the 2001_F cohort on students that never received a qualification. If the rules of NSFAS are strictly applied that students are allowed to take one more year than the minimum years required for a qualification and if one assumes that many of these students are on extended programmes, one could make the assumption that a student should not take more than 5 years to obtain a qualification (ignoring the fact that many certificated and diplomas can be obtained in one year). In that sense one can question the R42.7 million that was spent on students that took more than 5 years to obtain a qualification.

Figure 28: Money spent on successful and unsuccessful students of the 2001_F cohort group according to the number of years they received a NSFAS award



In summary one can say that NSFAS was fairly successful in screening the students and that the majority of awards were given to students that obtained a qualification. Of the money given out as NSFAS awards on the 2001_F cohort no less than 68.7% of the funds was spent on successful students, while the remaining funds was spent on students that dropped out of the system without qualifications. There seems to be room for improvement to identify those students that will not succeed at an earlier stage while some students are receiving funds clearly for too many years before they obtain a qualification or even no qualification (up to 9 years).

7.1.3. First-first year students in 2002 (2002_F)

Flow through of 2002_F

In 2002, 21 943 first-first year students who received NSFAS awards could be matched with the HEMIS datasets. **Table 15** illustrates how those students progressed through the higher education system. Keep in mind that not all students received NSFAS awards for every year, but the table gives a summary of what happened to the NSFAS students that started in 2002 (irrespective of whether they received an award again or not). In interpreting the tables one has to remember that 21 943 entered the higher education system *at the beginning* of 2002 and 212 obtained some form of qualification *at the end* of 2002. At the end of 2002 3 107 dropped out of the system without any qualifications and 18 624 of the original group continued their studies in 2003 but did not receive a qualification at the end of 2002. The information in the table portrays the situation at the end of each year. At the end of 2009 it is not clear how many continued their studies in 2010 (HEMIS data for 2010 and 2011 were not available at the time of this study); that is the reason why no values are given for those that continued or dropped out. However, because it is known how many qualified at the end of 2009, this could be included in the **Table 15**. The numbers in the 'Qualify' column must be interpreted correctly. The total qualification of each year in **Table 16** was used to calculate the cumulative qualification in the 'Qualify' column in **Table 15**. For example, at the end of 2002 212 students received a qualification and at the end of 2003 another 149 to give a total number of 361. Students that received a second (or third) qualification were not added to those qualifications, because then those students are double counted. **Table 15** indicates that 11 604 *students* of the original 21 943 received at least one qualifications while **Table 16** indicates that these 11 604 students obtained 14 145 qualifications in total.

Table 15: *Progress of 2002_F cohort group*

Year	Continue	Qualify	Drop Out	Original Cohort size
2002	18 624	212	3 107	21 943
2003	16 569	361	5 013	21 943
2004	11 540	3 481	6 922	21 943
2005	6 601	7 017	8 325	21 943
2006	3 823	9 332	8 788	21 943
2007	2 500	10 541	8 902	21 943
2008	1 921	11 215	8 807	21 943
2009	n/a	11 604	n/a	21 943

Figure 29 indicates what happened to the 2002_F cohort up to the end of 2009. Of the original group of 21 943 students 51% eventually obtained at least one qualification. By far the majority of those that obtained a qualification received the qualifications three to six years (between 2004 and 2007) after this group started with their studies clearly indicated in Table

15. Also take note that this cohort group obtained 2 541 second or third qualifications. However, these students are part of the 51% indicated in **Figure 29** that qualified. Of the original 2002_F group 40% dropped out of the system without obtaining any qualification. Interestingly, one can see in the figure that the percentage of dropouts decreased in the latter number of years. It seems that some students that dropped out of the system previously, dropped-into (re-enter) the system again. Note that the percentages for drop outs, students that continue and those that qualify in **Figure 29** are cumulatively calculated.

Figure 29: Percentage of 2002_F cohort group progressing through the system

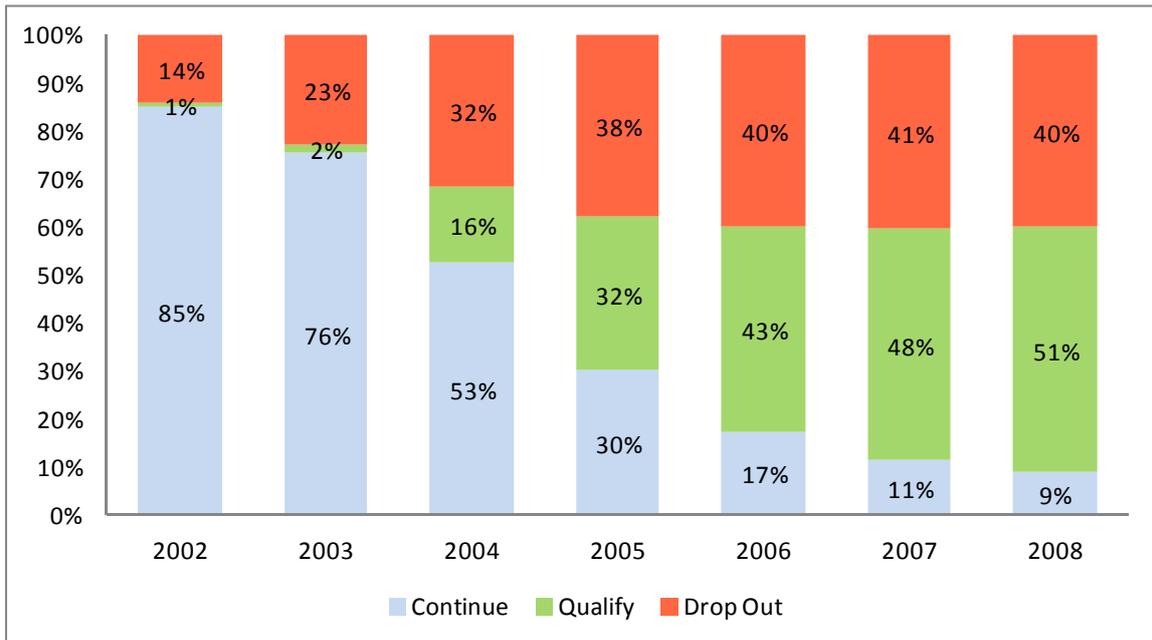


Table 16: Qualifications obtained by 2002_F cohort group

Year	First qualification	Second qualification	All qualifications
2002	212	0	212
2003	149	20	169
2004	3 120	59	3 179
2005	3 536	614	4 150
2006	2 315	597	2 912
2007	1 209	459	1 668
2008	674	403	1 077
2009	389	389	778
Total	11 604	2 541	14 145

Comparison of flow through rates between cohort 2002_F and cohort 2002_HF_NF

This section shows a comparison of flow through rates between the first-first students of the NSFAS 2002 cohort and the all the 2002 first-first year students of HEMIS without the NSFAS students. **Figure 30** shows the progress of the 2002_HF_NF cohort.

Figure 30: *Percentage of 2002_HF_NF cohort group progressing through the system*

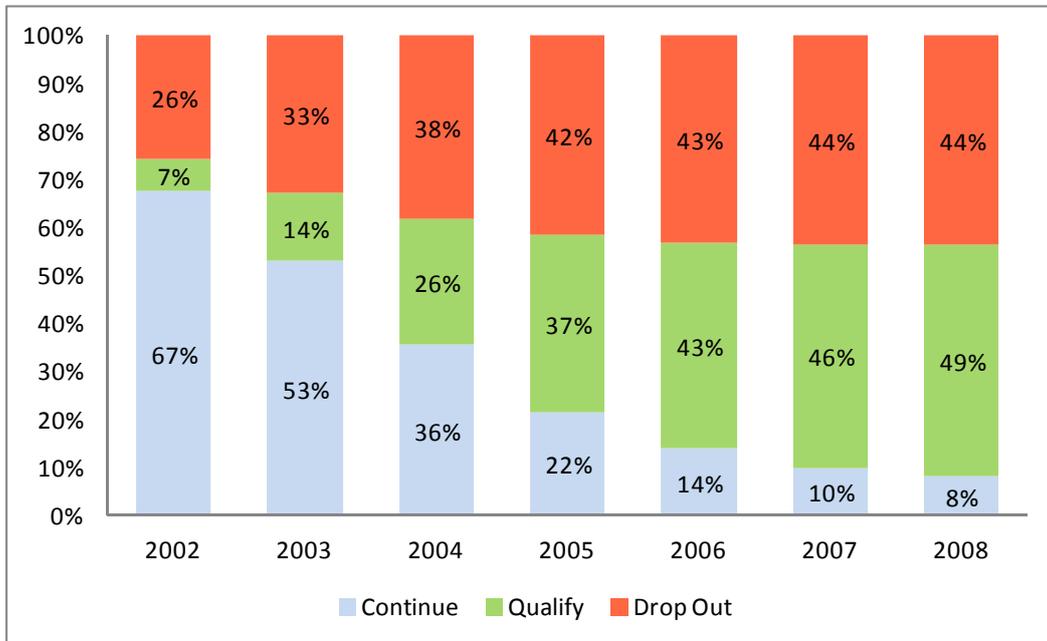
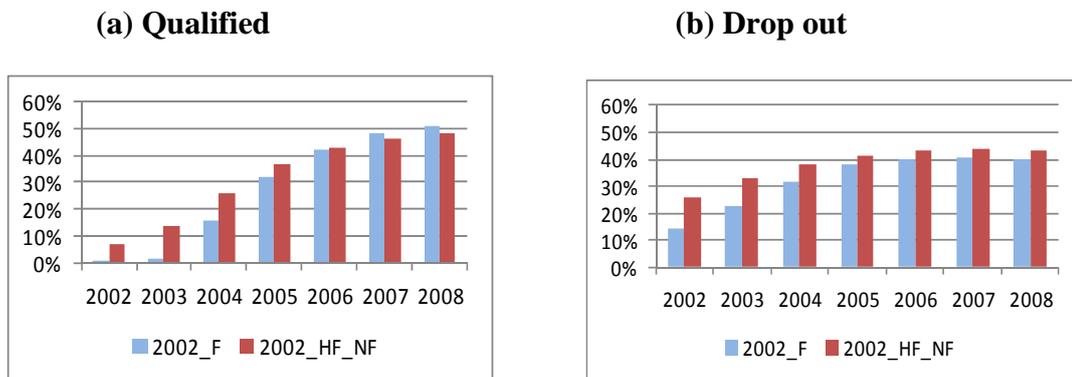


Figure 31: *Comparison of the percentage of the 2002_F and 2002_HF_NF cohort groups progressing through the system*



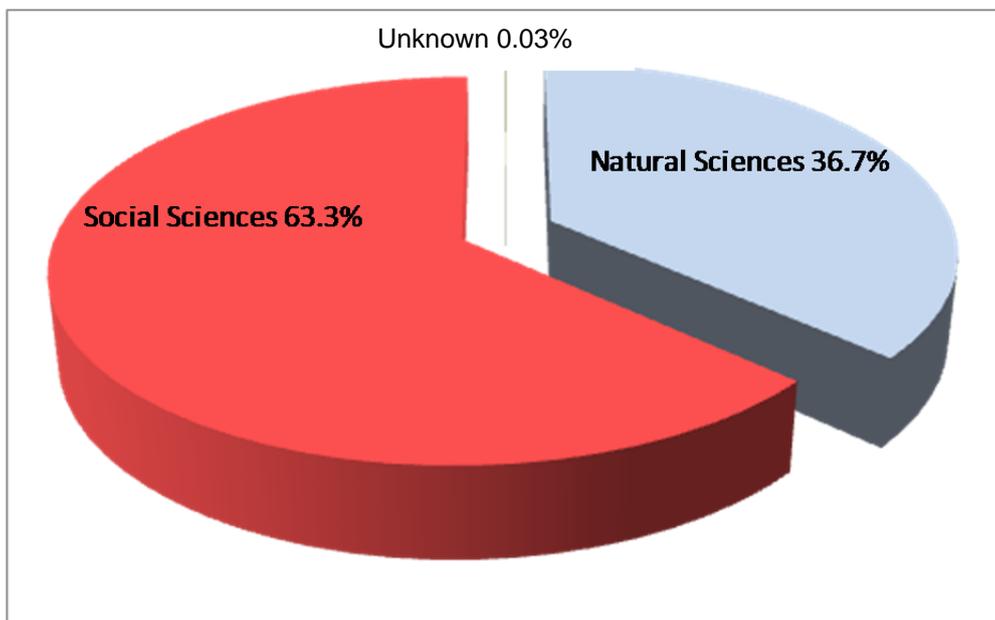
A comparison between the percentage of these two groups that qualified or dropped out is portrayed in **Figure 31** below. Clearly more of the non-NSFAS students obtain a qualification within the first three years of study, but for the other years the NSFAS students outperforms the other students. For example, after 2 years only 1% of NSFAS students obtained a qualification while 12% of non-NSFAS students obtained a qualification. After 7 years of study 49% of the non-NSFAS students that started as first-first year students in 2002 obtained a qualification while 51% of the NSFAS cohort group successfully achieved some form of qualification. With the drop out rates the opposite is true. After 2 years 33% of the non-

NSFAS cohort group dropped out, but only 23% of the NSFAS group dropped out. This pattern is continued for the length of their studies and after 7 years of study 44% of the non-NSFAS students dropped out, but only 40% of the NSFAS cohort group unsuccessfully dropped out of the system. In summary, a greater percentage of NSFAS students obtained a qualification and a smaller percentage of the cohort dropped out of the system without a qualification. For both groups it is rather surprising that between 8% and 9% of the original cohort groups were still in the system 7 years after they started studying in higher education, but had not obtain any form of qualifications.

