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SKILLS MIGRATION

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abstract | South Africa has been experiencing a brain drain since before 1994, and this trend looks set to continue. At the same time the flow of skilled immigrants into the country has slowed tremendously in the post-apartheid era, which means that fewer skills are being replaced than are lost through emigration.

It appears that the primary reasons why skilled South Africans emigrate have to do with concerns about crime and violence, poor economic growth rates, the decline in public services in this country, and lucrative job opportunities overseas. More recently, the globalising labour market for highly skilled professionals is also impacting on skills migration trends.

The chapter considers the nature and extent of skills migration, its potential impact on society and the economy, and some of the international policy responses to skills migration. It concludes with ways in which skills migration in South Africa might be constructively managed.

INTRODUCTION

'South Africa is haemorrhaging skills ...' (*Cape Times* 13 June 1997)

'Brain drain not a crisis – yet' (*Business Times* 27 September 1998)

'Brain drain "biggest threat" to growth' (*Business Report* 10 April 2000)

'Brain drain fears "misplaced"' (*Business Report* 18 October 2001)

Over the past few years, South Africans have become accustomed to these sometimes alarming and sometimes contradictory news headlines about the loss of the country's most skilled people to other countries. But is there really a brain drain taking place in South Africa? What is the nature and extent of the loss of skills? Where do South African professionals go to when they emigrate, and why are they leaving the country? What does this mean for the economy and the society, and what can and is being done about it?

Clearly, if these and other headlines are anything to go by, South Africa is facing a crisis. This chapter draws together the basic data available on skills migration in South Africa, in order to begin addressing some of these questions. It starts by defining who the 'skilled' are in 'skills migration'.

THE 'SKILLED' IN 'SKILLS MIGRATION'

Common sense suggests that 'skills migration' refers to the migratory movement of people who are classified as 'highly skilled'. Various referred to as 'skilled', 'highly skilled' or 'professional' people, this segment of the population is defined differently by different people. Broadly speaking, it includes individuals who have received some form of specialised education and training, who possess a high level of expertise and competence in a particular area, and who utilise these skills (i.e. are economically active) in a professional context (Mattes & Richmond 2000: 12).

Formal education is not always a prerequisite, however. Highly skilled people might also include those whose experience in a particular field is considered to be as extensive as, or equivalent to, formal higher education (Iredale 2001: 8). For Mattes and Richmond (2000: 12) this would include people who 'have worked their way up the corporate ladder or have started their own successful businesses.' In this broad sense, the highly skilled could include scholars and scientists in science and technology (S&T), education and the humanities, as well as professionals, managers and entrepreneurs in business, industry or government. All in all, these people are seen to make a significant contribution to the economy and society.

Today, a country's ability to make continuous technological advances and to develop as a 'knowledge society' is seen as the key to global economic competitiveness and national socio-economic development. As a result, analyses of skills migration tend to focus fairly closely on the science and technology workforce. The Canberra Manual (OECD 1995) holds that, in order to be included in the 'human resources for science and technology' (HRST) category, a person must have 'successfully completed education at the third level¹ in a science and technology field of study' or be 'employed in a science and technology occupation where the above qualifications are normally required' (OECD 1995: 16).

Human resources for science and technology, according to the Organisation for Economic Co-operation and Development (OECD) definition, include 'highly skilled specialists, independent executives and senior managers, specialised technicians or tradespersons, investors, business persons, "key workers" and sub-contract workers' (Iredale 2001: 8). Their professions would fall broadly in the fields of natural sciences, engineering and technology, medical sciences, agricultural sciences, social sciences, or the humanities (OECD 1995).

The definitions of 'skilled' in 'skills migration' are strongly influenced by the importance attached to particular skills at different times and in different places. Before going into an analysis of the trends in South African skills migration, it is necessary first to consider the measurement of emigration in the South African context.

MEASURING SKILLS MIGRATION

The official source of information on skills migration in South Africa is the annual reports published by Statistics South Africa (Stats SA). The compilation of official data on migration into and out of South Africa is a joint effort between the Department of Home Affairs and Stats SA. The Department is responsible for recording information about who leaves and who enters the country. People who leave the country via the major airports in Johannesburg, Cape Town and Durban are required by law to complete departure forms, in which they state their reasons for leaving (such as going on holiday or a business trip, or emigrating permanently to another country).

