

RESTLESS MINDS:
SOUTH AFRICAN STUDENTS
AND THE BRAIN DRAIN

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This paper is part of a broader regional research exercise by the Southern African Migration Project (SAMP) designed to assess the emigration potential of final-year students across the region. The fundamental question addressed by the PSBS (Potential Skills Base Survey) project was whether governments and training institutions are simply training up a cohort of skills that will join the well-established “brain drain” from the region on graduation. In addition, the survey sought to provide information on student perceptions on what factors might influence them to stay or leave. The authors would like to thank the SAMP partners for their collaborative input into the design of the survey, especially: Eugene Campbell, Abel Chikanda, Jonathan Crush, Bruce Frayne, Thuso Green, Selma Nangulah, Sally Peberdy, Wade Pendleton, Hamilton Simelane, Dan Tevera and Vincent Williams. Thanks also to the many institutions of higher education that agreed to participate in the South African survey. Jonathan Crush and Krista House provided invaluable editorial input. Finally, our thanks to the funders of this project, CIDA and DFID.

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CONTENTS	PAGE
EXECUTIVE SUMMARY	1
INTRODUCTION	7
SURVEYING STUDENTS	8
THE POTENTIAL SKILLS BASE	10
MEASURING EMIGRATION POTENTIAL	11
WHO WILL LEAVE?	17
SOCIAL STRUCTURE	17
SOCIAL IDENTITY	19
ECONOMIC EVALUATIONS	21
INFORMATION AND EXPERIENCE	23
LOGISTICS OF EMIGRATION	25
POLICY IMPLICATIONS	25
ENDNOTES	28
MIGRATION POLICY SERIES	30

TABLES	PAGE
TABLE 1: FINAL YEAR SOUTH AFRICAN TERTIARY POPULATION AND SAMPLE	9
TABLE 2: SCALE STATISTICS FOR EMIGRATION POTENTIAL	12
TABLE 3: MOST LIKELY DESTINATION	14
FIGURES	
FIGURE 1: MEASURING EMIGRATION POTENTIAL	11
FIGURE 2: AGE PROFILE OF RESPONDENTS	12
FIGURE 3: MOST LIKELY DESTINATION	13
FIGURE 4: MOST LIKELY DESTINATION (BY EMIGRATION POTENTIAL)	14
FIGURE 5: LENGTH OF INTENDED STAY (BY EMIGRATION POTENTIAL)	15
FIGURE 6: FREQUENCY OF RETURN AND REMITTANCE (BY EMIGRATION POTENTIAL)	15
FIGURE 7: WILLINGNESS TO GIVE UP ASSETS IN SOUTH AFRICA (BY EMIGRATION POTENTIAL)	16
FIGURE 8: WILLINGNESS TO PUT DOWN ROOTS IN NEW COUNTRY (BY EMIGRATION POTENTIAL)	16
FIGURE 9: EMIGRATION POTENTIAL BY RACE	18
FIGURE 10: EMIGRATION POTENTIAL BY HOME LANGUAGE	18
FIGURE 11: LEVELS OF PATRIOTISM AND NATIONAL IDENTITY AMONG STUDENTS	20
FIGURE 12: POTENTIAL LOSS OF STATE INVESTMENTS	26
FIGURE 13: POTENTIAL LOSSES OF STATE INVESTMENTS (BY COURSE STUDY)	26

EXECUTIVE SUMMARY

Since the end of apartheid, young South Africans can look beyond the country's borders to find employment. Yet while greater opportunities and a wider range of choice may be good news for South Africa's talented tertiary students, it may also be bad news for the country as a whole in the form of a momentous loss of skills. Skilled emigration has the potential to rob the country of considerable investment in training and education, and also deprive the economy of needed skills and upper-end consumers. The brain drain is likely to be particularly damaging to the economy when students leave relatively soon after graduating and the country fails to receive any appreciable return on direct investments in training.

This study therefore assesses the emigration potential of South Africa's potential skills base: that is, young adults in tertiary training institutions. Altogether, final-year students at 74 South African undergraduate university faculties were surveyed, along with 92 post-graduate university faculties, 37 technikon faculties, and 3 nursing college faculties. The final sample was 4,784 students. Just over one-third were completing a certificate or diploma (36%), and another third a Bachelor's Degree (38%). One fifth of the students were engaged in post-graduate study pursuing an Honours Degree (10%), Masters Degree (12%) or a Doctorate (less than 1%). Four percent were pursuing some other form of degree. The country's potential skills base (as represented by this sample) is more female (54%) than male (46%); more black (48%) than white (40%); and young (median age of 22). This undoubtedly reflects dramatic changes at the country's tertiary institutions since the end of apartheid. A 1998 SAMP survey of skilled adults in the workforce found a population that was overwhelmingly male (61%) and white (72%).

What is the potential for skills loss via emigration of final-year students? For a person to have a high emigration potential, they should have given emigration extensive thought, they should want to emigrate, and they should consider it likely that they will do so. While four in ten final-year students say they have given "a great deal" of consideration to moving to another country to live and work, as more demanding questions about commitment and probability of leaving are asked, the proportion drops. Two in ten said it was "very likely" they would leave.

Students were asked what countries they would most likely go to if they ever left South Africa. Amongst all respondents, the United Kingdom was the leading preferred destination, selected by almost three in ten respondents. This was followed by the United States (19%), Australia (15%), Europe (7%), and Canada (5%). Black, white and

coloured respondents all agreed that they would most likely end up in Europe, though Indian respondents were significantly less likely to say so. Black respondents were more likely to think they would end up in North America or Southern Africa than other students. White students were more likely than others to see Australasia as a likely destination.

A series of questions about possible movement to that country were then posed. One quarter said they wanted "to a great extent" to move there to live and work for two years or more. One in five said that it was "very likely" that they would actually do this. Short term emigration potential appears to be even higher. Forty percent said they wanted "to a great extent" to go and live and work there for less than 2 years. One-quarter said it was "very likely" they would actually go. About one in five said that it was "very likely" that they would leave the country within six months of graduation. Similar numbers said they would leave within two years and within five years. The proportions of students with a "very high" emigration potential are exactly the same as in a 1998 SAMP survey of skilled South African adults (at 2%). However, twice as many students have a "high" emigration potential (20%) with a further 25% having a moderate potential. In other words, emigration potential is higher among students than people already pursuing their chosen profession.

At this stage of their career development, high emigration potential amongst students does not yet automatically translate into a permanent skills loss for the country. Amongst those students who definitely want to leave (those with "very high" emigration potential), the vast majority (74%) say they want to stay in their most likely destination for more than five years. However, those with "high" emigration potential seem to envision a more limited stay, at least at first: although one-third of these students said they want to stay more than five years, 41% said they plan on a stay of 2 to 5 years. In addition, most respondents with either high or very high emigration potential plan on returning to South Africa on an annual basis. And those most likely to leave still plan on sending money home on a monthly basis.

To what extent is emigration potential simply a function of a person's place in South Africa's social structure? Given the country's history, the most obvious starting point is race. Due to their loss of dominant political and economic power and perceptions of reduced employment opportunities due to affirmative action, it is widely assumed that white South Africans are much more likely to leave than blacks. An earlier SAMP study of all skilled professionals found that there was no significant racial difference in the proportions of skilled adults with a very high emigration potential (2% of each group), though there was a difference amongst those with a high probability (11% of whites compared

to only 6% of blacks). This study found that black emigration potential was slightly lower and white emigration potential was slightly higher amongst students. This difference was statistically significant, meaning that the difference in the sample can be generalized to the larger population of all students. However, in comparison with the many different factors reviewed in this paper, a student's racial background provides less help in discriminating between those with high and low emigration potential.

There are few meaningful differences across a range of demographic factors. While we might expect that students from wealthier backgrounds would have more economic freedom to leave, there were only small differences according to class background of student. There is some evidence that the course of study makes certain students think they are more attractive on the international job market. Popular perception is that medical students are the most likely to leave. This study found that those pursuing final year studies in Computer Science / Information Technology at Technikons and studying in Medical or Dental faculties at Technikons are the most likely to want to leave. Students in Nursing Training Colleges display the lowest emigration potential. Students studying in University Faculties of Medicine or Pharmacy have an average emigration potential. However, these differences across degree paths are not very large.