Field of Study of cohort 2002_F

In this part we investigated is in what study fields did the NSFAS students received their qualification. As was expected the majority of qualifications were in the social sciences, namely 63.3%, while only 36.7% were obtained in natural sciences (See **Figure 32**). Although the qualifications of each student are available according to its CESM category, we decided to divide the CESM categories into two broad categories, namely natural and social sciences. One of the reasons is that it does not make sense to split the 22 CESM categories according to the four funding categories, because study fields in both natural and social sciences are grouped in the same funding category. To split the qualifications into 22 categories will also make it very difficult to interpret.

Figure 32: *Qualifications obtained by 2002_F cohort group according to field of study*

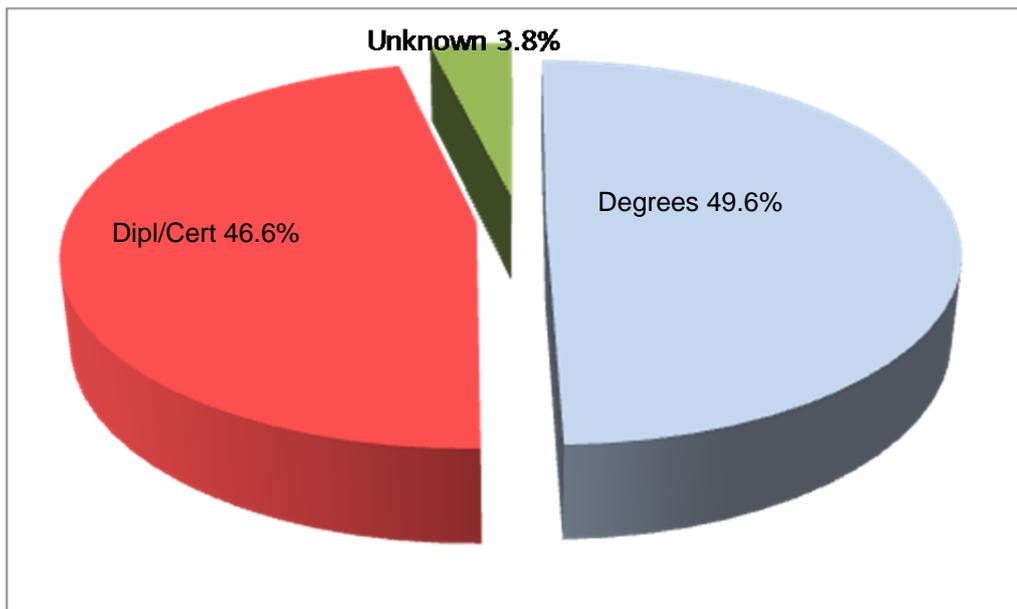


Type of Qualification of cohort 2002_F

We also investigated the split between degrees and diplomas/certificates obtained by the NSFAS students. This is summarized in **Figure 33**. Rather surprisingly slightly more degrees

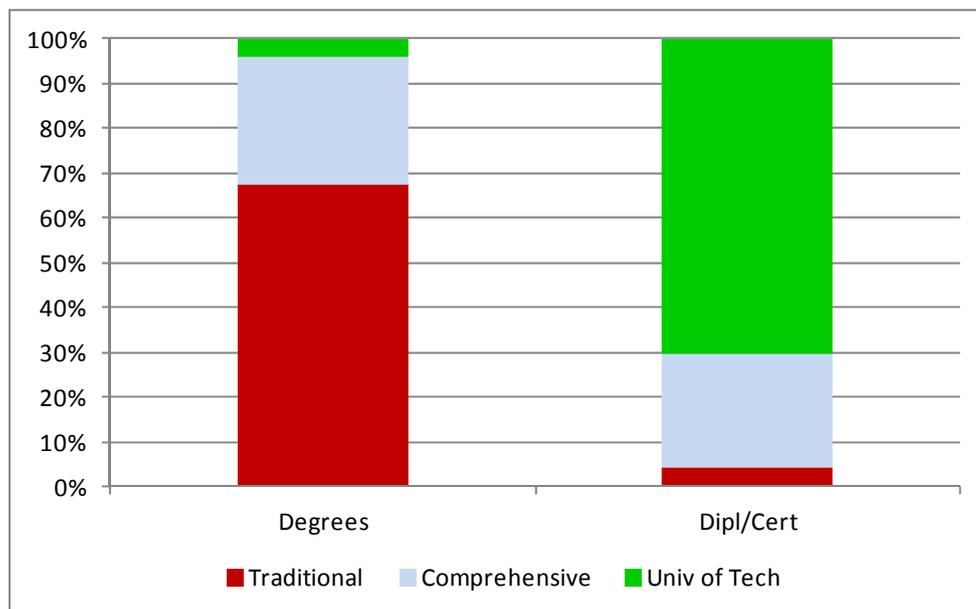
were obtained than diplomas/certificates. There is a small fraction of the qualifications that could be split between social and natural sciences, but could not be classified as degrees or diplomas/certificates due to data problems. This explains the unknown section in **Figure 33**.

Figure 33: *Qualifications obtained by 2002_F cohort group according to type of qualification*



Type of Qualification per Institution of cohort 2002_F

Figure 34: *Qualifications obtained by 2002_F cohort group according to type of institution*

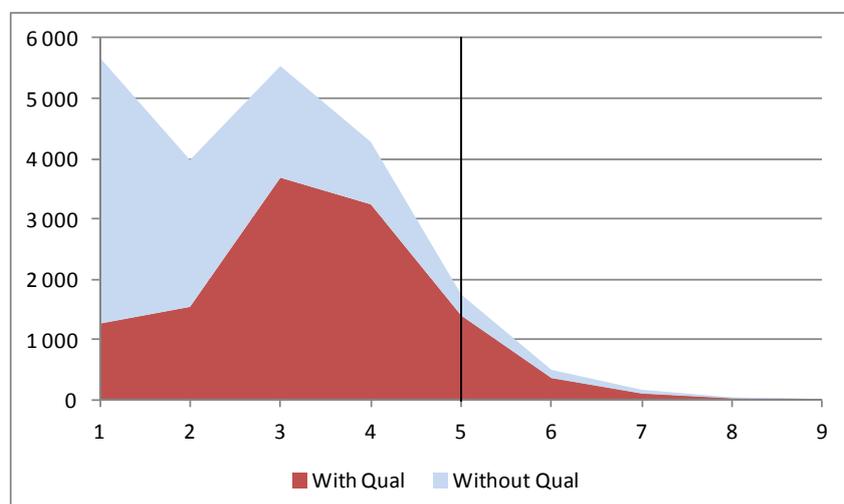


It was also calculated how many qualifications were obtained in each institution. From **Figure 34** certain clear trends can be seen. More than two-thirds of all degrees obtained (67.2%) were at traditional universities, while almost no degrees were obtained at universities of technology. Slightly less than 29% of degrees were obtained at comprehensive universities. The reverse is true for diplomas and certificates. Almost no diplomas or certificates are obtained at traditional universities while more than 70% are obtained at universities of technology. About 25.2% of diplomas/certificates are obtained at comprehensive universities.

Money Spent on cohort 2002_F

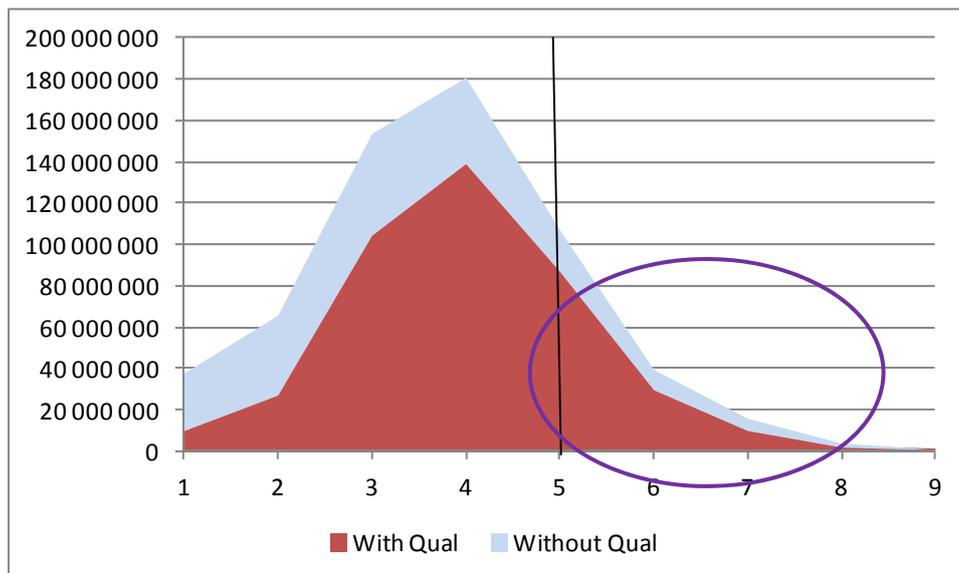
Perhaps the most important aspect is whether funds were allocated to students that were successful. In **Figure 35** the proportion of successful (those that received at least one qualification) versus the unsuccessful (those that dropped out without any qualification) students are portrayed according to the number of years that these students received NSFAS awards. Calendar years cannot be used, because students don't always received funds for consecutive years. Therefore the numbers are portrayed according to the number of years that they did receive a NSFAS award and not calendar years. For example, not all students that received 5 awards received it for the same years. Therefore one cannot say that there was a rather dramatic decrease in students of the 2002_F cohort group who were unsuccessful that received NSFAS awards in 2003. **Figure 35** only illustrates that less students received only two awards compared to those that received one award. Clearly, the most unsuccessful students are those that dropped out of the system in the first three years of study and especially the first year. It seems as though NSFAS is fairly successful in identifying the more successful students and gives them awards again. As indicated by the vertical line at 5 years almost all unsuccessful students have already left the system, while only very few students obtain qualifications after five years. The question can be asked why certain students continuously received funds, but only received a qualification after 7 or 8 years or no qualification at all. That cannot be regarded as money spent efficiently.

Figure 35: *Number of successful and unsuccessful students of the 2002_F cohort group according to the number of years they received a NSFAS award*



From **Figure 36** it is clear that the majority of money spent on unsuccessful students is on those students that received up to four awards without obtaining a qualification. Thereafter it is mainly students that are successful that receive awards as indicated by vertical line and oval in the figure. In the process a lot of money is wasted. R195.2 million was spent on the 2002_F cohort on students that never received a qualification. If the rules of NSFAS are strictly applied that students are allowed to take one more year than the minimum years required for a qualification and if we assume that many of these students are on extended programmes, one could make the assumption that a student should not take more than 5 years to obtain a qualification (ignoring the fact that many certificated and diplomas can be obtained in one year). In that sense one can question the R17.9 million that was spent on students that took more than 5 years to obtain a qualification.

Figure 36: Money spent on successful and unsuccessful students of the 2002_F cohort group according to the number of years they received a NSFAS award



In summary one can say that NSFAS was fairly successful in screening the students and that the majority of awards were given to students that obtained a qualification. Of the money given out as NSFAS awards on the 2002_F cohort no less than 67.8% of the funds was spent on successful students, while the remaining funds was spent on students that dropped out of the system without qualifications. There seems to be room for improvement to identify those students that will not succeed at an earlier stage while some students are receiving funds clearly for too many years before they obtain a qualification or even no qualification.