Stats SA captures the relevant emigration information from the departure forms, while immigration data are gathered from the records of people who have been granted permanent residence in South Africa. Official migration data for the years 1970 to 2000 capture a range of details about immigrants and emigrants – from age group, gender and occupation, to mode of travel, citizenship and country of origin or destination. However, as will be shown, these data are largely incomplete and inaccurate, particularly in their representation of emigration trends.

Discrepancies and inaccuracies in the official emigration data

As is the case in many other countries, South Africa's system for gathering migration figures is essentially flawed. Problems with the data include the following (Brown, Kaplan & Meyer 2001):

- The preamble to the migration report for 2000 indicates that the completion of departure forms is not always enforced, and not all those intending to emigrate permanently indicate as much (Stats SA 2001). This is an important point to bear in mind when reading the data in this chapter: the figures refer to *self-declared* emigrants, and not to all emigration.
- Anyone who leaves the country from an airport other than Johannesburg, Cape Town or Durban with the intention of emigrating permanently is not captured in the official emigration data.
- Many South Africans who initially leave the country in order to travel, study or work temporarily, and who then stay abroad permanently, are not captured in the emigration figures.
- Until recently, the system did not capture disaggregated occupational data. This means that the analysis of which skills are leaving and coming into the country has only been done since 1988.
- Over the years, categories have changed, which makes it difficult to formulate a trend analysis.
- The official data do not provide a breakdown by race.
- The data set is incomplete. In particular, the figures for the months of January to October in 1993 are not available. This is because in early January 1993, the

Department of Home Affairs introduced a new computerised system which did not require South African residents 'to complete departure or arrival forms' when they left or entered the country (CSS 1994: vi).

- The official data are not only incomplete, as the next section demonstrates they represent a significant undercount of South African emigrants.

Extent of the emigration undercount

In 2000, Meyer, Brown and Kaplan published the findings of a study they had undertaken to get a better idea of the extent of the official data undercount of emigration in South Africa. They collected data on South African immigrants in the five major receiving countries – United Kingdom, United States, Australia, Canada and New Zealand – for the period 1987 to 1997² and compared these with the official statistics (see Table 1).

TABLE 1 Emigration of professionals: Comparative figures for top destination countries, 1989-1997

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997
Australia (CSS & Stats SA)	312	291	198	189	356	274	308	420	310
Australia	558	479	295	213	353	610	765	696	1 122
New Zealand (CSS & Stats SA)	25	24	12	49	93	349	209	297	286
New Zealand	60	59	63	104	551	656	462	628	631
Canada (CSS & Stats SA)	94	85	63	69	136	224	173	170	118
Canada	327	227	213	243	407	677	421	315	421
United States (CSS & Stats SA)	56	68	89	81	153	216	235	254	258
United States	399	418	389	528	461	450	538	618	538
United Kingdom (CSS & Stats SA)	275	331	296	349	661	450	368	422	444
United Kingdom	2 574	1 408	1 760	1 518	2 068	1 782	924	2 508	2 417

Sources: Meyer, Brown & Kaplan (2000: 10, Table 10)

Note: Estimates by Meyer et al are italicised.

The main finding of the study was that the receiving country data reported around three times as many skilled South Africans entering their borders in the decade prior to 1997³ than did the Stats SA data (Meyer, Brown & Kaplan 2000: 12):

For eleven years from 1987 to 1997 included, the country lost 233 609 emigrants as opposed to the 82 811 declared and registered by the South African statistics. This is 2.8 times higher than what the official figures show. ... With regard to professionals, during the nine years from 1989 to 1997, the country lost 41 496 emigrants, which is 3.2 times more than the 12 949 declared.

It is critical to bear this finding in mind when reading the data that follow, i.e. the official statistics provide an indication of the *trends* in skills migration, but the absolute values should always be seen as an undercount. In particular, Figure 1 throws into relief the misleading conception that historically, South Africa has been a country of net inflows of skilled people (Meyer et al 2000: 17). Clearly, it also has significant implications for policy decisions.