Former President Nelson Mandela has suggested that South Africa's brain drain would be much lower if skilled South Africans were more patriotic and had higher levels of national identity. The vast bulk of South African tertiary students do actually exhibit a high degree of national identity and patriotism. Seventy percent of students surveyed agreed that being a citizen of South Africa is a very important part of how they see themselves. At the same time, these levels of national identity are substantially lower than those measured amongst ordinary adult South Africans, where over nine in ten have consistently registered strong levels of national identity since 1994. Respondents with higher levels of patriotism have substantially lower emigration potential. The more a student feels they have a role to play in the future of the country, the lower their emigration potential. Students who emphasize national identity over professional identity or quality of life also have lower emigration potential.

Student perceptions of a range of features of life in South Africa were tested. Present satisfaction with personal and national economic conditions were assessed, and then whether they thought things in South Africa would be better or worse in five years time across a whole range of specific features of national life. One-half of all students were dissatisfied with their present personal economic conditions. However,

82% expected that their personal economic conditions would be better or much better in five years. About half felt that their level of income would be better. Six in ten were dissatisfied with current national economic conditions, but most felt things would get better in five years time. Only 27% said they would get worse.

However, once the students were asked what they thought things would look like in five years time across a broad range of factors, perceptions were decidedly more pessimistic. For example, 80% said the HIV/AIDS situation would be worse and two thirds felt the cost of living would be higher. Six in ten forecast that their ability to find the job they wanted, their personal safety and their family's safety would all be worse than they are today. On no item was there a preponderance of optimistic expectations. Perhaps most important of all, only 41% felt that it would be easy or very easy for them to find a job in their field of study after graduation. Eight in ten felt the government had not done enough to create jobs for graduates.

Pessimistic expectations of quality of life are positively correlated to higher degrees of emigration potential, as are pessimistic expectations of safety. However, emigration potential is only weakly associated with a variety of other attitudes such as whether or not a student thinks it will be easy to find a job, personal economic pessimism, or dissatisfaction with government efforts to create jobs.

Regardless of whether students expect conditions in South Africa to get worse, they would have no reason to leave if they consider that conditions are still better than elsewhere. They were thus asked whether conditions would be better in South Africa or in their most likely emigration destination. Overall, the results indicate that a large number of final-year students see the grass as much greener on the other side. A massive three-quarters of students are certain that they would enjoy a higher income in their most likely destination. The majority said things would be better elsewhere in terms of their prospects for professional advancement, their ability to find a desired job and their job security.

Another factor that often shapes emigration potential is the level of information about and contact with the act of emigration. Large numbers of students reported at least some direct or indirect experience with emigration. Six in ten said that they knew at least one fellow student or colleague or close friend who had left the country permanently. One-half of all students had at least one member of their extended family who had emigrated, while one quarter said that someone in their immediate family had done so. The results of the survey show that emigration potential is modestly related to the degree of knowledge of people who have already emigrated.

What kinds of investment does the South African government stand

to lose if likely emigrants do, in fact, leave? According to students' present dispositions, the South African government would lose about 1-2% of final year students who have bursaries that do not require any payback, and approximately 5% of those that require some payback. Universities and Technikons also stand to lose about 5% of their investments in bursaries. However, these numbers would rise drastically to as high as one quarter to one third of government bursaries if the high potential students also left.

Faced with significant emigration, it is understandable that governments try and limit it through restrictive policies. Most analysts feel such policies are likely to hasten the rate of emigration even further, and the students tended to agree. Students with study bursaries were asked whether the conditions of those bursaries required them to remain in the country after they completed their studies and/or to work specifically in either the public or private sector. Twenty-two percent of all students had such a bursary. While these students do have a lower emigration potential than others, the difference is very small, suggesting that these restrictions exercise a minimal impact on student plans and calculations.

Another type of government intervention is a requirement that students perform some form of national service in return for their education. If handled well, and if specifically required of those students who had received some form of bursary, such restrictions would not meet with massive resistance, or make students more likely to leave. Just 18% said government would not be justified in requiring those who have received government bursaries to complete some form of national service in return for their bursary. High emigration potential students were no more likely than others to think so.

However, students would be far more opposed to other types of interventions. One half of students said government would not be justified if it required students to complete some form of national service before they began tertiary education. Fifty-three percent said government would not be justified if it required citizens to work in the country for several years after graduation, with higher emigration potential students especially opposed. Six in ten said government would not be justified in limiting the amount of money they could send out of the country, with higher emigration students more likely to be bothered by this. And 60% said government would not be justified in making people pay taxes on income earned outside the country.

In contrast, students do feel that there are far more effective ways to limit emigration. Three quarters agreed that development and growth would reduce emigration and six in ten agreed that measures to encourage the return of skilled nationals living abroad would also

reduce emigration. Only one-fifth said that South Africa's efforts to discourage other governments from employing South African emigrants would reduce emigration. Finally, just 20% thought a legal prohibition on emigration would reduce the outflow of people.

In sum, South Africa's final-year students are patriotic but restless. They are generally optimistic about their country's future but less so in terms of their own prospects for professional advancement and development. They show surprisingly high interest in leaving the country and have an emigration potential that is greater than that of their older, working counterparts. While white students are marginally more interested in leaving, black students show considerable emigration potential. What is encouraging, perhaps, is that most who leave would not do so with the intention of leaving permanently. They would retain strong economic and personal links and most intend to return. In practice, however, there are numerous examples of South African students leaving "for a while" and never coming home. Government would therefore do well to think about strategies to encourage students not to leave in the first place. Heavy investment in higher education, only to see the fruits disappear over the horizon, is both frustrating and damaging to the future economic health of the country. Measures are needed to quell the restless minds of today's South African students.

INTRODUCTION

As they near graduation, highly-educated young adults begin to make important decisions about employment, career, marriage and family. In the early 21st century, increasing numbers of students around the world must also decide where they want to pursue these plans. Things are no different in South Africa. Since the end of apartheid, young South Africans can now look beyond the country's borders to find employment. Yet, while greater opportunities and a wider range of choice may be good news for South Africa's talented tertiary students, it may also mean bad news for the country as a whole in the form of a momentous loss of skills. Skilled emigration has the potential to rob the country of considerable investments in training and education, and also deprive the economy of needed skills and upper-end consumers.

Virtually all South African commentators have focussed on the negative aspects of skilled emigration.¹ Yet some analysts argue that the word "loss" is misguided since emigration also brings gains.² Emigrés not only remit income while abroad, but also tend to return home and bring advanced skills to pass on to their colleagues, hence the increasing use of the terms skills "transfer", "exchange" and "circulation."³ In fact, some argue that skills migration is not only a reality, but is also necessary in highly specialised societies for industrial growth and cultural exchange.⁴

While the past ten years have seen a great deal of debate on the immigration policies of the South African government, we still lack a precise description of the extent of emigration from South Africa, as well as a clear grasp of its causes. For example, Statistics SA estimated total emigration from 1989 to 1997 at approximately 82,000, including 11,000 "professionals." Yet a study of South Africans living in just five countries abroad put the total number at 232,000, of whom 42,000 were "professionals" (a category narrower than that of "skilled").⁵ Using census data, one study argued that at least a million white South Africans emigrated between 1985 and 1996.⁶ Looking ahead, a 1998 nationally representative survey of skilled adults estimated that approximately 2%, (or 30,000 adults) had a "very high" probability of leaving within the next five years, and another 160,000 had a "high" probability.⁷

Skilled South Africans who emigrated in 1997 alone cost the government about R68 billion of investment in human capital.⁸ However, a brain drain is likely to be particularly damaging to an economy when skills leave relatively soon after training and governments fail to receive any appreciable return on direct investments in training. This study attempts to look into the future and assess *potential emigration* among

South Africa's *potential skills base*: that is, young adults in tertiary training institutions. It also tests competing arguments that purport to explain the reasons behind South Africa's "brain drain."

SURVEYING STUDENTS

At the conceptual level, the target population for the SAMP Potential Skills Base Survey (PSBS) was South Africa's *skills in training*. Skilled persons are defined as those who have received specialized training and possess key competencies and skills vital to the functional core of the economy.⁹ Thus a country's *potential skills base* consists of those people currently training to fill positions critical to that functional core.