7.1.4. First-first year students in 2003 (2003_F)

Flow through of 2003_F

In 2003, 27 030 first-first year students who received NSFAS awards could be matched with the HEMIS datasets. **Table 17** shows how those students progressed through the higher

education system. Not all students received NSFAS awards for every year, but the table gives a summary of what happened to the NSFAS students that started in 2003 (irrespective of whether they received an award again or not). According to **Table 17** 27 030 entered the higher education system *at the beginning* of 2003 and 211 obtained some qualification *at the end* of 2003. At the end of 2003 4 252 dropped out of the system without any qualifications and 22 567 of the original group continued their studies in 2004 but had not received a qualification by the end of 2003. **Table 17** thus indicates the situation at the end of each year. At the end of 2009 we do not know how many continued their studies in 2010 (HEMIS data for 2010 not available at the time the project was completed) and that explains why no values are given for those that continued or dropped out. However, we do know how many received a qualification in 2009 and therefore it could be included in the table. The ‘Qualify’ column of **Table 17** must be interpreted correctly. The total qualification of each year in **Table 18** was used to calculate the cumulative qualification in the ‘Qualify’ column in **Table 17**. At the end of 2003 211 students received a qualification and at the end of 2004 another 125 to give a total number of 336. Although some students received a second (or third) qualification we did not add those qualifications to the total, because then we are double counting those students. **Table 17** indicates how many *students* obtained at least one qualification. From the table one can deduce that 13 683 students of the original 27 030 received at least one qualification in the 7-year period portrayed in the table.

Table 17: Progress of 2003_F cohort group

Year	Continue	Qualify	Drop Out	Original Cohort size
2003	22 567	211	4 252	27 030
2004	20 143	336	6 551	27 030
2005	14 516	3 689	8 825	27 030
2006	8 121	8 426	10 483	27 030
2007	4 695	11 251	11 084	27 030
2008	3 131	12 830	11 069	27 030
2009	n/a	13 683	n/a	27 030

Figure 37 reveals how the 2003_F cohort progressed through the system. From the figure it is clear that 47% of the original group of 27 030 students obtained at least one qualification by 2009. By far the majority of those that obtained a qualification received the qualifications three to six years (between 2005 and 2008) after this group started with their studies (clearly indicated in **Table 18**). Also note that this cohort group obtained 2 419 second or third qualifications. These students are however already part of the 47% indicated in **Figure 37** that is indicated as the group that qualified. Of the original 2003_F group 41% eventually dropped out of the system without obtaining any qualification. Interestingly, one can see in the figure that the percentage of dropouts stagnated in the latter number of years. Some students that

dropped out of the system previously, dropped-into (re-entering) the system again. Note that the percentages for drop outs, students that continue and those that qualify in **Figure 37** are cumulatively calculated.

Figure 37: Percentage of 2003_F cohort group progressing through the system

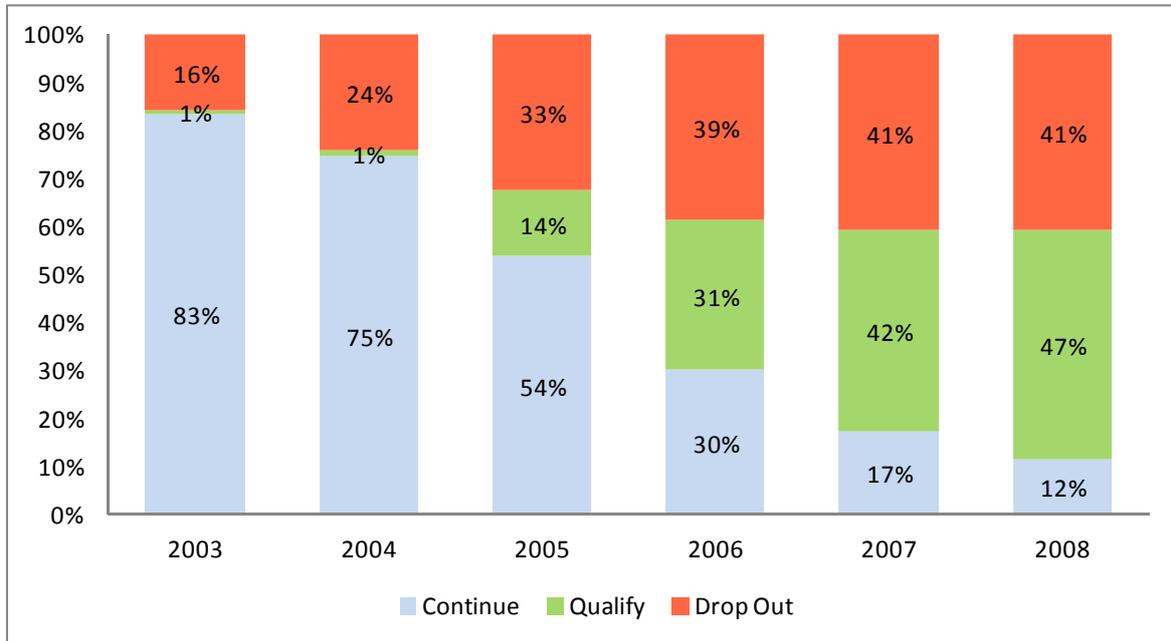


Table 18: Qualifications obtained by 2003_F cohort group

Year	First qualification	Second qualification	All qualifications
2003	211	0	211
2004	125	5	130
2005	3 353	43	3 396
2006	4 737	537	5 374
2007	2 825	642	3 467
2008	1 579	584	2 163
2009	853	508	1 361
Total	13 683	2 419	16 102

Comparison of flow through rates between cohort 2003_F and cohort 2003_HF_NF

In this section we compare flow through rates between the first-first students of the NSFAS 2003 cohort and the all the 2003 first-first year students of HEMIS without the NSFAS students. **Figure 38** illustrates the progress of the 2003_HF_NF cohort. A comparison between the percentage of these two groups that qualified or dropped out is portrayed in **Figure 39**. It is clear from the figure that non-NSFAS students obtained more qualifications within the first four years of study, but for the other years the NSFAS students outperforms

the non-NSFAS students. For example, after 2 years only 1% of NSFAS students obtained a qualification while 12% of non-NSFAS students obtained a qualification. After six years of study 45% of the non-NSFAS students that started as first-first year students in 2003 obtained a qualification while 47% of the NSFAS cohort group successfully achieved some form of qualification. For the drop out rates the opposite is true. After 2 years 34% of the non-NSFAS cohort group dropped out without any qualification, while only 24% of the NSFAS group dropped out. This pattern is continued for the length of their studies and after 6 years of study 45% of the non-NSFAS students dropped out, with the figure for NSFAS students marginally lower at 41% that unsuccessfully dropped out of the system. In summary, a greater percentage of NSFAS students obtained a qualification and a smaller percentage of the cohort dropped out of the system without a qualification in comparison with the non-NSFAS students. Note that for both groups between 10% and 12% of the original cohort group was still in the system 6 years after they started studying in higher education, but had not obtain any form of qualifications.

Figure 38: *Percentage of 2003_HF_NF cohort group progressing through the system*

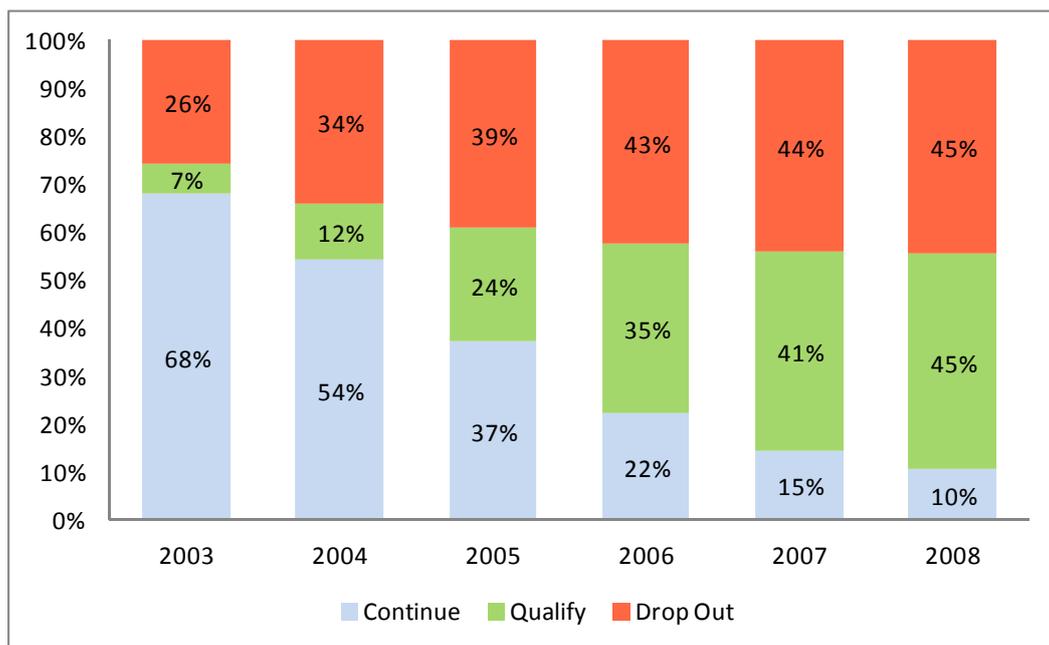
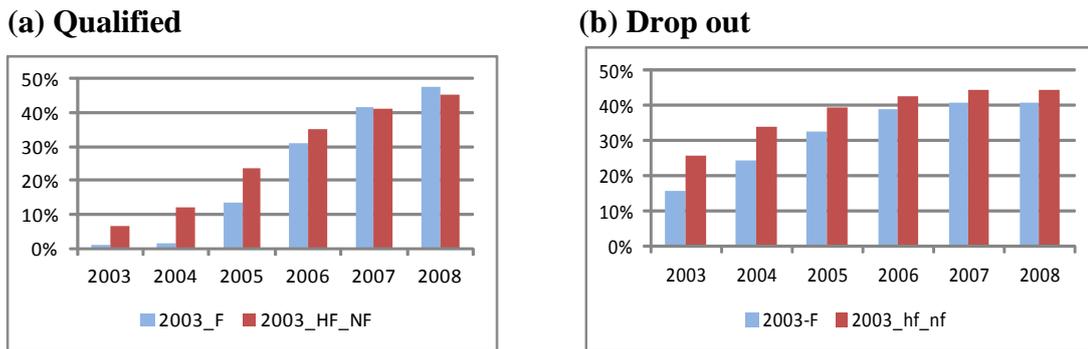


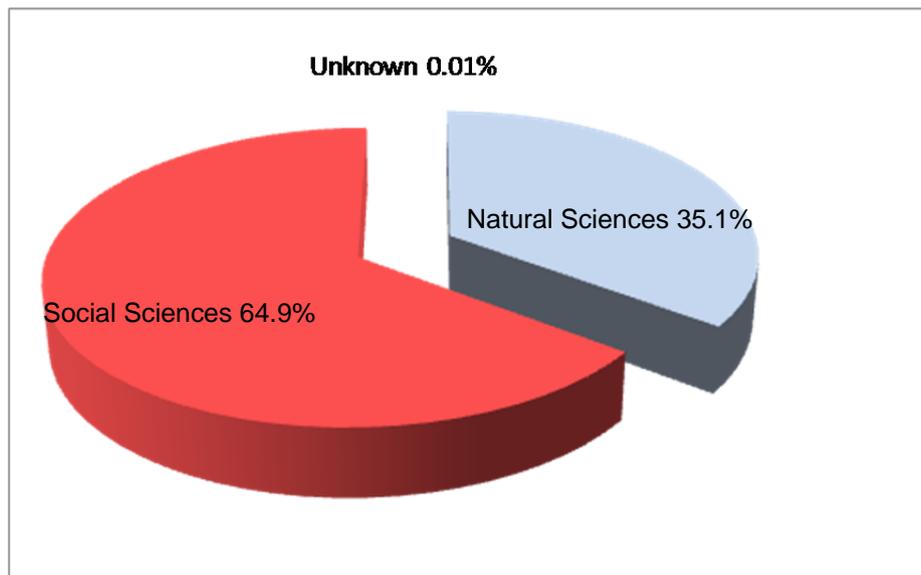
Figure 39: Comparison of the percentage of the 2003_F and 2003_HF_NF cohort groups progressing through the system



Field of Study of cohort 2003_F

We also investigated in what study fields did the NSFAS students received their qualification. Not surprisingly the majority of qualifications were in the social sciences, namely 64.9%, while only 35.1% were obtained in natural sciences (See **Figure 40**). Although the qualifications of each student are available according to its CESM category, we decided to divide the CESM categories into two broad categories, namely natural and social sciences. The reasons for this are provided in the previous cohorts and will not be repeated here, but basically you cannot compare it from year to year if you have too many categories.