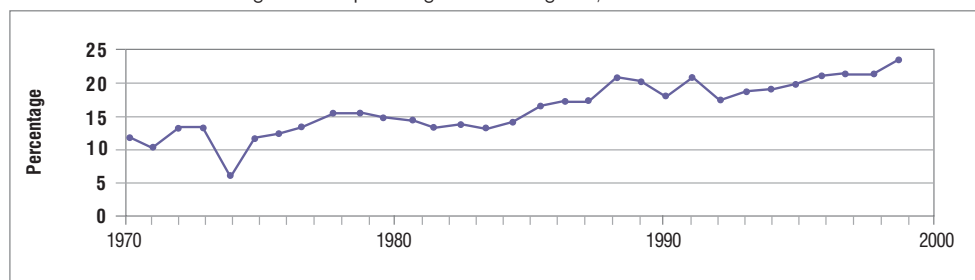
Despite the discrepancies and inaccuracies in the official Stats SA data, the figures do give us some idea of the general trends in skills migration in South Africa.

TRENDS IN SKILLS MIGRATION

Net migration of skilled South Africans, 1970-2000

Over the past 30 years, skilled emigrants⁴ have comprised an increasingly larger proportion of the total population of emigrants (Figure 1). In 2000, the proportion of professional emigrants was at an all-time high with a quarter (24 per cent) of all emigrants in this category.

FIGURE 1 Professional emigrants as a percentage of total emigrants, 1970-2000

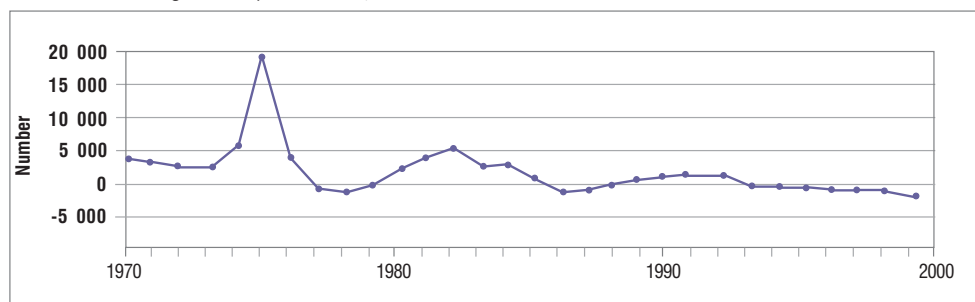


Sources: CSS (1974, 1977a, 1977b, 1979a, 1979b, 1980, 1981, 1983, 1984, 1985, 1986a, 1986b, 1987, 1988, 1989, 1990, 1992a, 1992b, 1993, 1994, 1997, 1998a, 1998b); Stats SA (1999, 2000, 2001)

Note: Emigration data for 1993 were only available for November and December and are therefore not included in this figure.

Some interesting patterns emerge in the analysis of the net migration of professionals (that is, the difference between the number of skilled immigrants and emigrants⁵) over the same period (Figure 2). According to the official statistics, between 1970 and 1993 there was, in general, a net gain of skilled workers in South Africa. There were only two occasions during this period in which there was a net loss of skills (1977 to 1978 and 1986 to 1987). By contrast, from 1994 to 2000 there was a net outflow of professionals from the country.

FIGURE 2 Net migration of professionals, 1970-2000



Sources: CSS (1974, 1977a, 1977b, 1979a, 1979b, 1980, 1981, 1983, 1984, 1985, 1986a, 1986b, 1987, 1988, 1989, 1990, 1992a, 1992b, 1993, 1994, 1997, 1998a, 1998b); Stats SA (1999, 2000, 2001)

Note: Emigration data 1993 were only available for November and December and are therefore not included in this figure.

We now turn to a closer examination of migration trends in the apartheid and post-apartheid periods.