Operationally, South Africa's current potential skills base consists of students (a) studying at a South African tertiary institution (universities, technikons, or colleges); and (b) in the final year of an undergraduate or post graduate degree program. However, no national data base on tertiary student numbers exists, especially with regard to final year students. Thus, in mid 2002, this data had to be collected from registrars at each tertiary institution across the country.¹⁰ Based on this definition, South Africa's potential skills base in 2002 was approximately 150,000 students (see Table 1).

The intention was to draw a representative sample of 2,400 from this target population. In order to do this, one should ideally randomly select a pre-determined number of names from a list of all final year students. However, because no such list exists, students were clustered into larger units for sampling. Institutions were able to provide reliable numbers of final-year students enrolled in each faculty. Thus, at the first stage of sampling, a list of all teaching faculties at all tertiary institutions across the country and their respective final year student numbers was compiled. Because random selection can over or under represent important subgroups within a population, the list of faculties was stratified according to (a) the type of institution (historically black or historically white); (b) the level of institution (university, technikon or college); (c) the type of degree (undergraduate or postgraduate) and (d) type of faculty. A sample of faculties was drawn from the entire list, with the probability proportionate to its relative size. Due to the large size of the sample relative to the total list, and because of the wide variance in the size of student populations across faculties, some very large faculties (e.g. Wits Commerce Faculty) were selected more than once. Altogether, 74 undergraduate university faculties were selected, along with 92 post-graduate university faculties, 37 technikon faculties, and 3 nursing college faculties. Finally, because a purely proportionate sample

would have resulted in a number of interviews at historically black institutions too small to support robust statistical inference, this stratum was deliberately over-sampled but re-weighted according to their actual proportion for final analysis (see Table 1). In the second stage of sampling, one class was chosen from each randomly selected faculty (or for each time that a large faculty was selected).

Table 1: 2002 Final Year South African Tertiary Population and Sample				
	2002 Population	2002 Population (%)	Unweighted 2003 Sample (%)	Weighted 2003 Sample (%)
Type of Student*				
Undergraduate	97,285	62	62	59
Postgraduate	59,810	38	38	41
Total	157,095	100	100	100
Level of Institution*				
University	100,118	64	63	63
Technikon	56,195	36	35	34
Nursing Colleges	782	0.5	2	3
Total	157,095	100	100	100
Faculty*				
Commerce	42,500	27	35	26
Law	5,750	4	3	3
Engineering	20,517	13	14	14
Science & Tech	15,744	10	8	9
Humanities	19,820	13	8	12
Education	22,178	14	13	13
Health Sciences	14,948	10	10	10
Management & IT	11,228	7	6	5
Medical/Dentistry	1,653	1	1	2
Theology	802	1	1	1
Architecture	1,173	1	1	1
Nursing	782	0.5	2	3
*Total	157,095	100	100	100
University Background				
Historically White	81,048	81	80	78
Historically Black	19,070	19	20	22
Total	100,118	100	100	100
N=			4,784	2,400
<i>* Final Year Student Population data collected by authors from Registrars</i>				

The sample was also designed to contain a third stage in which 20 students would be randomly selected from each undergraduate class and 10 from each postgraduate class. This would have provided a total sample of 2,400 students. However, the questionnaire was eventually administered to all students in each selected class. Given that lecturers were already generously providing 20 to 30 minutes of their time to administer the questionnaire, the additional time needed to select which students would receive the questionnaire was prohibitive. Because the questionnaire was administered at the beginning of the class (so students would not leave) it would have been impractical to administer it to some students, while others sat with nothing to do. Thus, the actual, unweighted sample size turned out to be 4,784. All cases were then weighted back to the intended sample targets so that the weighted data was based on a sample of 2,400.

THE POTENTIAL SKILLS BASE

The country's potential skills base (as represented by final-year students at the country's tertiary institutions) is more female (54%) than male (46%); more black (48%) than white (40%) and coloured and Asian (12%); and young (the median age of the total sample is 22). While there is no time series data to draw a direct comparison, this undoubtedly reflects dramatic changes at the country's tertiary institutions. For example, the 1998 SAMP survey of skilled adults found a population that was overwhelmingly male (61%) and white (72%).¹¹

Just under one half of the students use an African language at home, the largest proportion being Xhosa (14%). One quarter of the students said they speak English and another quarter use Afrikaans. By contrast, the 1998 research found that 45% of all skilled adults spoke Afrikaans.¹²

One quarter of the students described their family's socio-economic status as "upper class" or "upper middle class", and one third "middle class". A fifth said they are from a "working class" background and 15% classified their family as "lower class." One half of final year students said they live in a rural area, either in a rural farming area (25%) or a small town (26%). The rest said they came from a large town (13%) or city (36%).

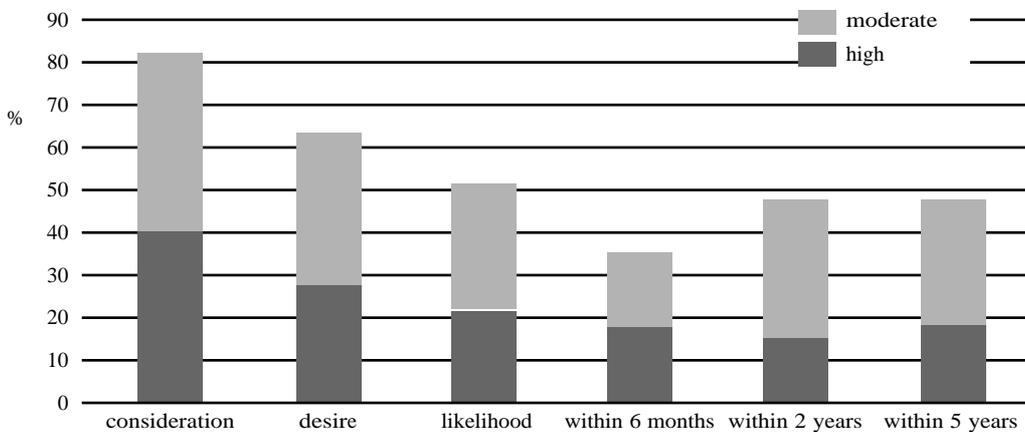
Just over one third were completing a certificate or diploma (36%), and 38% were completing a Bachelor's Degree. One fifth of final-year students were engaged in post graduate study pursuing an Honours Degree (10%), Masters Degree (12%) or a Doctorate (less than 1%). The low number of PhD candidates may reflect a bias in the classroom-based setting of the sample, given that most PhD's in the South African

system are obtained through individualized study. Four percent were pursuing some other form of degree.

MEASURING EMIGRATION POTENTIAL

What is the potential for skills loss via emigration of final year students? For a person to have a high “emigration potential,” at a minimum they should have given emigration extensive thought, they should want to emigrate, and they should consider it likely that they will do so. While four in ten final year students say they have given “a great deal” of consideration to moving to another country to live and work, it is clear that as more demanding questions about commitment and probability of leaving are asked, the numbers drop (Figure 1).

Figure 1: Measuring emigration potential



Students were asked what countries they would most likely go to if they ever left South Africa (what is referred to as the “most likely destination” or MLD). A series of questions about possible movement to that country were then posed. Just over one quarter (28%) said they wanted “to a great extent” to move to their MLD to live and work for two years or more. One in five (21%) said that it was “very likely” that they would actually do this. Short term emigration potential appears to be even higher. Four in ten said they wanted “to a great extent” to go to their MLD to live and work for less than two years. One quarter said it was “very likely” they would actually go. About one in five said that it was “very likely” that they would leave the country within six months of graduation. Smaller numbers said they would leave within two years (15%) and within five years (18%).

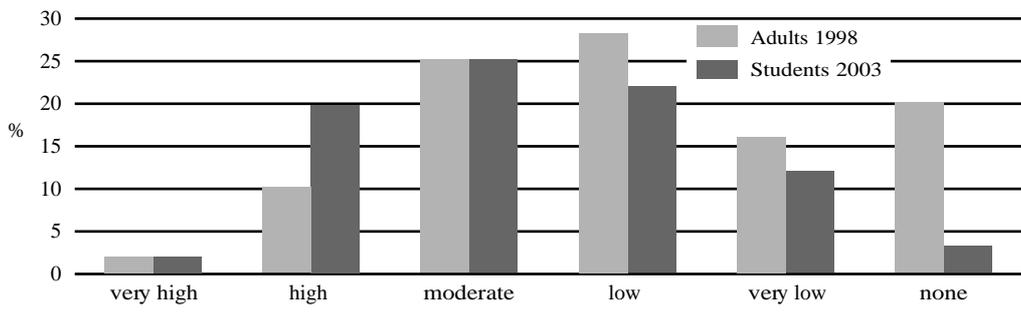
Statistical analysis was then used to test which of these indicators best helped tap the underlying concept of “emigration potential.”¹³ The analysis confirmed that five indicators did the best job (Table 2). Based on this, an average Index of Emigration Potential and an “emigration potential” score for each respondent was created by summing responses across the five items listed in Table 2 and dividing by five.¹⁴ This index can then produce a decimalized average index score for each respondent.