Figure 40: Qualifications obtained by 2003_F cohort group according to field of study

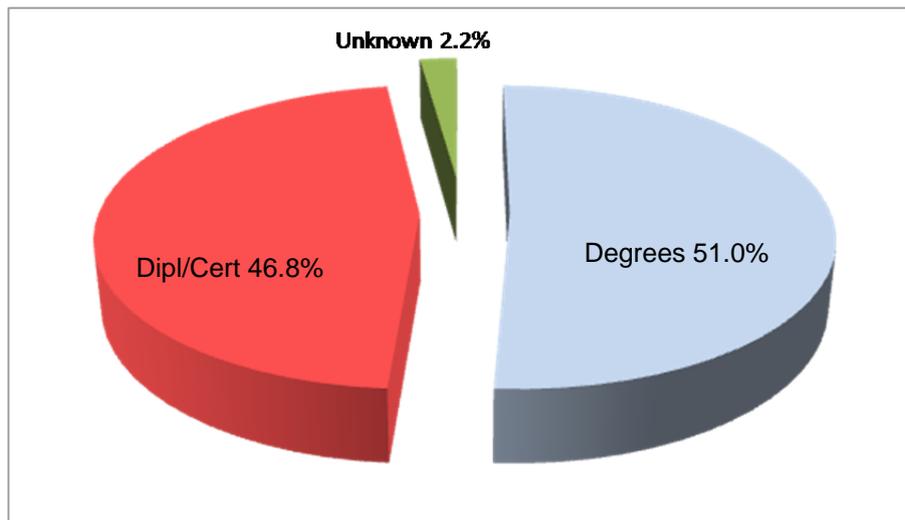


Type of Qualification of cohort 2003_F

The split between degrees and diplomas/certificates of the qualifications obtained by NSFAS students was also investigated. This is summarized in **Figure 41** Marginally more degrees than diplomas/certificates were obtained which is an encouraging trend as degrees normally

require higher level learning than is the case with diplomas/certificates. A small fraction of the qualifications (2.2%) that could be split between social and natural sciences could not be classified as degrees or diplomas/certificates due to data problems. This explains the unknown section in **Figure 41**.

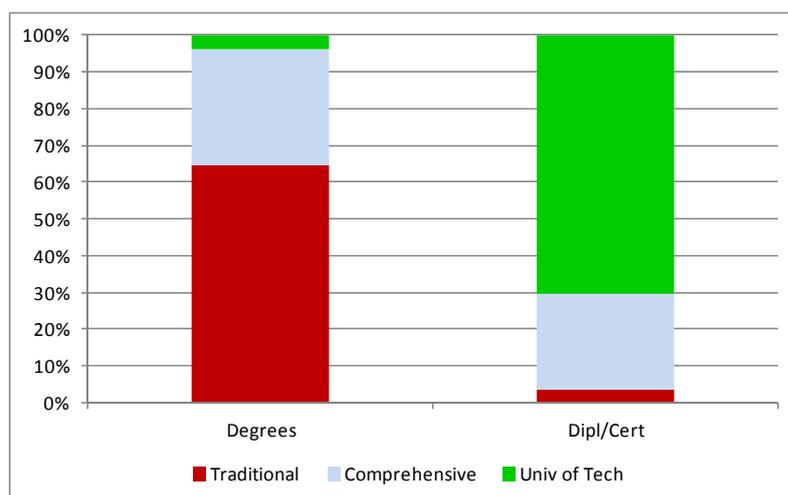
Figure 41: *Qualifications obtained by 2003_F cohort group according to type of qualification*



Type of Qualification per Institution of cohort 2003_F

We also determined how many qualifications were obtained in each institution. **Figure 42** reveals certain obvious trends. Most of the degrees (64.7%) obtained were at traditional universities, while a small percentage (4.0%) were obtained at universities of technology. Just over 31% of degrees were obtained at comprehensive universities. However, the reverse is true for diplomas and certificates. Almost no diplomas or certificates are obtained at traditional universities while more than 70% are obtained at universities of technology. About 26.2% of diplomas/certificates are obtained at comprehensive universities.

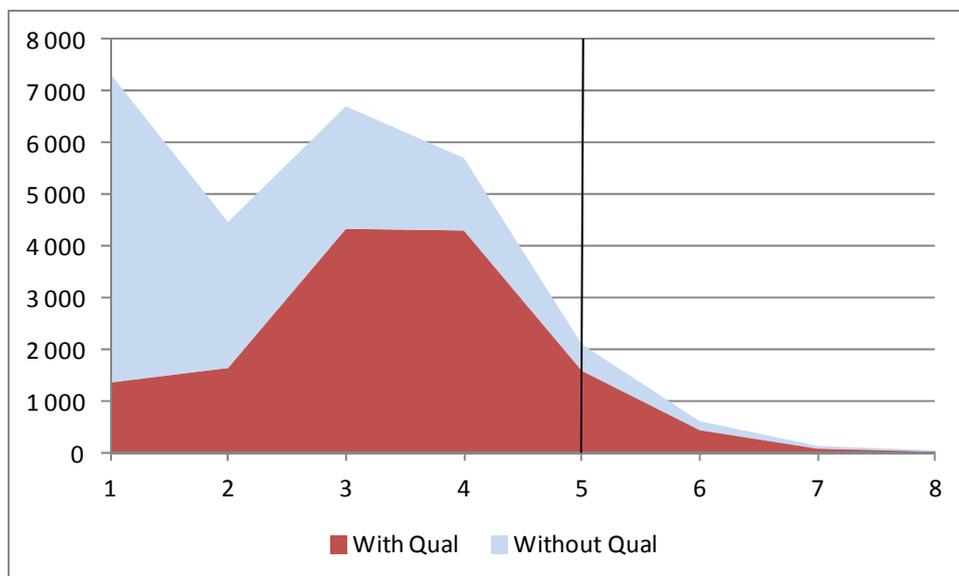
Figure 42: *Qualifications obtained by 2003_F cohort group according to type of institution*



Money Spent on cohort 2003_F

Perhaps the most important aspect is whether funds were allocated efficiently, in other words were money spent on students that were successful (those that qualified)? In **Figure 43** the proportion of successful versus the unsuccessful students are portrayed according to the number of years that these students received NSFAS awards. We could not use calendar years, because students don't always received funds for consecutive years. For example, not all students that received 4 awards received it for the same years. Therefore one cannot say that there was a rather dramatic decrease in students of the 2003_F cohort group who were unsuccessful that received NSFAS awards in 2004. **Figure 43** only illustrates that much less students received only two awards compared to those that received one award. Clearly, the most unsuccessful students are those that dropped out of the system in the first three years of study and especially after the first year. NSFAS seems to be fairly successful in identifying the more successful students and gives them awards again. As indicated by the vertical line at 5 years almost all unsuccessful students have already left the system, while only a small number of students obtain qualifications after five years. The question can be asked why certain students continuously received funds, but only received a qualification after 7 or 8 years or even no qualification at all. This is not money well spent.

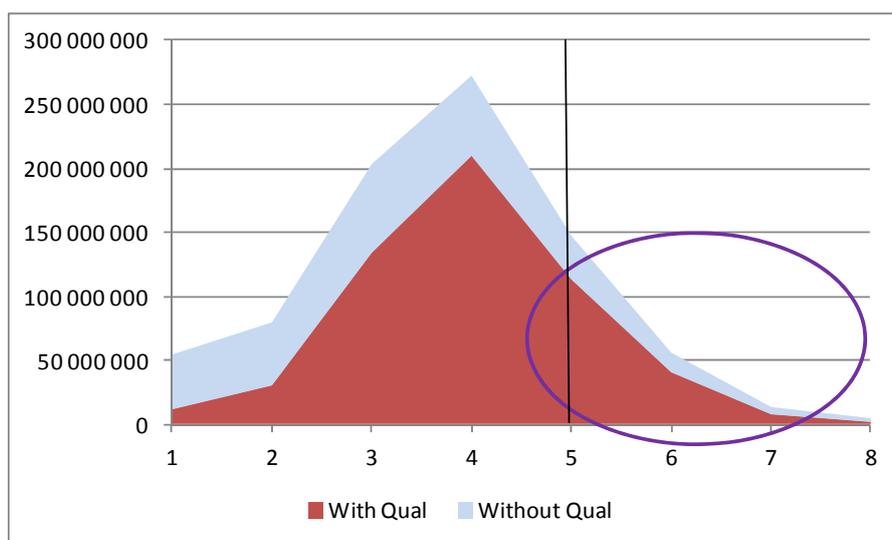
Figure 43: *Number of successful and unsuccessful students of the 2003_F cohort group according to the number of years they received a NSFAS award*



From **Figure 44** it is clear that the majority of money spent on unsuccessful students is on those students that received up to four awards without obtaining a qualification. The money spent on students that received more than five awards, but eventually qualified is indicated by the vertical line and oval in the figure. In the process a lot of money is wasted. R282.9 million

was spent on students of the 2003_F cohort that never received a qualification. If the rules of NSFAS are strictly applied that students are allowed to take one more year than the minimum years required received more for a qualification and if we assume that many of these students are on extended programmes, one could make the assumption that a student should not take more than 5 years to obtain a qualification (ignoring the fact that many certificated and diplomas can be obtained in one year). In that sense one can question the R49.9 million that was spent on students that took more than 5 years to obtain a qualification.

Figure 44: *Money spent on successful and unsuccessful students of the 2003_F cohort group according to the number of years they received a NSFAS award*



In summary one can say that NSFAS was fairly successful in screening the students and that the majority of awards were given to students that obtained a qualification. Of the money given out as NSFAS awards on the 2003_F cohort no less than 66% of the funds was spent on successful students, while the remaining funds was spent on students that dropped out of the system without qualifications. There seems to be room for improvement to identify those students that will not succeed at an earlier stage while some students are receiving funds clearly for too many years before they obtain a qualification or even no qualification at all (up to 8 years). The figure of successful students is most likely to improve as more recent HEMIS data become available.

7.1.5. First-first year students in 2004 (2004_F)

Flow through of 2004_F

In 2004 we were able to link 24 381 first-first year students that received NSFAS awards with the HEMIS database. **Table 19** gives an indication how those students progressed through the system. Remember that not all students received NSFAS awards for every year, but the table gives a summary of what happened to the NSFAS students that started in 2004 (irrespective of whether they received an award again or not) as first-first year students. In interpreting the tables one must keep in mind that 24 381 students entered the higher education system *at the*

beginning of 2004 and 57 received some form of qualification *at the end* of 2004. At the end of 2004 3 587 dropped out of the system without any qualifications and 20 737 of the original group continued their studies in 2005, but did not receive a qualification at the end of 2004. The information in the table gives the situation at the end of each year. HEMIS data was not available after 2009 and therefore we could not calculate how many students continued their studies in 2010 or that dropped out at the end of 2009. However, we know how many obtained a qualification in 2009 and therefore it could be included in the table. The ‘Qualify’ column must be interpreted correctly. The total qualification of each year in **Table 20** was used to calculate the cumulative qualification in the ‘Qualify’ column in **Table 19**. At the end of 2004 57 students received a qualification and in 2005 another 293 to give a total number of 350. The students that received a second (or third) qualification were not added to those qualifications, because then we are double counting these students. From the table one can deduce that 12 186 *students* of the original 24 381 received at least one qualification in the 6-year period portrayed in the table. **Table 20** indicates that these 12 186 students obtained a total number of 14 427 qualifications.