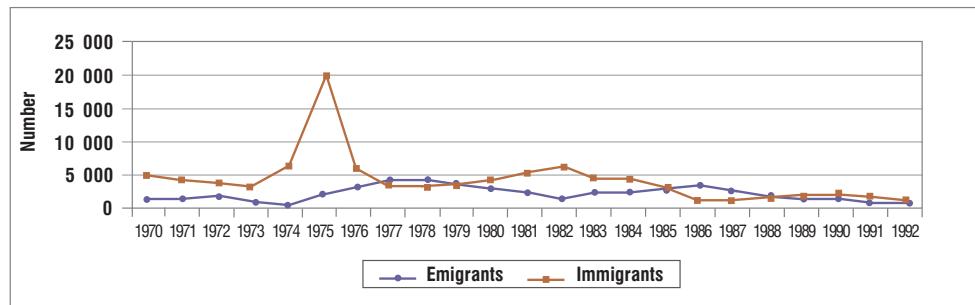
Skills migration during the apartheid years

Figure 3 indicates the flow of professional people into and out of the country for the period 1970 to 1992 (note that the 1993 data are missing). According to Stats SA (1999: iv) the peak in immigration in 1975 was largely attributable to immigrants from the United Kingdom. In 1975 a small but significant proportion of the immigrants were from Mozambique, no doubt partly as a result of the turmoil following political independence in that year.

In the years 1977 and 1978, there was a net loss of 507 and 945 skilled workers, respectively. Emigration figures almost doubled between 1976 (2 028) and 1977 (3 626). The inflow of professionals was also at a lower level than previous years, from 5 971 skilled immigrants in 1976, to 3 119 and 2 309 in 1977 and 1978. In 1986 and 1987, there was a net loss of 1 215 and 902 professionals, respectively. In 1986, the number of skilled emigrants (2 312) was the highest since the beginning of that decade. Immigration was also at an all-time low.

It is perhaps not surprising that these two periods of net loss of skills coincided with times of major political upheaval during apartheid – the ‘Soweto uprising’ in 1976, and the state of emergency imposed between 1985 and 1986 (Kaplan 1998). One could assume from this that the political situation in the country was a major driving force behind the exodus of professionals during apartheid.

FIGURE 3 Migration of professionals during apartheid, 1970-1992



Sources: CSS (1974, 1977a, 1977b, 1979a, 1979b, 1980, 1981, 1983, 1984, 1985, 1986a, 1986b, 1987, 1988, 1989, 1990, 1992a, 1992b, 1993)

Note: Data for 1993 were only available for November and December and are therefore not included in this figure.

However, as pointed out earlier, these emigration figures need to be treated with caution in light of the comparative receiving country data, which suggest that the number of skilled emigrants was much higher than reported (see Meyer et al 2000 and Table 1). However, while the official statistics represent a significant undercount of skills emigration, the estimates provided by Meyer et al (2000) do confirm the trends in net loss in the periods discussed above. They observe, though, that ‘the returns to positive balances were much slower and more limited than official statistics would let think’ (Meyer et al 2000: 17).

Despite these losses, according to the official statistics South Africa was a major importer of skills in the apartheid era. This turned out to be a significant boost to the country’s stock of highly skilled human resources. Kaplan (1998: 8) reports that between

1965 and 1985, immigration accounted for no less than one-fifth of the increase in highly skilled workers in this country. From the late 1980s until 1993, there was a consistent, albeit limited, inflow of skilled labour into South Africa.

Various factors contributed to the relatively high levels of immigration during these years. In the first place, at a policy level, the apartheid government actively encouraged the immigration of whites, especially skilled and professional workers in occupational areas where there was an identified shortfall of skills (Kaplan 1998: 15). Secondly, South Africa was experiencing high economic growth rates (Kaplan 1998: 7) which were no doubt attractive to people abroad seeking career opportunities. In the early 1990s, the inflow of skilled immigrants might well have included South Africans returning from exile in anticipation of the first democratic elections.

Migration of professionals in the post-apartheid era

If the apartheid years were characterised by a net inflow of skilled labour, the official statistics suggest the opposite for the post-apartheid era. According to these figures, since 1994 there has been an increasing net loss of skills from this country (Figure 4). A comparison of the years 1992 (Figure 3) and 1994 (Figure 4) (since figures are not available for 1993) shows that the number of professionals leaving South Africa more than doubled, increasing from 898 to 1 960. At the same time, there was a marginal drop in the number of skilled immigrants, from 1 608 to 1 103.