But while these scores may be helpful in making fine-grained distinctions in emigration potential amongst students, broader categories are needed to help in the analysis of broad differences among respondents.¹⁵ Those who gave the most extreme responses to each item in terms of emigration were coded either as having a “very high” emigration potential (3) or “no potential” (0). Students with a score between 2.1 and 2.8 have a “high” emigration potential. Those between 2 and 1.5 have a “moderate” potential. Those scoring less than 1.5 have a “low” potential.

	Mean (0-3 Scale)	Standard Deviation
1. To what extent do you want to move to your MLD to live and work for a long period (longer than two years)?	1.67	1.10
2. How likely or unlikely is it that you would move to your MDL to live and work for a long period (two years or longer)?	1.47	1.08
3. How much consideration have you given to moving to another country to live and work?	1.82	1.10
4. How likely or unlikely is it that you would move from South Africa within five years after graduation?	1.34	1.10
5. How likely or unlikely is it that you would move from South Africa within two years after graduation?	1.32	1.03
N=3907		

Compared to the 1998 SAMP survey of skilled South African adults, the proportions of students with a “very high” emigration potential are exactly the same (2%) (Figure 2).

Figure 2: Emigration potential of final year students and skilled adults

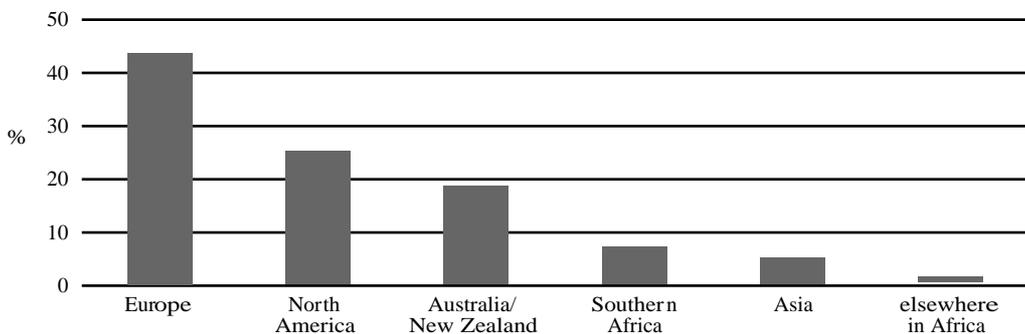


However, twice as many students have a “high” emigration potential (20%) with a further 25% having a moderate potential.¹⁶ As many as 20% of skilled adults had zero emigration potential, compared to only 3% of students. In other words, emigration potential is higher among students than people already pursuing their chosen profession.

The paper now enquires about the nature of these emigration plans. Where do students want to go? How long do they want to stay? Will they return? And what will they take with them? While all respondents provided answers to these questions, the analysis focuses on the responses of those who are most likely to leave; that is, those with high or very high emigration potential (22% of the sample).

Students were first asked: “If you were ever to leave South Africa, in which country[s] would you most prefer to go to live?” (allowing them to list up to three destinations). Europe (at over 40%) was the most popular potential destination (Figure 3). Realizing that a variety of reasons may prevent people from going to their most preferred destinations, they were then asked “If you had to leave South Africa, which country would you most likely end up living in?” Amongst all respondents, the United Kingdom was the leading preferred destination, selected by almost three in ten respondents (24% said UK or England, and another 4% specifically said “London”). This was followed by the United States (19%), Australia (15%), Europe (7%), and Canada (5%). In total, 42% gave a European destination (including the UK), 23% North American, 17% Australasian, and 7% Southern Africa.

Figure 3: Most likely destination (all students)

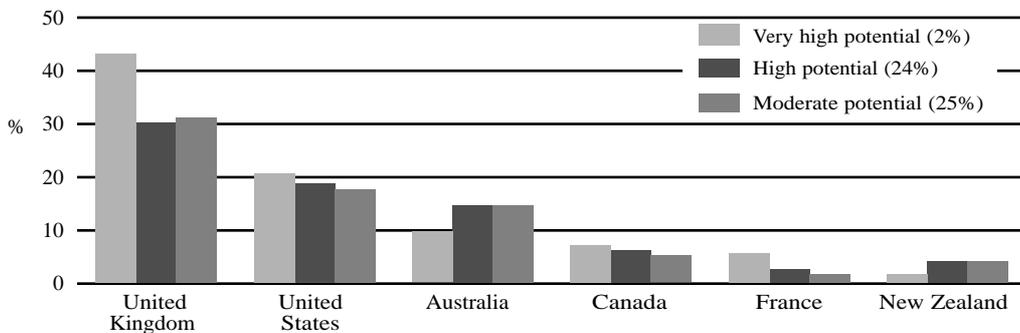


There are a few important racial differences (Table 3). Black, white and coloured respondents all agreed that they would most likely end up in Europe, though Indian respondents are significantly less likely to say so. Black respondents were more likely to think they would end up in North America or Southern Africa than other students. White students were more likely than others to see Australasia as a likely destination.

	Black	White	Coloured	Asian/Indian
Southern Africa	13.0	3.0	3.0	2.0
Elsewhere in Africa	1.0	<1.0	0.0	0.0
Europe	46.0	44.0	50.0	32.0
North America	29.0	21.0	21.0	19.0
Australia/ New Zealand	8.0	31.0	20.0	24.0
Asia	4.0	2.0	7.0	23.0
Total	100.0	100.0	100.0	100.0

Examining these destinations according to emigration potential, there is a slight tendency for agreement on destination to be more concentrated amongst those who have the firmest commitment to leave: those with “very high” emigration potential tended to choose the UK (43%) and the US (21%) (Figure 4). There was a wider spread of destinations amongst those with weaker potential.

Figure 4: Most likely destinations (by emigration potential)



At this stage of their career development, high emigration potential amongst students does not automatically translate into a permanent skills loss for the country. Amongst those students who definitely want to leave (those with “very high” emigration potential), the vast majority (74%) say they want to stay in their most likely destination for more than five years. However, those with “high” emigration potential seem to envision a more limited stay, at least at first: although one-third (34%) of these students said they want to stay more than five years, 41% said they plan on a stay of 2 to 5 years (Figure 5).

In addition, most respondents with either high or very high emigration potential plan on returning to South Africa on an annual basis. And those most likely to leave still plan on sending money home on a monthly basis (Figure 6).

Figure 5: Length of intended stay (by emigration potential)