Table 19: Progress of 2004_F cohort group

Year	Continue	Qualify	Drop Out	Original Cohort size
2004	20 737	57	3 587	24 381
2005	18 300	350	5 731	24 381
2006	13 366	3 456	7 559	24 381
2007	7 452	8 036	8 893	24 381
2008	4 354	10 737	9 290	24 381
2009	n/a	12 186	n/a	24 381

Figure 45: Percentage of 2004_F cohort group progressing through the system

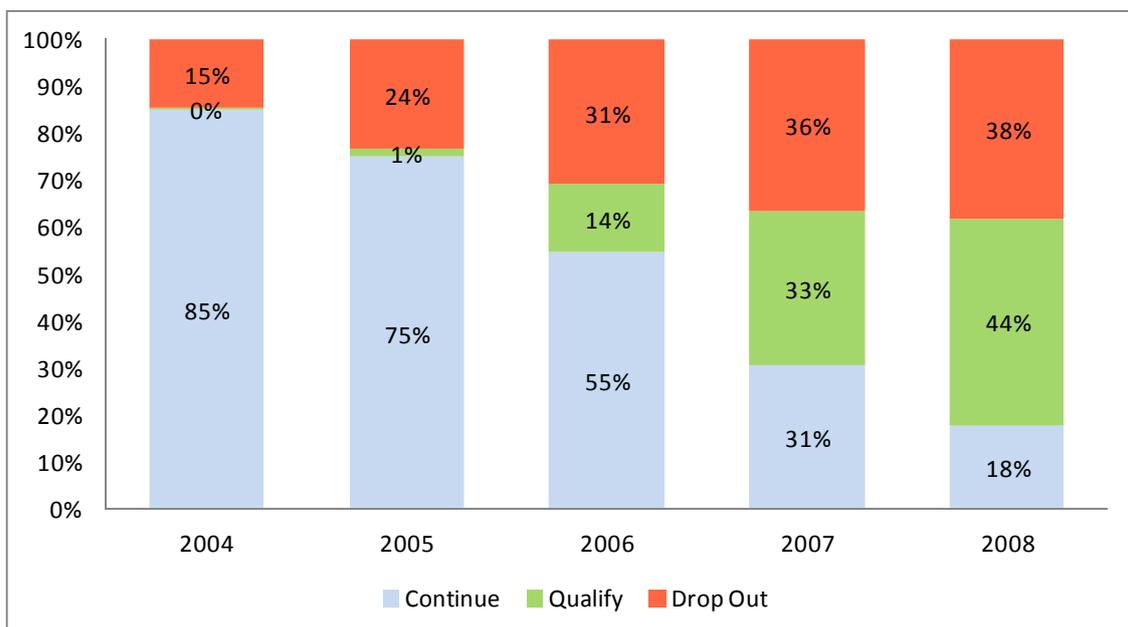


Figure 45 gives an indication of what happened to the 2004_F cohort group in terms of percentages. Of the original group of 24 381 students 44% obtained at least one qualification by 2009. As the date of more years become available this percentage will increase. Also take note that this cohort group obtained 2 241 second or third qualifications. These students are however part of the 44% indicated in **Figure 45** as the group that qualified. Of the original 2004_F group 38% dropped out of the system without obtaining any qualification. As was the case with the other cohort groups the drop out rates tends to stabilize after four years.

Table 20: *Qualifications obtained by 2004_F cohort group*

Year	First qualification	Second qualification	All qualifications
2004	57	0	57
2005	293	2	295
2006	3 106	181	3 287
2007	4 580	779	5 359
2008	2 701	689	3 390
2009	1 449	590	2 039
Total	12 186	2 241	14 427

Comparison of flow through rates between cohort 2004_F and cohort 2004_HF_NF

Now we are going to compare the progress of the students that received NSFAS awards with non-NSFAS students in South Africa that started their higher education career in 2004 (the 2004_HF_NF cohort). The latter's progress are portrayed in **Figure 46**. A comparison between the percentage of these two groups that qualified or dropped out is portrayed in **Figure 47**. The trends are the same as with all the other cohort groups. Clearly more of the non-NSFAS students obtain a qualification within the first three to four years of study, but for the other years the NSFAS students outperforms the other students. For example, after 2 years only 1.2% of NSFAS students obtained a qualification while 12% of non-NSFAS students obtained a qualification. After five years of study 42% of the non-NSFAS students that started as first-first year students in 2000 obtained a qualification while 44% of the NSFAS cohort group successfully achieved some form of qualification. This is the closest these percentages are of all the cohort groups. With the drop out rates the opposite is true. After 2 years 34% of the non-NSFAS cohort group dropped out while only 24% of the NSFAS group dropped out. This pattern is continued until 2008 when 43% of the non-NSFAS students dropped out, but only 38% of the NSFAS cohort group unsuccessfully dropped out of the system. In summary, a greater percentage of NSFAS students obtained a qualification although the difference is not as large as is the case with the other cohort groups. A smaller percentage of the NSFAS cohort dropped out of the system without a qualification. After 5 years of study between 15%

and 18% of the original cohort groups were still in the system although they have not obtained any qualification.

Figure 46: *Percentage of 2004_HF_NF cohort group progressing through the system*

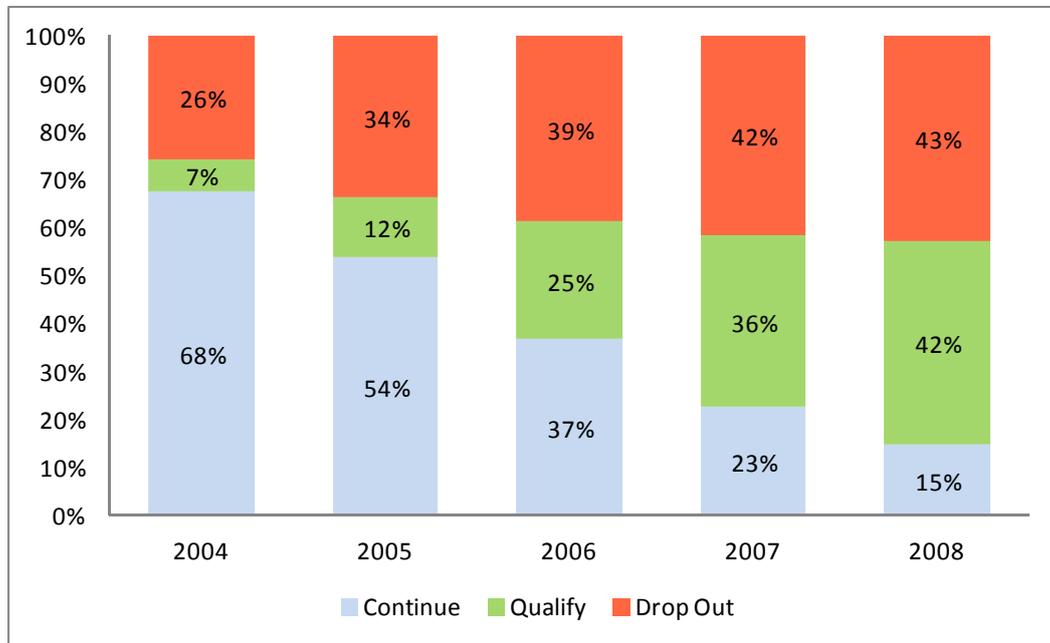
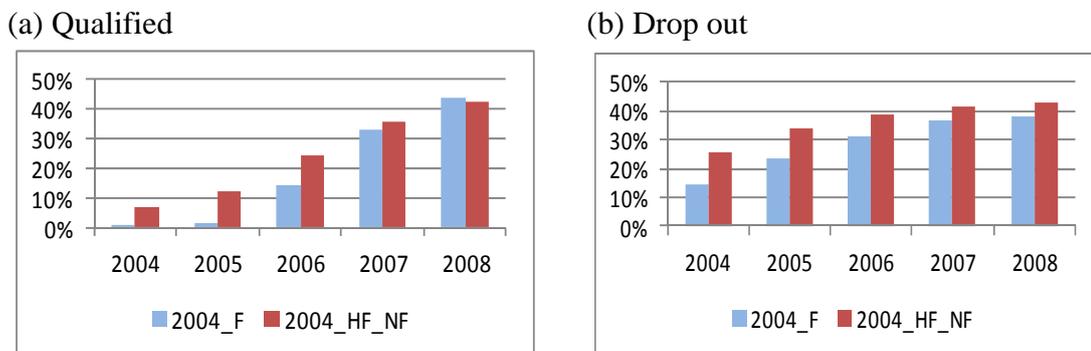


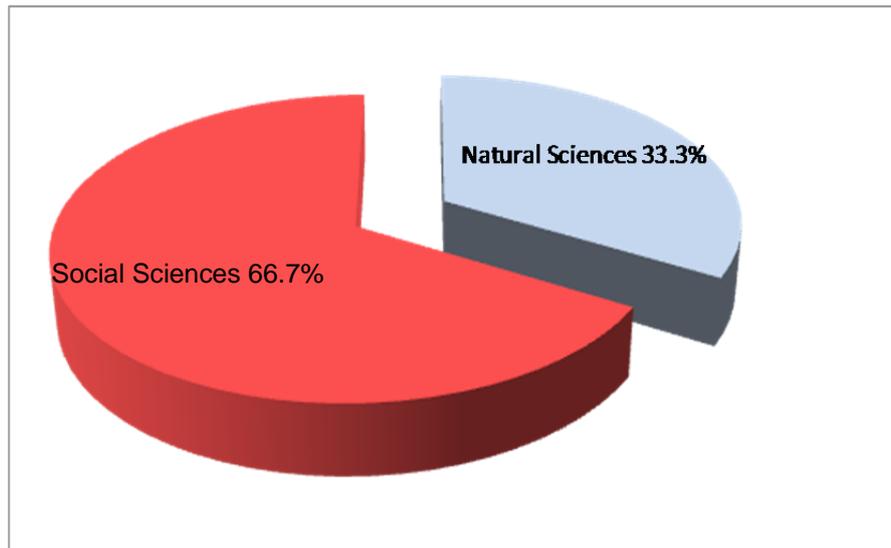
Figure 47: *Comparison of the percentage of the 2004_F and 2004_HF_NF cohort groups progressing through the system*



Field of Study of cohort 2004_F

We then calculated in what study fields NSFAS students received their qualification. Much as we expected the majority of qualifications were in the social sciences – 66.7% while only 33.3% were obtained in natural sciences (See **Figure 48**). It is the lowest percentage for natural sciences of all the groups and rather disappointing as a lot has been done to stimulate studies in the natural sciences. The qualifications of each student are available according to its CESM category, but we decided to make only the split between natural and social sciences. To split it up into the 22 CESM categories or according to their funding category will make comparisons rather difficult to interpret.

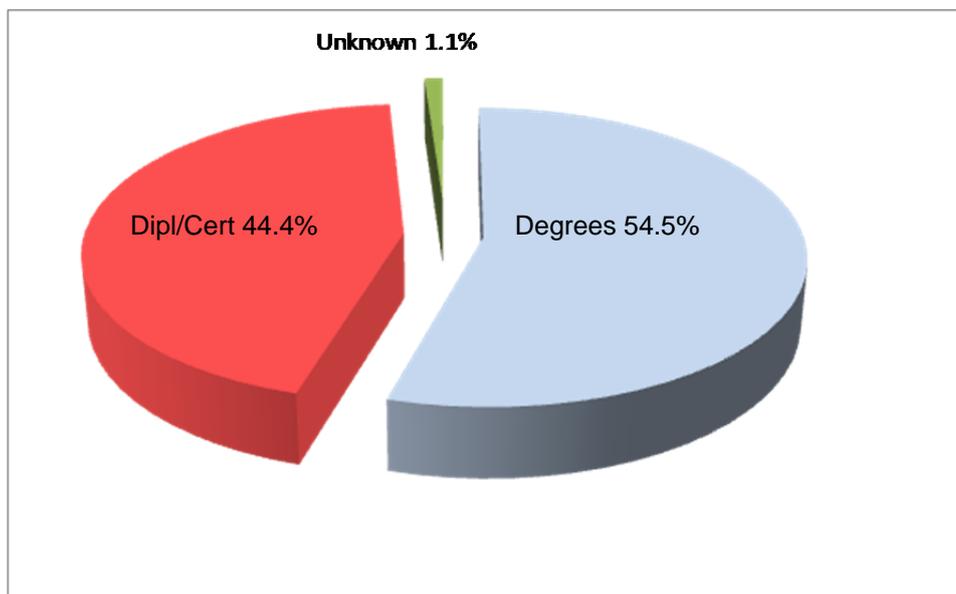
Figure 48: *Qualifications obtained by 2004_F cohort group according to field of study*



Type of Qualification of cohort 2004_F

Another interesting aspect was the split between degrees and diplomas/certificates that NSFAS students obtained (See **Figure 49**). Clearly more degrees than diplomas/certificates were obtained. For the last three cohort groups degrees represented more than 50% of the qualifications obtained by these cohort groups. It means that relatively more funds are spent successfully on students undertaking more high-level training. There is a small fraction of the qualifications that could be split between social and natural sciences, but could not be classified as degrees or diplomas/certificates due to data problems. This explains the unknown section in **Figure 49**.