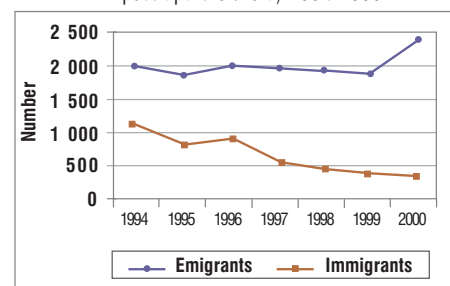
While the comparative country figures do not contradict this trend (see Meyer et al 2000 and Table 1), they do suggest that the official statistics significantly overestimate the loss of skills around the time of the change of government. According to Meyer et al (2000: 15-16), what seems to be 'a major increase of 102 per cent in the official data' is reflected as a moderate increase of 21 per cent in the receiving country data. The authors thus observe that 'the common belief that the political changes in SA have dramatically changed the conditions of the highly skilled migration just does not stand the evidence' (Meyer et al 2000: 15-16).

The reason why emigration appears to have increased so dramatically between 1992 and 1994 is because the rate of emigration coverage by Stats SA improved after the new system was introduced in 1993 (see Meyer et al 2000: 6). Meyer et al (2000: 16) argue that the brain drain from South Africa started long before 1994.

Importantly, from 1995 immigration dropped tremendously, with a low of 331 in 2000. The year 2000 also saw a dramatic increase in professional emigration from 1 855 in the previous year, to 2 439.

We have thus seen a consistent increase in the loss of skills since 1994 and this has received considerable attention in the press. The popular perception touted in the media

FIGURE 4 Migration of professionals in the post-apartheid era, 1994-2000



Sources: CSS (1997, 1998a, 1998b); Stats SA (1999, 2000, 2001)

is that the flow of professionals out of the country is largely attributable to 'white flight' and associated concerns about rising crime rates, deteriorating public services and poor economic development.

While empirical evidence does bear this out (Mattes & Richmond 2000), an important factor is not being taken into account, and that is the impact of globalisation. The change of government in South Africa coincided with the full onset of globalisation. This raises an important question – if South Africa's borders had remained 'closed', or the impact of globalisation had been delayed for another few years, would the number of emigrants still have been so high? It also needs to be noted that the exchange controls were relaxed in 1997. Since the early 1960s exchange regulations had severely limited the movement of South Africans out of the country (*Business Report* 30 June 1997). These two factors might well have facilitated the mobility of skilled citizens.

The downward trend in the number of professionals entering the country since 1994 is also of concern. Kaplan (1998: 9) suggests that the main reason for the decline in immigration of skilled workers in the 1990s is the new government's 'restrictive' immigration policy (see the section on policy implications for HRD at the end of this chapter). Whatever the reason, the fact is that decreasing numbers of immigrants each year only serve to exacerbate the brain drain in South Africa, since skilled migrants coming into the country help to replace much needed skills lost through emigration (see, for example, Brown et al 2001).

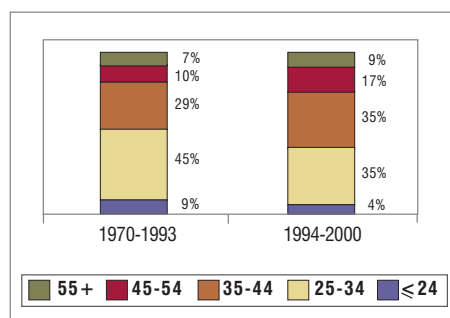
While this picture provides an overview of skills migration trends in South Africa, it tells very little about the characteristics of these skilled people and where they choose to go.

Emigration of South African professionals by age and gender, 1970-2000

The age and gender profiles of skilled South African emigrants have undergone some significant shifts over the past 30 years. The age profile of the migrating population is significant insofar as it is the loss of the most economically active and productive age groups that constitute a brain drain.

Figure 5 indicates that both during and after the apartheid era, the bulk of skilled emigrants were in the 25 to 34 and 35 to 44 age cohorts. Having said this, however, the official data also show that relative to the years prior to 1994, there has been a decline in the share of emigration in the under 24 and 25 to 34 cohorts, and a significant increase in skills emigration in the 35 to 44 year age group. There has also been a fairly substantial increase in the 45 to 54 cohort. This shift suggests that, increasingly, skills