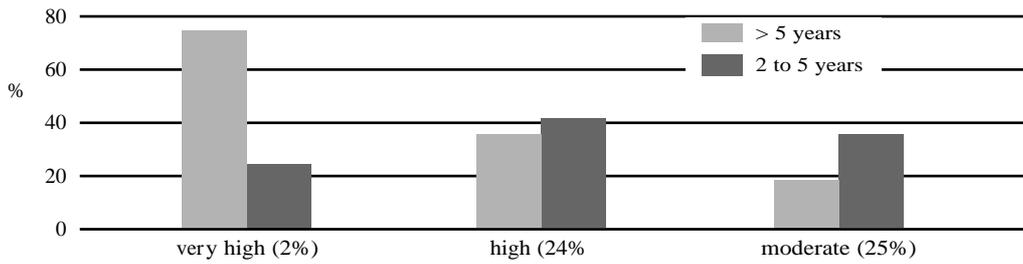
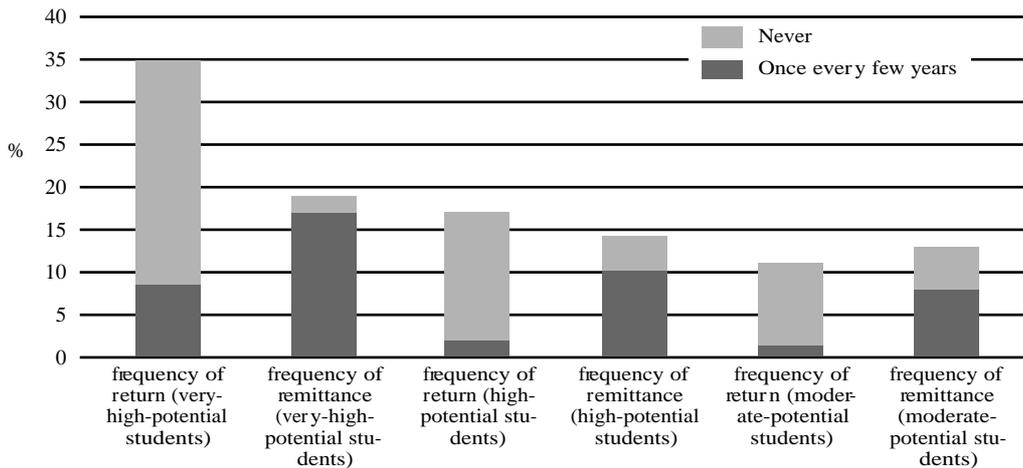
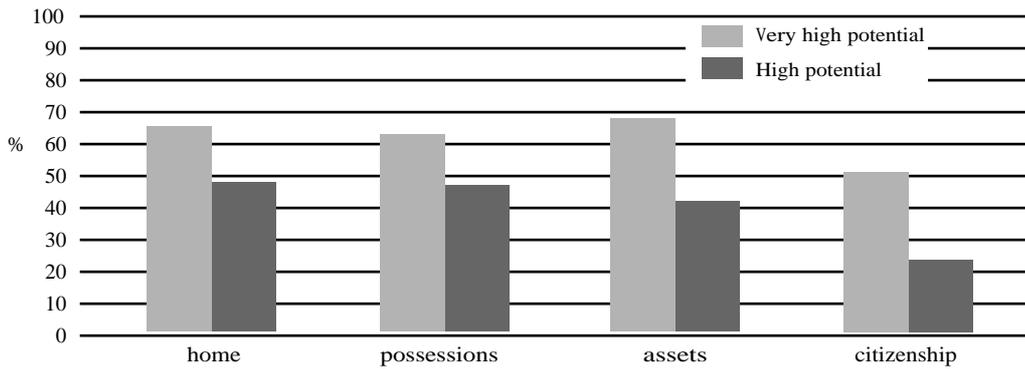


Figure 6: Frequency of return and remittance (by emigration potential)



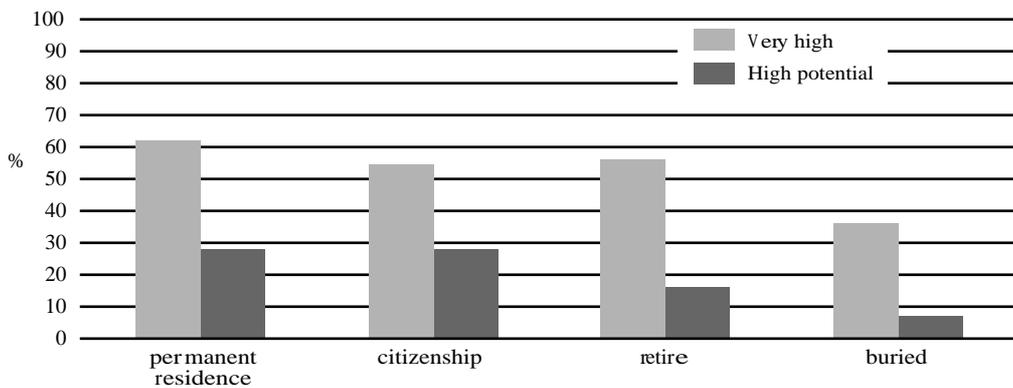
Possibly because younger people have not yet put down firm roots of their own, a significant proportion of those students most likely to emigrate appear ready to give up any assets they might have in the country (Figure 7). Two-thirds of very high potential respondents said they are willing to give up their home in South Africa, as did almost one half of high potential students. Most very high emigration potential respondents would be willing (32%) or very willing (32%) to take all their possessions out of South Africa. High potential students are evenly split on the matter, but all lower categories of emigration potential would be unwilling to do this if they had to relocate. Roughly the same patterns emerge when the question turned to taking all assets out of South Africa, with two thirds of very high emigration potential respondents willing, compared to only 40% of high potential and 37% of moderate potential students. Finally, while one-half of very high emigration potential students said they are willing to give up citizenship, only 24% of the high probability students would do so, and far less of all other categories.

Figure 7: Willingness to give up assets in South Africa (by emigration potential)



While students may be willing to pull up roots that are not yet deeply planted in South African soil, there are only moderate levels of desire amongst likely emigrants to put down deep roots in other countries. There is no overwhelming desire for citizenship or permanent residence, and even less for other indicators of a long term stay. Differences by emigration potential are pronounced, especially when asked about longer duration stays in the most likely destination. Six in ten very high potential respondents express a strong desire to retire in that country, whereas the average respondent in all other categories of emigration potential said they want this hardly at all (Figure 8). Less than half of very high potential respondents would want to be buried in their most likely destination (40%), indicating that even among this group, most students cannot envision a total break with South Africa. Most high potential and moderate potential students do not want this at all.

Figure 8: Willingness to put down roots in new country (by emigration potential)



WHO WILL LEAVE?

This section examines the causal factors that may increase or decrease emigration potential. Six different “families” of factors were analyzed:

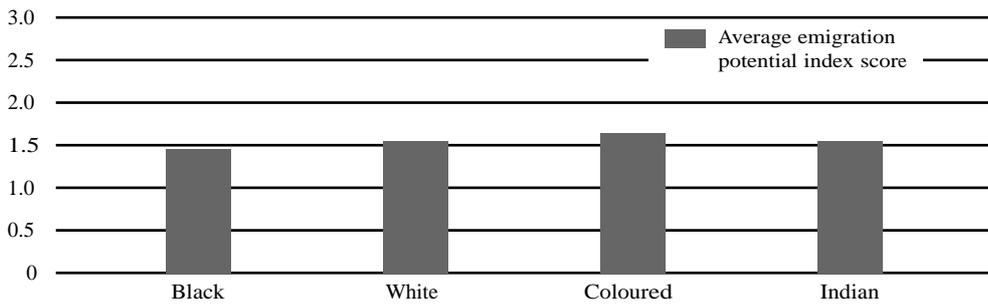
- A series of demographic variables were examined to see whether emigration potential is simply a function of place in the *social structure*. For example, are student behaviours and predispositions shaped simply by their racial or ethnic background, their gender, or their socio-economic status?
- A set of measures related to *social identity*, specifically looking at factors surrounding national identity and patriotism, were examined, particularly whether emotional ties to South Africa constitute a type of social glue that may inhibit emigration.
- The impact of a wide range of *economic evaluations* was tested. Regardless of how strongly they feel about their country, will new graduates leave due to intense dissatisfaction with personal and national conditions? What are students’ expectations of their future in South Africa, and their relative comparisons of South Africa with their most likely destination?
- A series of factors related to *experience and information* about emigration and the outside world were tested. Are students with more contact with émigrés or who gather more information about emigration more likely to leave?
- And finally, the role of *logistical* factors was examined: to what extent is emigration related simply to the ability to move?

SOCIAL STRUCTURE

To what extent is emigration potential simply a function of a person’s place in South Africa’s social structure? Given the country’s history, the most obvious starting point is race. Due to their loss of dominant political and economic power and perceptions of reduced employment opportunities due to affirmative action, it is widely assumed that white South Africans are much more likely to leave than blacks.¹⁷ An earlier SAMP study of skilled professionals found that there was no significant racial difference in the proportions of skilled adults with a very high emigration potential (2% of each group), though there was a noticeable difference amongst those with a high probability (11% of whites compared to only 6% of blacks).¹⁸ Given the racially-skewed make-up of the South Africa’s skilled population, the absolute number of black respondents was relatively small in that study. The present study provides a larger and more robust sample.