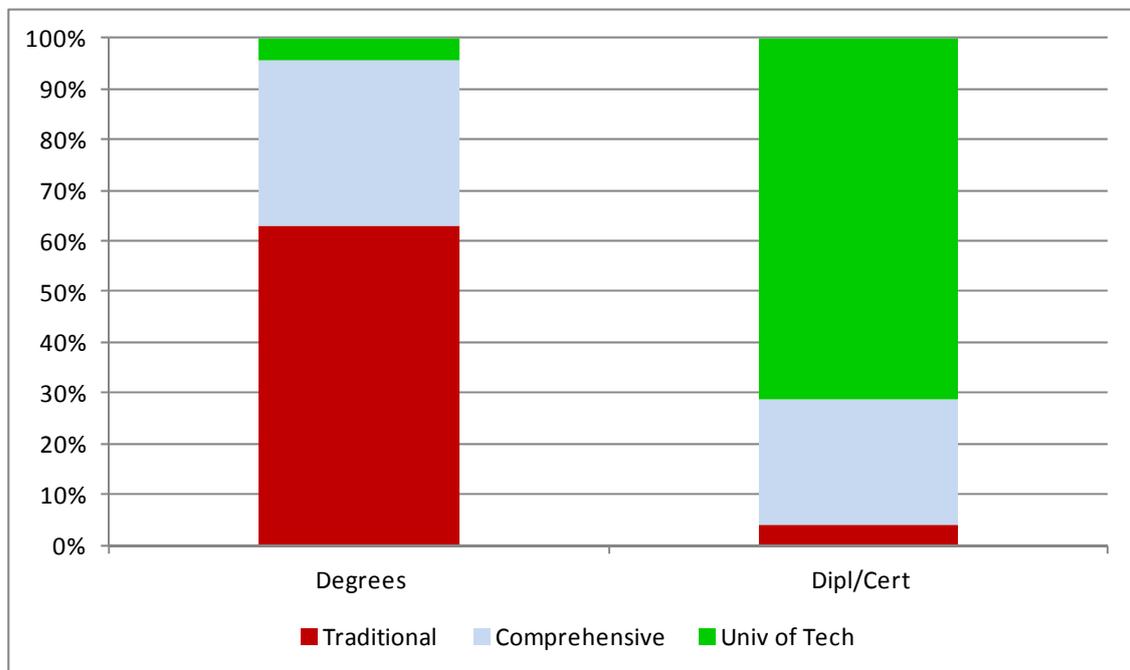
Figure 49: *Qualifications obtained by 2004_F cohort group according to type of qualification*



Type of Qualification per Institution of cohort 2004_F

We also determined how many qualifications were obtained in each institution. From **Figure 50** certain clear trends can be seen. Almost 63% of all degrees were obtained at traditional universities, while almost no degrees were obtained at universities of technology. About 33% of the degrees were obtained at comprehensive universities. The reverse is true for diplomas and certificates. Almost no diplomas or certificates are obtained at traditional universities while more than 71% are obtained at universities of technology. About 25% of diplomas/certificates are obtained at comprehensive universities.

Figure 50: *Qualifications obtained by 2004_F cohort group according to type of institution*



Money Spent on cohort 2004_F

Perhaps the most important aspect is whether funds were allocated efficiently, in other words were money spent on students that were successful? In **Figure 51** the proportion of successful (those that received at least one qualification) versus the unsuccessful (those that dropped out without any qualification) students are portrayed according to the number of years that these students received NSFAS awards. Once again calendar years cannot be used, because not all students received NSFAS funds in consecutive years. For example, not all students that received 5 awards received it for the same five years. Therefore one cannot say that there was a rather dramatic decrease in students of the 2004_F cohort group that received NSFAS awards in 2005. The figure only illustrates that much less students received only two awards compared to those that received one award. Clearly the most unsuccessful students are those

that dropped out of the system in the first three to four years of study and especially the first year. It seems as though NSFAS is fairly successful in identifying the more successful students and gives them awards again. As indicated by the vertical line at 5 years almost all unsuccessful students have already left the system by that time, while only very few students obtain qualifications after five years. The question can be asked why certain students continuously received funds, but only received a qualification after 7 years or no qualification at all. That is clearly not money spent efficiently.

Figure 51: *Number of successful and unsuccessful students of the 2004_F cohort group according to the number of years they received a NSFAS award*

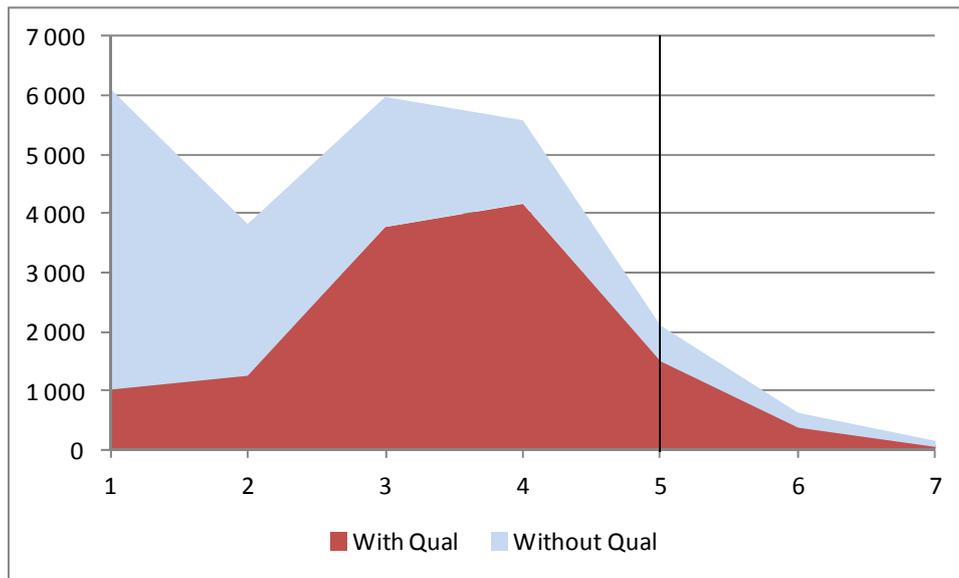
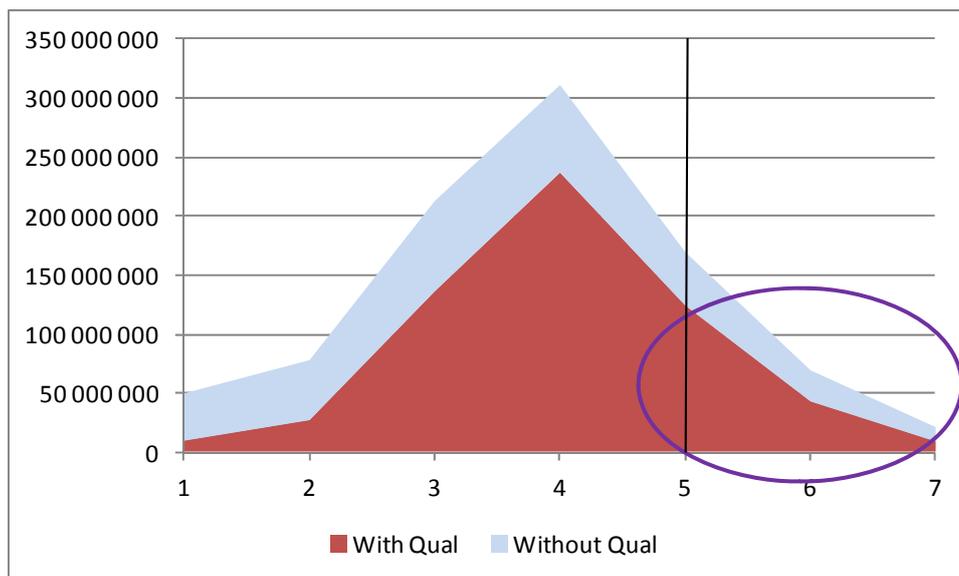


Figure 52: *Money spent on successful and unsuccessful students of the 2004_F cohort group according to the number of years they received a NSFAS award*



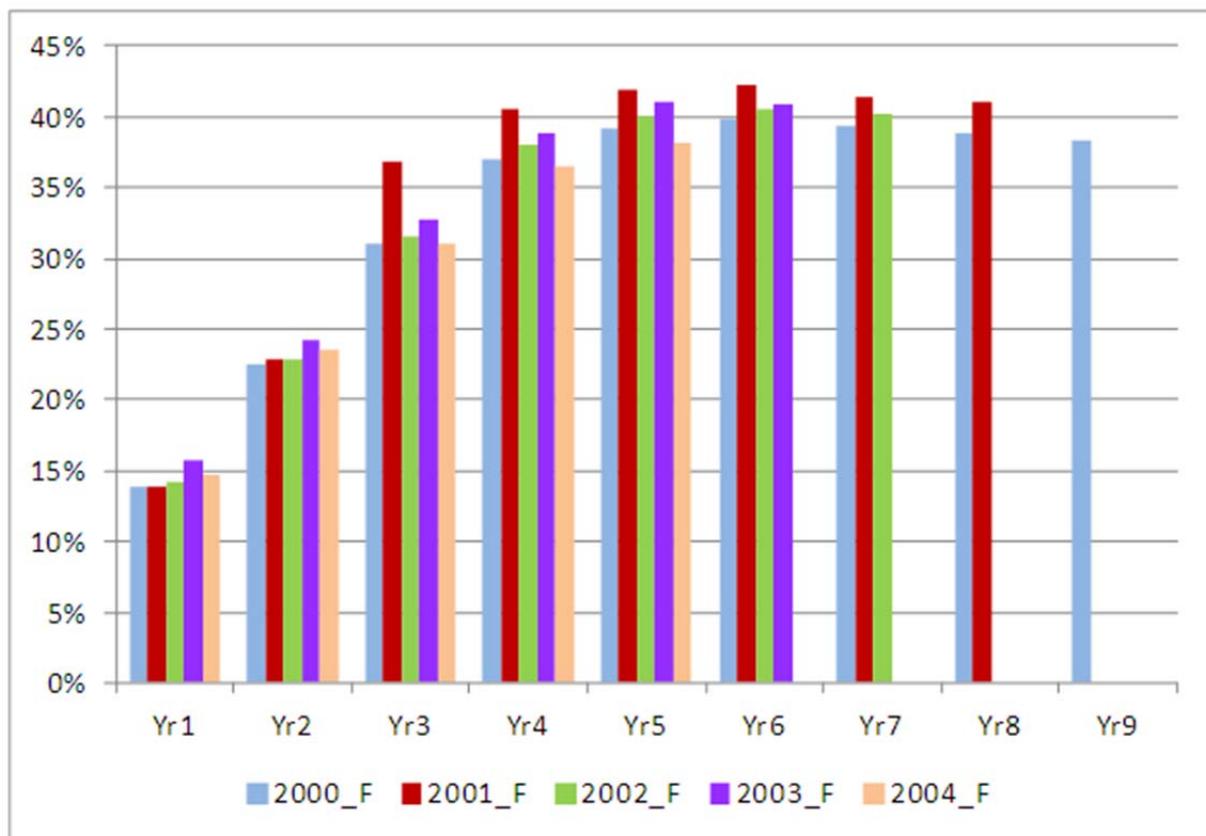
From **Figure 52** it is clear that the majority of money spent on unsuccessful students is on those students that received up to four awards without obtaining a qualification. Thereafter funds are mainly spent on successful students. In the process a lot of money is wasted. R325.7 million was spent on the 2004_F cohort on students that never received a qualification. If the rules of NSFAS are strictly applied that students are allowed to take one more year than the minimum years required for a qualification and if we assume that many of these students are on extended programmes, one could make the assumption that a student should not take more than 5 years to obtain a qualification (ignoring the fact that many certificates and diplomas can be obtained in one year). In that sense one can question the R51.6 million that was spent on students that took more than 5 years to obtain a qualification (and this amount will become even larger if the data of more years become available).

In summary one can say that NSFAS was fairly successful in screening the students and that the majority of awards were given to students that obtained a qualification. Of the money given out as NSFAS awards on the 2004_F cohort no less than 64.2% of the funds were spent on successful students and this percentage is likely to increase as more recent data become available. There seems to be room for improvement to identify those students that will not succeed at an earlier stage of their academic life while some students are receiving funds clearly for too many years before they obtain a qualification or even not obtaining a qualification.