FIGURE 5 Emigration of professionals by age group, 1970-2000

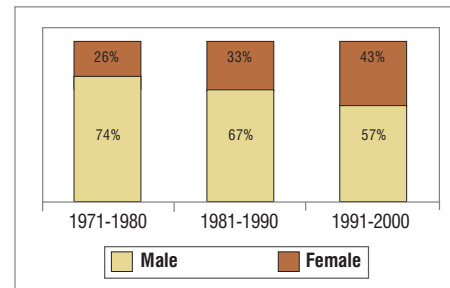


Sources: CSS (1974, 1977a, 1977b, 1979a, 1979b, 1980, 1981, 1983, 1984, 1985, 1986a, 1986b, 1987, 1988, 1989, 1990, 1992a, 1992b, 1993, 1994, 1997, 1998a, 1998b); Stats SA (1999, 2000, 2001)

Note: Of the five age group categorisations used in the CSS and Stats SA reports over the period 1970 to 2000, the categories for 1972 to 1975 do not overlap. Data for these years have therefore been omitted from this figure.

emigration is fuelled by South Africans who are 'already trained and established professionals' (Brown et al 2002: 107). The gender profile of skilled emigrants has also changed over the past three decades. Figure 6 indicates that there has been a steady increase in the number of professional women leaving South Africa, from a quarter (26 per cent) of all skilled emigrants in the 1970s, to just less than half (43 per cent) in the 1990s. This trend reflects the changing gender profile in the domestic labour market.

FIGURE 6 Emigration of professionals by gender, 1971-2000



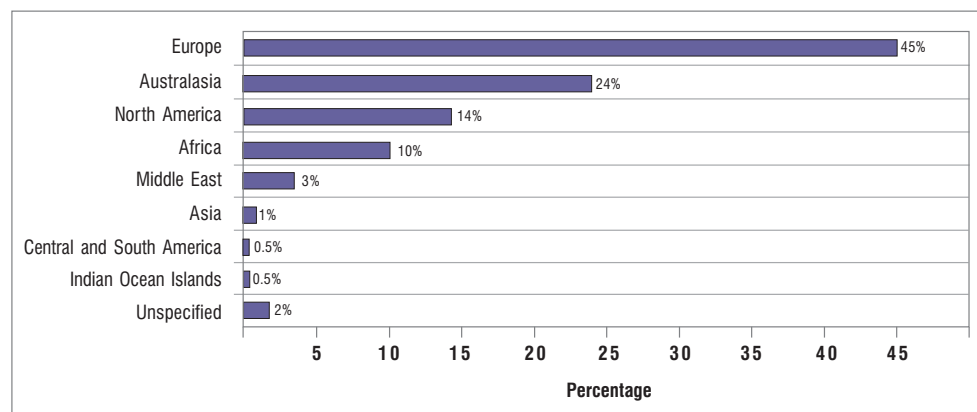
Sources: CSS (1974, 1977a, 1977b, 1979a, 1979b, 1980, 1981, 1983, 1984, 1985, 1986a, 1986b, 1987, 1988, 1989, 1990, 1992a, 1992b, 1993, 1994, 1997, 1998a, 1998b); Stats SA (1999, 2000, 2001)

Note: Data for 1970 are not included in this figure.

Emigration of South African professionals by destination, 1970-2000⁶

Since 1970, almost half (45 per cent) of all emigrating South African professionals have opted to emigrate to Europe (Figure 7). Of these, an overwhelming two-thirds (69 per cent or 15 045) have moved to the United Kingdom. Another quarter (24 per cent) of the skilled emigrants have headed for Australasia, and almost four-fifths of these (78 per cent or 8 932) to Australia. The third largest group of professionals (14 per cent) have emigrated to North America, and are fairly evenly spread between the United States (3 962) and Canada (2 970).

FIGURE 7 Emigration of professionals by destination, 1970-2000



Sources: CSS (1974, 1977a, 1977b, 1979a, 1979b, 1980, 1981, 1983, 1984, 1985, 1986a, 1986b, 1987, 1988, 1989, 1990, 1992a, 1992b, 1993, 1994, 1997, 1998a, 1998b); Stats SA (1999, 2000, 2001)

Note: Emigration data for 1993 were only available for November and December.

A closer look at the figures reveals that over the past 30 years there have been some subtle shifts in the relative proportion of South African emigrants to the various regions

of the world. For instance, Table 2 indicates that there has been a considerable drop in both the number and proportion of emigrants moving to European countries, from 56 per cent in the 1970s to 34 per cent in the 1990s. By the same token, there has been an increase in the proportion of South African emigrants to countries in Australasia, and North America.