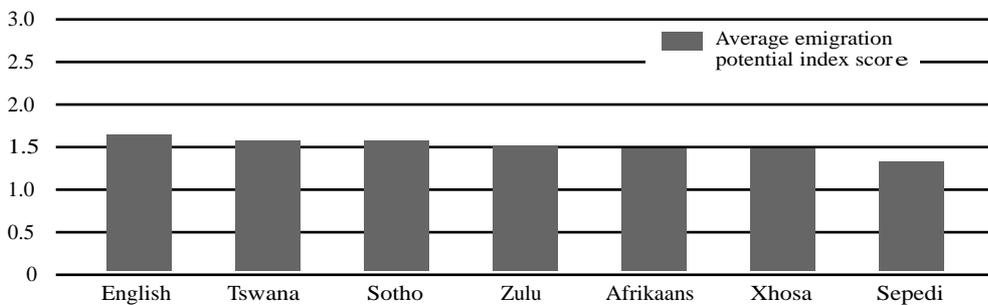
This study found that black emigration potential among students was slightly lower than 1.5, and white emigration potential was slightly higher (Figure 9). This difference was statistically significant, meaning that the difference in the sample can be generalized to the larger population of all students. However, given that the emigration potential scale runs from 0 to 3, these differences are not substantively that important. In comparison with the many different factors reviewed throughout this paper, a respondent's racial background provides us with little help in discriminating between those with high and low emigration potential.

Figure 9: Emigration potential by race



There was also a statistically significant difference according to home language, with English speakers (1.64) registering the highest emigration potential and Shangaan speakers the lowest (1.29) (Figure 10). But again, these substantive differences between different language groups is very small.

Figure 10: Emigration potential by home language



In fact, there are few meaningful differences across a range of demographic factors including gender. And while one might expect that students from wealthier backgrounds would have more economic freedom to leave, there were only small differences according to self-reported

class background of student. Students who said they were from “upper middle class” families have a significantly higher emigration potential (1.59 on a scale of 0 to 3) than those from “working class” (1.52) or “lower class” (1.47) backgrounds. Students from rural backgrounds (1.43) or small towns (1.43) are less likely to emigrate than those who come from urban areas (1.61), but again the difference is not very large.

There is some evidence that differing courses of study seem to make some students think they are more attractive on the international job market. Popular perception is that medical students are the most likely to leave. This study found that those pursuing final year studies in Computer Science / Information Technology at Technikons (1.73) and studying in Medical or Dental faculties at Technikons (1.74) are the most likely to want to leave. Students in Nursing Training Colleges display the lowest emigration potential (1.29). Students studying in University Faculties of Medicine or Pharmacy (1.53) have an average emigration potential. However, these differences across degree paths are not very large.¹⁹ Finally, students at technikons have a significantly higher emigration potential (1.63) than university (1.48) or nursing college (1.29) students.

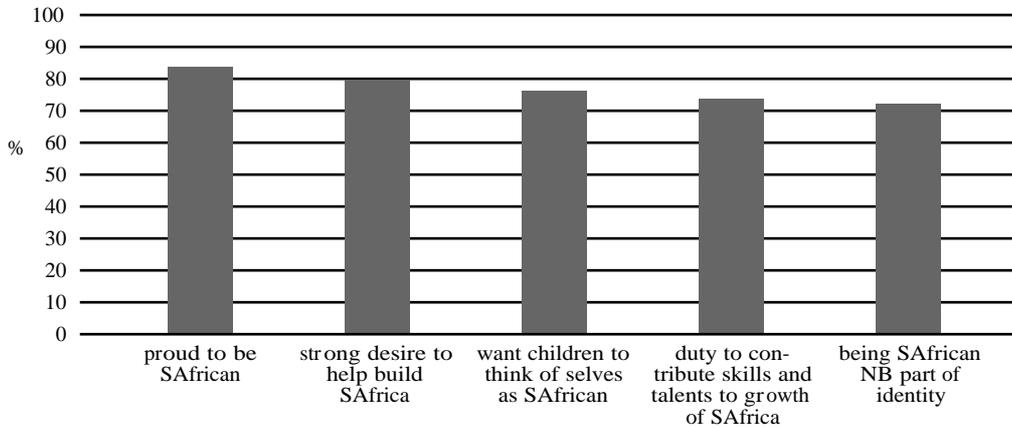
SOCIAL IDENTITY

The common wisdom is that South Africa’s brain drain would be much lower if skilled South Africans were more patriotic with higher levels of national identity. One manifestation of this was the comment by President Nelson Mandela in 1999 that South Africans who left the country had no loyalty or patriotism.²⁰ This attack came three years after he had launched a campaign to invite South Africans who had left the country to come back. Perceiving the campaign to have failed, he pronounced, “Let them go. In that process we are convinced that the real South Africans are being sorted out. The real South Africans are those who are saying ‘this is our country’.”²¹

The vast bulk of South African tertiary students actually exhibit a high degree of national identity and patriotism. Eight in ten agreed that they are proud to be called South Africans (83%) and that they have a strong desire to help build South Africa (79%). Over two-thirds agreed that they would want their children to think of themselves as South Africans (76%) and that they had a duty to contribute their talents and skills to the growth of South Africa (73%). Seven in ten agreed that being a citizen of South Africa is a very important part of how they see themselves. At the same time, these levels of national identity are substantially lower than those measured amongst ordinary adult South Africans, where over nine in ten have consistently registered strong

levels of national identity since 1994.²² Whether younger, more educated people are inherently less likely to exhibit very high levels of patriotism, or whether these results portend a slow, secular decline in patriotism in the future, is a subject for future research.

Figure 11: Levels of patriotism and national identity among students



The pattern of responses to these questions can be used to form a single index that measures patriotism. While there was little difference by race group in terms of emigration potential, we do find substantial differences between racial groups with white final-year tertiary students exhibiting far lower levels of patriotism (3.74 on a scale of 1 to 5) than black students (4.43), with coloured (4.07) and Indian (3.98) students in between.

Responses to two other questions suggest that even though they feel patriotic towards South Africa, students in a globalizing world have competing loyalties. Just 17% disagreed with the statement that they “have more in common with people from other countries working in your profession than with people from South Africa” (though only 38% agreed, with the balance saying they neither agreed nor disagreed). Six in ten agreed that “it really does not matter where you are a citizen as long as you have a good quality of life,” and just one in five disagreed.

Some maintain that South Africans from minority groups (white, coloured and Indian) will leave the country because although they personally feel strongly about their South African identity, they also feel that they do not have a real role to play in the new South Africa. However, just 3% said that people of their race, people who speak their language, or they personally have “no role at all” to play in the future of South Africa and another 9-10% answered that they have only a “minor role.” Because these three items tap a common underlying

dimension, we can combine them to create an index of perceptions of a future role in the country. While students across all racial groups tend to see a role for themselves in the future of the country, black students are more enthusiastic (a mean of 2.62 on a scale of 0 to 3) than coloured (2.34), white (2.23) or Indian (2.21) students. Each of these sets of attitudes do matter in terms of emigration potential. Respondents with higher levels of patriotism have substantially lower emigration potential. The more a student feels they have a role to play in the future of the country, the lower their emigration potential. Students who feel closer to their national rather than professional identity and emphasize national identity over quality of life also have lower emigration potential.

ECONOMIC EVALUATIONS

Student perceptions of a range of features of life in South Africa were tested looking at present satisfaction with personal and national economic conditions, and then they were asked whether they thought conditions in South Africa would be better or worse in five years time across a whole range of specific features of national life. Finally, students were asked to assess whether each factor would be better in South Africa or in their most likely destination.

One half of all students (47%) were dissatisfied with their present personal economic conditions. However, 82% expected that their personal economic conditions would be better or much better in five years. About half felt that their level of income would be better. Six in ten were dissatisfied with current national economic conditions, but 47% felt things would get better in five years time. Only 27% said they would get worse.

However, once the students were asked what they thought things would look like in five years time across a broad range of factors, perceptions were decidedly more pessimistic. For example, 80% said the HIV/AIDS situation would be worse and two thirds felt the cost of living would get worse. Six in ten predict that their ability to find the job they want (58%), their personal safety (58%), and their family's safety (58%) would all be worse than they are today. One half foresaw deterioration in the upkeep of public amenities and 40% expected things to deteriorate with regard to availability of affordable quality products, job security, level of taxation, and the future of children.