7.2. Comparison between different NSFAS first-first year cohort groups

When analyzing the progress of NSFAS first-first year students of the four cohort groups the consistency and similarities between the different groups are quite remarkable. To compare the different cohort groups one cannot use calendar years. The reason is that the second study year of the 2000_F cohort group is in 2001, but the second study year of the 2004 cohort group is in 2005. To compare the two cohort groups one has to compare 2001 of the 2000_F cohort group with 2005 of the 2004_F cohort group. Therefore calendar years are not use on the horizontal axis in the graphs, but the number of study years. Then they are directly comparable. That is also the reason why the 2000_F cohort group is portrayed for 9 years, the 2001_F cohort group for 8 years, etc.

Figure 53: *Comparative cumulative dropout percentage without qualifications*



In **Figure 53** the cumulative dropout percentage of the five cohort groups are compared. It is clear that with marginal differences the dropout rates between the different cohort groups are almost identical. The only small exception is the 2001_F group that has higher dropout rates than the other four groups. The figure also indicates that after five years almost all students that dropped out of the system have already left the system.

Figure 54 portrays the percentage of students that stay in the higher education system, but failed to obtain any form of qualification. Here the similarities between the five cohort groups

are even more striking with only very small differences between the five cohort groups. Only a very small number of students stay in the system for longer than six years if they do not obtain a qualification.

Figure 54: *Comparative cumulative continue percentage without qualifications*

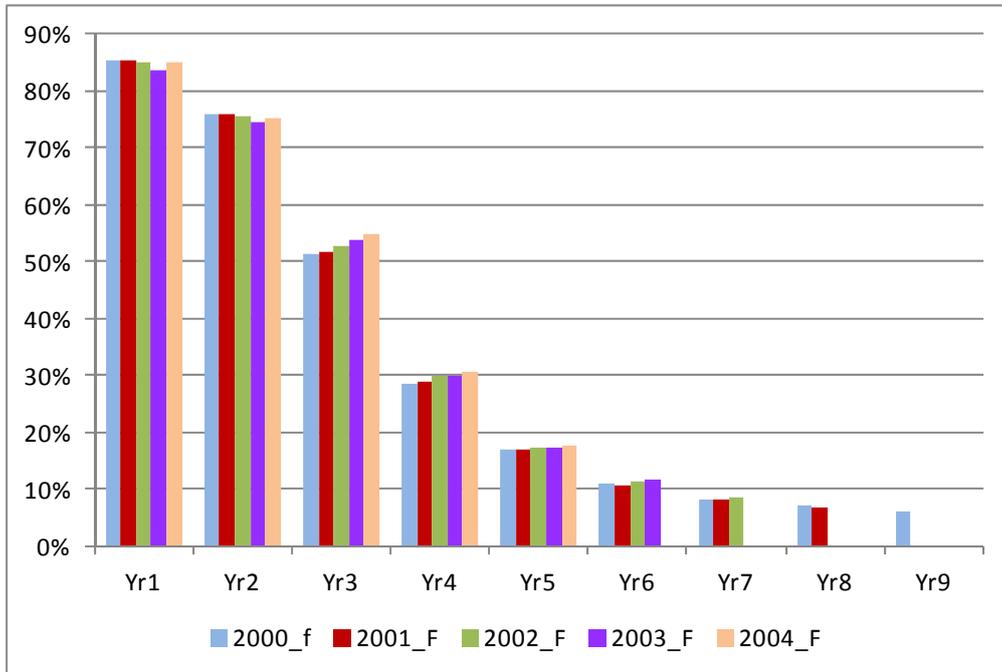
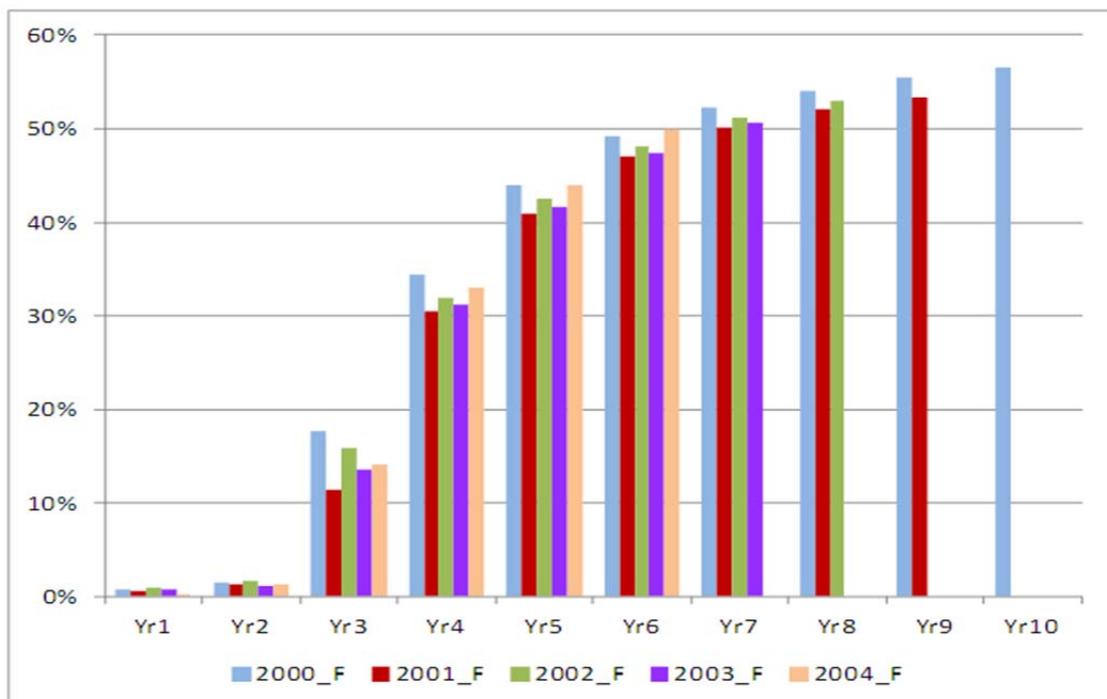


Figure 55: *Comparative cumulative percentage obtaining at least a first qualification*



As was explained in Section 7 only a small number of NSFAS first-first year students receive qualifications in the first three years of study, especially the first two years. This is clearly illustrated in **Figure 55**. Almost all students that obtain qualifications have received their qualifications after five and to the utmost six years of study. As can be seen from the figure more than 50% of the original cohort groups eventually obtain at least one qualification. Once again there is only marginal differences between the five cohort groups.

8. Concluding Remarks and Recommendations

NSFAS has been remarkably successful in terms of student graduation (degrees, diplomas and certificates), even if one does not consider student home background. As NSFAS serves largely students from poorer backgrounds who are usually first generation university students, the success of these students in progressing through the higher education system is even more remarkable. The success of the NSFAS performance can be gauged from the fact that NSFAS students outperform non-NSFAS students, according to an analysis of HEMIS datasets for 10 years that were analysed. The better NSFAS performance compared to non-NSFAS students may perhaps be because of smaller drop-out among the former. This appears to be related to the financial support by NSFAS that allows these students to continue their studies even when not fully successful, whereas non-supported students tend to drop out more easily.

There has been great consistency over time in graduation rates, implying that the first cohort studied (those starting higher education studies in 2000) have had about the same graduation rates as the subsequent cohort, up to the cohort of 2004. Yet when one considers the graduation rates, it is encouraging to note that NSFAS students increasingly obtained degrees rather than diplomas or certificates. This implies that, underlying the stability in the graduation rates, there has really been an improvement in quality of the graduates that NSFAS funding has delivered. The following is a summary of the main findings of the cohort analysis of the students who received a first award between 2000-2004:

- Enrolment: On average about 54% of recipients are female and 46% are male and approximately 90% of recipients are African.
- Age distribution: Of all students receiving an award between 70-80% are 22 years old or younger and of the students who are in their first year for the first time between 71-77% are 21 old or younger.
- Performance: Of all the students receiving a NSFAS first award in 2000 64% obtained a qualification by 2009. This percentage decreases to 57% for all the students receiving a NSFAS first award in 2004 (due to the shorter period of this cycle 2004-2009).

A comparison of NSFAS and HEMIS between the cohort of students that were first year for the first time in 2000 and 2004 indicates the following:

	NSFAS		HEMIS	
	2000	2004	2000	2004
Percentage of students who qualified	55%	44%	48%	42%
dropping out without any qualifications	38%	38%	46%	43%
continuing without any qualifications	6%	18%	6%	15%

The table above indicates that NSFAS students were more successful in obtaining a qualification and fewer students dropped out without a qualification.

- **Field of Study:** Slightly more than a third of all first-first year students in all five cohorts obtained a qualification in Natural Sciences and slightly less than two-thirds in Social Sciences.
- **Type of Qualification:** On average 54.2% of first-first year students in 2000 obtained a diploma or certificate while 42.6% obtained a degree. A significant change in qualification type occurred over time, with the result that of the 2004 first-first year cohort, thus far 44.4% of those completing their studies had obtained a diploma or certificate and 54.5% received a degree.
- **Institution Type:** Of all first-first year students in all five cohorts more than 60% received their degrees at Traditional Universities and more than 70% received their diplomas or certificates at Universities of Technology. Approximately 30 % of degrees and slightly more than 20% of diplomas and certificates were obtained at Comprehensive Universities.
- **Money Spent:** Table below indicates how efficient money was spent on the first-first year students in all cohorts:

	2000	2001	2002	2003	2004
Money spent on unsuccessful students	R102.4 m	R168.7 m	R195.2 m	R282.9 m	R325.7 m
Money spent on students taking more than 5 years to qualify	R26.9 m	R42.7 m	R17.9 m	R49.9 m	R51.6 m
% of money spent on successful students	71.2%	68.7%	67.8%	66.0%	64.2%

Although money was spent reasonably efficiently, it takes too long to identify unsuccessful students that are still receiving an award.

- **Trends:** Student performance over all the cohorts is remarkably consistent.

Recommendations regarding data management:

- **Core data fields:** Common core of data elements such as academic background information should be obtained from official documents. Self-reporting is not reliable. Include also school information as part of the data elements in the system.
- **Information System:** There is an urgent need for an integrated management information system. A well designed and structured relational database is a strong recommendation. In addition, it is recommended that appropriate documentation, such as data dictionaries being developed Staff should be adequately trained in its use.
- **Unique Identifiers:** Student identification numbers are important for integration and linking with other datasets and should be accurately maintained.

- Research: It is recommended that data analysis and research are undertaken on a regular basis. It improves the quality of the data.
- Data Verification: Data verification and data cleaning processes and procedures should be implemented
- Student Progress: Identify students earlier that are not successful. Too many students receive an award for more than five years (even up to 9 years) without obtaining any qualification.
- NSFAS dataset: The HEMIS dataset is the official student unit-record system indicating amongst other the student's field of study (CESM), qualification obtained, the entering category, etc. Keep the NSFAS data records up to date with HEMIS data.

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10. Appendix

10.1. Table A1: NSFAS students who received an award and are in HEMIS

Cohort year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
2000 NSFAS cohort	31864	19198	13530	7244	2960	1355	661	373	287	233
2000 NSFAS match with HEMIS	28978	25081	20541	15027	10352	7699	6199	5550	5210	4919
2001 NSFAS cohort		38226	22874	16558	9133	4104	1875	843	569	386
2001 NSFAS match with HEMIS		34793	30682	25641	19069	12702	9298	7441	6868	6234
2002 NSFAS cohort			38299	22919	16609	9515	4192	1690	894	630
2002 NSFAS match with HEMIS			35274	30531	25818	19151	12921	9359	7704	6807
2003 NSFAS cohort				44283	26005	20568	11891	4869	2109	1130
2003 NSFAS match with HEMIS				40495	35250	29894	22772	15152	10964	9027
2004 NSFAS cohort					41409	25713	19459	11803	5087	2374
2004 NSFAS match with HEMIS					37043	32391	27934	22028	14555	10647

(The first row of the cohort year (e.g. 2000 NSFAS cohort) represents the number of students of the original cohort who received an award for that year. The second row of the cohort year (e.g. 2000 NSFAS match with HEMIS) represents the students of that cohort that are in the HEMIS system for that year irrespective of whether they received a NSFAS award again).