On no one item was there a preponderance of optimistic expectations, but there was a split with regard to expectations about finding the house they want (36% said things would be worse in five years, but 28% said they would be better), a good school for their children (35% worse, 32% better), medical services for their family (36% worse, 31% better),

the future quality of customer service (32% worse, 31% better), and their own prospects for professional advancement (31% worse, 30% better). Perhaps most important of all, only 41% felt that it would be easy or very easy for them to find a job in their field of study after graduation. Eight in ten (81%) felt the government had not done enough to create jobs for graduates.

The responses to fifteen of these items fall in a sufficiently similar pattern to allow us to create a single index that measures the level of pessimistic expectations of quality of life in South Africa. The two items on safety obtain different patterns of response and were used to construct a separate index of pessimistic expectations of safety.

Pessimistic expectations of quality of life are positively correlated to higher degrees of emigration potential, as are pessimistic expectations of safety. However, emigration potential is only weakly associated with a variety of other attitudes that did not fall into these indices, such as whether or not a student thinks it will be easy to find a job, personal economic pessimism, or dissatisfaction with government efforts to create jobs.

Regardless of whether students expect conditions in South Africa to get worse, they would have no reason to leave if they consider that conditions are still better than elsewhere. They were thus asked whether conditions would be better in South Africa or in their most likely destination. Overall, the results indicate that a large number of final year students see the grass as much greener on the other side. A massive three-quarters of students are certain that they would enjoy a higher income in their MLD. Solid majorities said things would be better elsewhere in terms of their prospects for professional advancement (59%), their ability to find a desired job (56%), and their job security (54%). Roughly four in ten felt that the cost of living (41%) would be better elsewhere and they would also pay a fairer level of tax (41%). These six items form a scale that measures relative comparisons of financial prospects.

Around half the students consider that their ability to find quality medical services for their family (55%) and a good school for their children (50%) would be better elsewhere. Opinion is more evenly divided when it comes to their expected ability to find a good house (37% say it would be better elsewhere, but 27% say it would be better in South Africa). Overall, just under half felt that their children would have a better future in their most likely destination than in South Africa. Responses to these four items form a separate scale that measures relative comparisons of family prospects.

Two-thirds felt that public amenities would be better maintained elsewhere (65%), and that the HIV/AIDS situation would also be better

(63%). Majorities also expected to have an easier time finding affordable quality products (57%) and quality of customer service (54%) in their MLD. These four items form a scale that measures relative comparisons of quality of life. Finally, two-thirds thought that they (66%) and their family (65%) would be safer elsewhere. These items form a separate index of relative comparisons of safety.

A final form of relative economic evaluation involves student perceptions, not of how *they* would do, but rather how *those who have already left* are doing in their new countries. Large numbers of South African students have direct exposure to at least one person who has emigrated. Six in ten respondents believe that the lives of those people who have left South Africa permanently were now “better” or “much better” than they were when living in South Africa. Just 6% believe these people are now worse off, and few students believed that émigrés end up doing work for which they were not trained. Seventy three percent believed that at least some are working in their intended fields, and 13% said that all emigrants are so employed.

Emigration potential increases predictably as students conclude that they would enjoy better financial prospects, better family prospects, a better quality of life and would be safer in their MLD. Finally, emigration potential increases sharply to the extent students believe that émigrés lead better lives in their new countries but less so to the extent that they feel that émigré’s skills have been optimized.

INFORMATION AND EXPERIENCE

Beyond people’s emotional attachment to their own country or their rational assessment of conditions in their own country and their target destinations, another factor that may shape emigration potential is simply their level of information about and contact with the act of emigration. Large numbers of the students reported at least some direct or indirect experience with emigration. Six in ten said that they knew at least one fellow student or colleague or close friend who had left the country permanently. Nearly half of all students (46%) had at least one member of their extended family who had emigrated, while one quarter said that someone in their immediate family had done so. These items form a single underlying index of personal contact with emigration. Emigration potential is more modestly related to the extent that students know people who have already emigrated.

Do students make emigration decisions on the basis of an idealized or romanticized vision of what life is like on the other side, or have they actually spent meaningful time in the countries they say are their most likely destination? To what extent are these students’ views of emigration and the outside world based on real experience (through travel)

rather than vicarious experience via the stories they hear from departed friends and families, or through the news media?

The SAMP study of skilled adults found that South Africans tend to form preferences about emigration irrespective of whether or not they themselves had ever been outside of the country. The study also found that extremely small proportions travelled regularly (once a year or more) to other African countries (3%), Europe (7%); North America (3%); Australia and New Zealand (2%) or Asia (1%).²³ South Africa's tertiary students have far higher levels of regular contact with Africa (34% travel to Southern Africa at least once a year, and 8% to elsewhere in Africa). But regular contact with frequently listed MLD's like Europe (4%), North America (2%), or Australia / New Zealand (1%) is just as low as for adults.

These items form two distinct indices of African travel (Southern Africa, and elsewhere in Africa) and overseas travel (to Europe, North America, Australasia and Asia). Contrary to expectations, emigration potential is only weakly related to the extent to which students travel in Africa or overseas.

One-quarter of the students interviewed said they "often" obtain information about job opportunities from family or co-workers and 37% said they "often" get it from fellow students. Approximately one in three said they get information about living conditions from co-workers or their family and 48% get it from friends or fellow students. These items form a valid and reliable index of obtaining information about the world through personal networks.

While one-half said they "often" get information about job opportunities from newspapers and magazines, less than one in five (17%) use television or radio. One-half often obtain information about living conditions from newspapers and magazines. But in contrast to job opportunities, 60% say they "often" get information about living conditions in other countries through television or radio. These four items form a separate scale of obtaining information about the world through news media. Finally, 45% seek information about job opportunities and 44% about living conditions through the internet. These two items form a distinctive composite scale of obtaining information about the world through the internet. There is a modest relationship between higher levels of emigration potential and higher frequency of seeking out information about conditions abroad via the internet, personal networks and news media.

LOGISTICS OF EMIGRATION

To what extent does emigration hinge on the simple issue of whether people are able to afford and plan to move? Large numbers of students do seem to think that emigration would not pose insurmountable obstacles. Over half of all final-year students (54%) believe that it would be “easy” or “very easy” to get a job in their most likely destination if they wanted to. Forty-three percent say it would be easy to leave the country to work in their most likely destination. One-third (32%) believe that the costs of moving to that destination and finding a good home would be affordable; although one-half (52%) say it would be unaffordable or very unaffordable. These three items tap a common underlying dimension that we can call ease of leaving. A psychological element would simply be the extent to which people feel they have family support in making a move. Forty-five percent of final-year students said that their family would encourage them to leave South Africa; just one in five (19%) said their families would discourage emigration. As expected, those students who felt that leaving South Africa would be easy and affordable have considerably higher emigration potential than those who think the effort would be daunting. Emigration potential increases sharply to the extent that students said that their families would encourage them to leave South Africa.

POLICY IMPLICATIONS

What kinds of investment does the South African government stand to lose if likely emigrants do in fact leave? According to students’ present dispositions, the South African government would lose about 1-2% of final year students who have bursaries that do not require any payback, and approximately 5% of those that require some payback (Figure 12). Universities and Technikons also stand to lose about 5% of their investments in bursaries. However, these numbers would rise drastically to as high as one-quarter to one-third of government bursaries if the high potential students also left.

With regard to investments in specialized technical training, a great deal of public attention has focused on the impacts of skilled emigration on the medical profession. The survey results indicated that the greatest losses may in fact be amongst certain sectors of Technikon-trained students, especially those training in Information Technology (Figure 13).

Figure 12: Potential loss of State investments by type of bursary

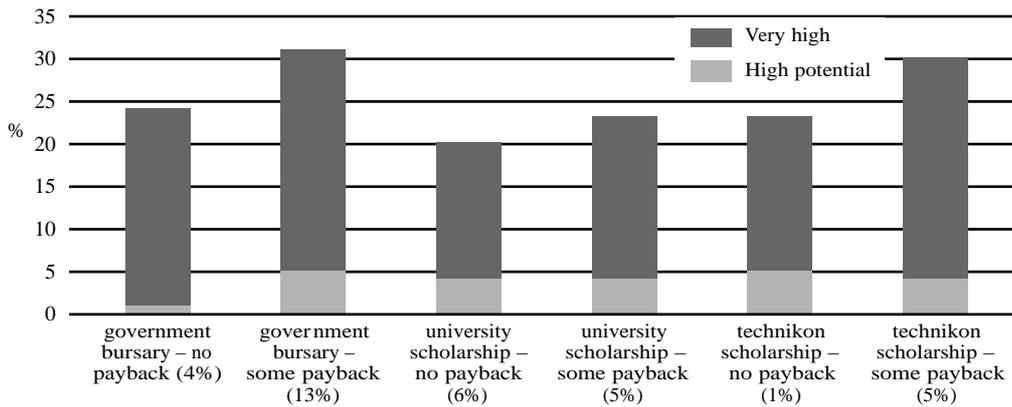
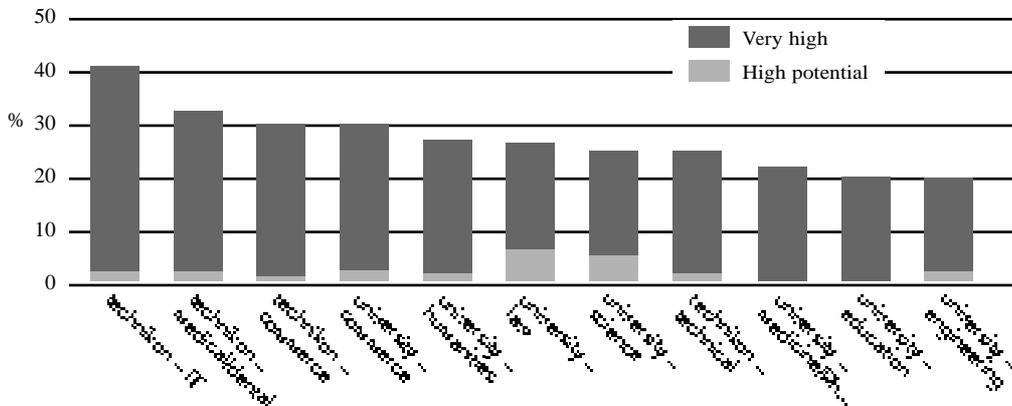


Figure 13: Potential losses of State investments by course or study



Faced with significant emigration, it is understandable that governments are inclined to try and limit emigration through restrictive policies. Most analysts feel such policies are likely to hasten the rate of emigration even further, and students surveyed tended to agree.

Students with study bursaries were asked whether the conditions of those bursaries required them to remain in the country after they completed their studies and/or to work specifically in either the public or private sector. Twenty-two percent of all students had such a bursary. While these students do have a lower emigration potential than others, the difference is very small, suggesting that these restrictions exercise a minimal impact on student plans and calculations.

Another type of government intervention is a requirement that students perform some form of national service in return for their education. Since 2001, the Department of Health has required final-year

medical students to do a year of community work. The ANC argued in its 2002 Party Conference Manifesto that this should be broadened to include other health professionals and higher education.

If handled well, and if specifically required of those students who had received some form of bursary, restrictions would not meet with massive resistance, or make students more likely to leave. Just 18% said government would not be justified in requiring those who have received government bursaries to complete some form of national service in return for their bursary. High emigration potential students were no more likely than others to think so.

However, students would be far more opposed to other types of interventions. One-half of students said government would not be justified if it required students to complete some form of national service before they began tertiary education. Fifty-three percent said government would not be justified if it required citizens to work in the country for several years after graduation, with higher emigration potential students especially opposed. Nearly six in ten (57%) said it would not be justified if government limited the amount of money they could send out of the country, with higher emigration students more likely to be bothered, while 60% said government would not be justified in making people pay taxes on income earned outside the country, again with high emigration potential students especially opposed.

In general, there is evidence that any government steps to make it more difficult to emigrate; generalized requirements that all students leaving professional schools do a year of national service in their area; moves to limit people to one passport; or increased fees for emigration documents, will make it more, or much more likely, that the very high and high emigration potential students will leave.

In contrast, students feel there are far more effective ways to limit emigration. Three-quarters agree that development and growth would reduce emigration and six in ten agreed that measures to encourage the return of skilled national living abroad would also reduce emigration. But just over one-quarter think legislation limiting the ability of state-trained students to emigrate would actually reduce emigration, and students with higher emigration potential were even less likely to think so. Just over one-fifth said that South Africa's efforts to discourage other governments from employing South African emigrants would reduce emigration. Finally, just 20% thought a legal prohibition on emigration would reduce the outflow of people.

ENDNOTES

- 1 Ferial Haffajee, "Exit the Middle Classes" *Mail & Guardian* 22 September 1998; Johann Van Rooyen, *The New Great Trek: The Story of South Africa's White Exodus* (Pretoria: Unisa Press, 2001); Haroon Borat, Jean-Baptiste Meyer and Cecil Mlatsheni, "Skilled Labour Migration from Developing Countries: Study on South and Southern Africa" International Migration Papers No. 52, International Labour Organization, 2002; Jonathan Crush, "The Global Raiders: Nationalism, Globalization and the South African Brain Drain" *Journal of International Affairs* 56 (2002): 147-72; J C Dumont and Jean-Baptiste Meyer, "The International Mobility of Health Professionals: An Evaluation and Analysis Based on the Case of South Africa" In OECD, *Trends in International Migration* (OECD, 2004).
- 2 Jean-Baptiste Meyer, "Network Approach versus Brain Drain: Lessons from the Diaspora" *International Migration* 39 (2001): 91-108; Binod Khadria, *Skilled Labour Migration from Developing Countries: Study on India*. International Migration Papers No. 49, International Labour Organization, 2002; P. Martin et al, "International Migration: Facing the Challenge" *The Population Bulletin* 57 (2002); S Commander et al, "The Brain Drain: Curse or Boon?" In R Baldwin and L Winters, eds., *Challenges to Globalisation* (Chicago, 2003).
- 3 Manuel Abella, *Sending Workers Abroad* (Geneva: International Labour Organization, 1997); Peter Stalker, *Workers Without Frontiers: The Impact of Globalization on International Migration* (Boulder: Lynne Reiner, 2000); Jan Wimaldharma, Douglas Pearce and David Stanton, "Remittances: The New Development Finance?" *Small Enterprise Development Journal* 15 (1) (2004).
- 4 Khadria, *Skilled Labour Migration from Developing Countries*.
- 5 Mercy Brown, David Kaplan and Jean-Baptiste Meyer, "The Brain Drain: An Outline of Skilled Emigration from South Africa" In David A. McDonald and Jonathan Crush, eds., *Destinations Unknown: Perspectives on the Brain Drain in Southern Africa* (Pretoria and Cape Town : Africa Institute and Southern African Migration Project, 2002), pp. 113-38.
- 6 Van Rooyen, *The New Great Trek*.
- 7 R. Mattes and W. Richmond, "The Brain Drain: What Do Skilled South Africans Think?" In David A. McDonald and Jonathan Crush, eds., *Destinations Unknown: Perspectives on the Brain Drain in Southern Africa* (Pretoria and Cape Town : Africa Institute and Southern African Migration Project, 2002), pp. 17-46.
- 8 Brown et al, "The Brain Drain."
- 9 Mattes and Richmond, "The Brain Drain."
- 10 Only the University of Transkei failed to provide the relevant information.
- 11 Mattes and Richmond, "The Brain Drain."
- 12 Ibid.

- 13 To test the validity and reliability of this an all subsequent indices, we used multivariate statistical techniques known as factor analysis and reliability analysis. For readers who are interested, a version of the paper with full statistical analysis and evidence can be obtained from Dr Robert Mattes at rmattes@cssr.uct.ac.za
- 14 All items had four point response scales (0 to 3).
- 15 Mattes and Richmond, "The Brain Drain."
- 16 Ibid.
- 17 Ibid.
- 18 Ibid.
- 19 Those studying IT at university are also more likely to leave (1.81) but there are only 20 cases in this category, insufficient for reliable analysis.
- 20 *SABC*, 4 May 1999.
- 21 *Cape Times*, 24 September 1998.
- 22 R. Mattes, "Towards an Understanding of African Identity" In S. Burgess, ed. *SA Tribes: Who We Are, How We Think and What We Want Out of Life* (Cape Town: David Philip, 2003).
- 23 Mattes and Richmond, "The Brain Drain."

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