10.2. Table A2: Progress of 2000_F cohort group

Cohort size in 2000: 15 345				
Flow year	Continue	First qualification	All qualifications	Drop Out
2000	13 090	122	122	2 133
2001	11 652	102	114	1 336
2002	7 864	2 500	2 535	1 288
2003	4 402	2 558	3 084	904
2004	2 605	1 453	1 944	344
2005	1 672	808	1 166	125
2006	1 289	464	733	-81
2007	1 090	281	548	-82
2008	949	222	455	-81
2009	n/a	168	427	n/a
Total		8 678	11 128	

10.3. Table A3: *Progress of 2000_HF_NF cohort group*

Cohort size in 2000: 113 346				
Flow year	Continue	First qualification	All qualifications	Drop Out
2000	72 740	6 564	6 564	34 042
2001	60 442	5 565	6 106	6 733
2002	42 286	12 965	13 898	5 191
2003	26 727	12 188	16 746	3 371
2004	17 348	7 004	10 815	2 375
2005	12 090	4 373	7 256	885
2006	9 365	2 499	4 597	226
2007	8 063	1 574	3 358	0127
2008	6 786	1 327	2 867	-50
2009	n/a	1 106	2 624	n/a
Total		55 165	74 831	

10.4. Table A4: *Qualification obtained by the 2000_F cohort group according to institution and field of study*

Type of Institution	Qualification	Natural Science	Social Science	Total
Traditional	Unknown	49	37	86
Traditional	Degree	870	1 524	1 239
Traditional	Diploma/Certificate	20	170	190
Comprehensive	Unknown	26	100	126
Comprehensive	Degree	446	697	1 143
Comprehensive	Diploma/Certificate	460	779	1 239
Univ of Tech	Unknown	10	49	59
Univ of Tech	Degree	57	106	163
Univ of Tech	Diploma/Certificate	1 331	1 947	3 278
Total		3 269	5 409	8 678

10.5. Table A5: Progress of 2001_F cohort group

Cohort size in 2001: 21 584				
Flow year	Continue	First qualification	All qualifications	Drop Out
2001	18 422	154	154	3 008
2002	16 348	152	159	1 922
2003	11 194	3 145	3 203	3 001
2004	6 279	3 531	4 155	809
2005	3 699	2 049	2 625	299
2006	2 322	1 180	1 607	86
2007	1 815	616	1 000	-183
2008	1 493	396	788	-74
2009	n/a	293	692	n/a
Total		11516	14383	

10.6. Table A6: Progress of 2001_HF_NF cohort group

Cohort size in 2000: 117 894				
Flow year	Continue	First qualification	All qualifications	Drop Out
2001	77 184	7 929	7 929	32 781
2002	63 143	5 926	6 582	8 115
2003	44 030	13 518	14 451	5 595
2004	27 140	12 604	17 449	4 286
2005	17 706	7 176	10 993	2 258
2006	12 466	4 479	7 174	761
2007	9 781	2 505	4 742	180
2008	8 078	1 726	3 603	-23
2009	n/a	1 322	3 058	n/a
Total		57 185	75 981	

10.7. Table A7: *Qualification obtained by the 2001_F cohort group according to institution and field of study*

Type of Institution	Qualification	Natural Science	Social Science	Unknown	Total
Traditional	Unknown	119	109		228
Traditional	Degree	1 245	2 274		3 519
Traditional	Diploma/Certificate	52	220	1	273
Comprehensive	Unknown	46	139		185
Comprehensive	Degree	548	1 172		1 720
Comprehensive	Diploma/Certificate	534	879	17	1 430
Univ of Tech	Unknown	37	48		85
Univ of Tech	Degree	36	133		169
Univ of Tech	Diploma/Certificate	1 693	2 212	2	3 907
Total		4 310	7 186	20	11 516

10.8. Table A8: *Progress of 2002_F cohort group*

Cohort size in 2002: 21 943				
Flow year	Continue	First qualification	All qualifications	Drop Out
2002	18 624	212	212	3 107
2003	16 569	149	169	1 906
2004	11 540	3 120	3 179	1 909
2005	6 601	3 536	4 150	1 403
2006	3 823	2 315	2 912	463
2007	2 500	1 209	1 668	114
2008	1 921	674	1 077	-95
2009	n/a	389	778	n/a
Total		11 604	14 145	

10.9. Table A9: *Progress of 2002 _HF_NF cohort group*

Cohort size in 2002: 136 287				
Flow year	Continue	First qualification	All qualifications	Drop Out
2002	91 934	9 167	9 167	35 186
2003	72 297	9 697	10 438	9 940
2004	48 545	16 714	17 892	7 038
2005	29 410	14 626	20 639	4 509
2006	18 997	8 291	12 889	2 122
2007	13 553	4 849	8 274	595
2008	10 759	2 886	5 580	-92
2009	n/a	2 064	4 589	n/a
Total		68 294	89 486	

10.10. Table A10: *Qualification obtained by the 2002_F cohort group according to institution and field of study*

Type of Institution	Qualification	Natural Science	Social Science	Unknown	Total
Traditional	Unknown	107	158		265
Traditional	Degree	1 349	2 521		3 870
Traditional	Diploma/Certificate	21	210	3	234
Comprehensive	Unknown	34	109		143
Comprehensive	Degree	575	1 080		1 655
Comprehensive	Diploma/Certificate	543	824		1 367
Univ of Tech	Unknown	10	24		34
Univ of Tech	Degree	18	213		231
Univ of Tech	Diploma/Certificate	1 596	2 208	1	3 805
Total		4 253	7 347	4	11 604

10.11. Table A11: *Progress of 2003_F cohort group*

Cohort size in 2003: 27 030				
Flow year	Continue	First qualification	All qualifications	Drop Out
2003	22 567	211	211	4 252
2004	20 143	125	130	2 299
2005	14 516	3 353	3 396	2 274
2006	8 121	4 737	5 374	1 658
2007	4 695	2 825	3 467	601
2008	3 131	1 579	2 163	-15
2009	n/a	853	1 361	n/a
Total		13 683	16 102	

10.12. Table A12: *Progress of 2003_HF_NF cohort group*

Cohort size in 2002: 136 615				
Flow year	Continue	First qualification	All qualifications	Drop Out
2003	92 635	8 922	8 922	35 058
2004	73 929	7 347	7 948	11 359
2005	50 725	15 963	17 091	7 241
2006	30 592	15 613	21 212	4 520
2007	19 830	8 518	12 901	2 244
2008	14 232	5 206	8 527	392
2009	n/a	3 058	6 124	n/a
Total		64 627	82 725	

10.13. Table A13: *Qualification obtained by the 2003_F cohort group according to institution and field of study*

Type of Institution	Qualification	Natural Science	Social Science	Unknown	Total
Traditional	Unknown	36	93		129
Traditional	Degree	1 611	2 907	1	4 519
Traditional	Diploma/Certificate	26	202		228
Comprehensive	Unknown	35	120		155
Comprehensive	Degree	637	1 550		2 187
Comprehensive	Diploma/Certificate	612	1 062		1 674
Univ of Tech	Unknown	14	3		17
Univ of Tech	Degree	7	271		278
Univ of Tech	Diploma/Certificate	1 828	2 668		4 496
Total		4 806	8 876	1	13 683

10.14. Table A14: *Progress of 2004_F cohort group*

Cohort size in 2004: 24 381				
Flow year	Continue	First qualification	All qualifications	Drop Out
2004	20 737	57	57	3 587
2005	18 300	293	295	2 144
2006	13 366	3 106	3 287	1 828
2007	7 452	4 580	5 359	1 334
2008	4 354	2 701	3 390	397
2009	n/a	1 449	2 039	n/a
Total		12 186	14 427	

10.15. Table A15: *Progress of 2004 _HF_NF cohort group*

Cohort size in 2004: 144 247				
Flow year	Continue	First qualification	All qualifications	Drop Out
2004	97 603	9 553	9 553	37 091
2005	77 806	8 167	8 831	11 630
2006	52 847	17 701	18 808	7 258
2007	32 489	16 314	22 277	4 044
2008	21 437	9 369	14 224	1 683
2009	n/a	5 590	9 726	n/a
Total		66 694	83 419	

10.16. Table A16: *Qualification obtained by the 2003_F cohort group according to institution and field of study*

Type of Institution	Qualification	Natural Science	Social Science	Unknown	Total
Traditional	Unknown	3	4		7
Traditional	Degree	1 414	2 759	1	4174
Traditional	Diploma/Certificate	20	199		219
Comprehensive	Unknown	21	92		113
Comprehensive	Degree	608	1 571		2179
Comprehensive	Diploma/Certificate	564	776		1340
Univ of Tech	Unknown	10	1		11
Univ of Tech	Degree	7	279		286
Univ of Tech	Diploma/Certificate	1 409	2 448		3 857
Total		4 056	8 129	1	12 186

10.17. Table A17: *Students of the 2000_F to 2004_F cohort groups that received NSFAS awards, but did not obtain a qualification*

Number of awards	2000	2001	2002	2003	2004
1	2 892	4 358	4 430	5 980	5 085
2	1 511	2 426	2 445	2 827	2 61
3	1 335	1 879	1 855	2 367	2 192
4	646	897	1 037	1 400	1 403
5	185	319	351	516	603
6	67	109	138	177	251
7	18	59	64	56	100
8	5	15	17	24	-
9	6	5	2	-	-
10	2	1	-	-	-
Total	6 667	10 068	10 339	13 347	12 195

10.18. Table A18: *Students of the 2000_F to 2004_F cohort groups that received NSFAS awards and obtained at least one qualification*

Number of awards	2000	2001	2002	2003	2004
1	799	1 106	1 259	1 349	1 026
2	1 151	1 571	1 538	1 630	1 262
3	3 114	3 936	3 688	4 326	3 775
4	2 428	3 152	3 245	4 293	4 169
5	855	1 228	1 396	1 575	1 507
6	234	400	356	427	368
7	67	91	98	69	61
8	21	25	19	14	-
9	4	7	5	-	-
10	5	-	-	-	-
Total	8 678	11 561	11 604	13 683	12 186

10.19. Table A19: Money (NSFAS awards) spent on students of the 2000_F to 2004_F cohort groups who did not obtain a qualification

Number of awards	2000	2001	2002	2003	2004
1	14 531 100.91	25 683 715.00	27 786 170.00	42 868 624.00	40 124 052.00
2	19 798 780.12	35 814 409.00	38 607 736.00	49 302 834.00	50 875 769.00
3	30 199 811.66	45 381 743.00	49 149 599.00	69 498 824.00	76 578 299.00
4	21 644 055.77	31 793 419.00	41 685 735.00	62 913 882.00	74 222 684.00
5	9 065 602.27	15 946 532.00	20 024 943.00	34 144 650.00	45 288 800.00
6	4 657 102.30	7 265 119.00	9 867 139.00	15 465 879.00	26 414 756.00
7	938 755.10	4 951 810.00	5 936 726.00	5 691 744.00	12 240 321.00
8	524 724.00	1 058 447.00	1 976 009.00	2 985 481.00	-
9	672 046.00	627 260.00	145 734.00	-	-
10	324 275.38	179 983.00	-	-	-
Total	102 356 253.51	168 702 437.00	195 179 791.00	282 871 918.00	325 744 681.00

10.20. Table A20: Money (NSFAS awards) spent on students of the 2000_F to 2004_F cohort groups who obtained at least one qualification

Number of awards	2000	2001	2002	2003	2004
1	4 921 277.92	7 787 420.00	10 073 177.00	11 593 498.00	9 548 281.00
2	15 874 751.59	25 394 320.00	27 273 089.00	30 264 909.00	26 945 526.00
3	72 820 116.52	102 049 853.00	104 350 368.00	134 027 456.00	136 044 934.00
4	86 868 415.54	123 368 310.00	138 900 507.00	209 768 023.00	236 619 976.00
5	45 304 833.35	69 494 802.00	86 972 309.00	113 105 686.00	124 089 054.00
6	17 357 248.65	29 881 101.00	29 764 579.00	40 517 753.00	42 752 095.00
7	5 586 733.70	8 728 114.00	10 191 104.00	7 709 005.00	8 834 884.00
8	2 541 168.00	3 116 860.00	2 168 936.00	1 681 468.00	-
9	371 351.00	1 007 235.00	835 427.00	-	-
10	998 421.30	-	-	-	-
Total	252 644 317.57	370 828 015.00	410 529 496.00	548 667 798.00	584 834 750.00