Interestingly, Africa's proportion dropped from 11 per cent in the 1970s to 6 per cent in the 1980s, and then rose again to 11 per cent in the 1990s. This was no doubt related to the fact that the racially discriminatory policies of the apartheid government (including immigration) were at their most severe during the 1980s.

TABLE 2 Emigration of professionals by destination: A comparison across three decades

Country	1971-1980		1981-1990		1991-2000	
	Number	Percentage	Number	Percentage	Number	Percentage
Europe	9 835	56	6 261	45	5 421	34
Australasia	2 458	14	4 246	30	4 647	29
North America	1 952	11	1 814	13	3 109	20
Africa	1 896	11	833	6	1 791	11
Middle East	525	3	362	3	367	2
Asia	49	0	38	0	264	2
Central and South America	80	1	46	0	104	1
Indian Ocean Islands	20	0	27	0	123	1
Unspecified	723	4	378	3	71	0
Total	17 538	100	14 005	100	15 897	100

Sources: CSS (1974, 1977a, 1977b, 1979a, 1979b, 1980, 1981, 1983, 1984, 1985, 1986a, 1986b, 1987, 1988, 1989, 1990, 1992a, 1992b, 1993, 1994, 1997, 1998a, 1998b); Stats SA (1999, 2000, 2001)

Note: Emigration data for 1993 were only available for November and December.

Migration of professionals and managers, 1988-2000

The closest one can get to identifying the skills lost through emigration is to look at the occupational categories into which skilled emigrants fall. Ideally, these figures should be considered as a proportion of the corresponding stock of human resources in the country. However, since these data are difficult to obtain, emigration by field of expertise is calculated as a share of all emigration. These figures should therefore be considered in relation to the data provided in other chapters in this review, for example, on the number of students graduating in these areas (Chapters 14, 15, 17 and 18) and on the skills shortages in these areas (Chapters 23 to 27).

What follows is an analysis of the official South African statistics on skills migration in order to obtain an idea of the trends in the following occupational fields: engineering and architecture; the natural sciences; medical, dental and related health services; education and the humanities; and legislative, executive and managerial fields.

As before, the emigration figures should be treated with caution. Contrary to what they indicate, there was probably *not* a net gain of skilled workers, or at least to the extent indicated in Table 3, in the years before the end of apartheid. However, while the actual numbers might be misleading, it is quite likely that the system is

capturing the trends and relative proportions across the various occupational subgroups reasonably accurately. Cohen (1996: 2) suggests that this is so, except perhaps for medical professionals who are apparently 'more prone to under-declaring their emigration intentions'.

Table 3 shows the number and relative proportion of skilled immigrants and emigrants in the periods 1988 to 1992 and 1994 to 2000 (the figures for 1993 are not available). The greatest mobility of highly skilled people, both into and out of South Africa during these two periods, was among those in education and humanities occupations, followed by engineers and architects, and the country's top legislative, executive and managerial personnel. Around one-third of all skilled emigrants were in occupations in education or the humanities.

One concern is that, in the post-apartheid period, emigration appears to have more than trebled – particularly among those in the education/humanities and managerial occupations. As noted earlier, however, the contrast between pre and post-1994 figures is probably not as sharp as the official figures suggest (Meyer et al 2000: 15-16).

Either way, during both periods the highest proportion of skilled immigrants was in the managerial category – 32 per cent between 1988 and 1992 and 38 per cent between 1994 and 2000 (Table 3). While it might be possible to replace some of the managerial-level people who emigrate through immigration, this does not take into account the enormous costs involved in the turnover. Speaking generally of management-level turnover in South Africa, the managing director of PE Corporate Services reported that it costs around '30 per cent of an annual salary to replace a manager or executive' and that the 'explosion of turnover at upper levels of management was costing the economy about R3 billion a year' (*Business Report* 10 April 2000).

Although professional emigrants in the natural sciences and medical professions made up the smallest proportion of all skilled emigration, the official statistics indicate that emigration in these fields almost trebled between 1994 and 2000. At the same time, there has been a dramatic decline in the number of skilled immigrants in these occupational fields.

In general, there were fewer immigrants in the post-apartheid period in all occupational fields than there were in the years just before the end of apartheid. If one considers that the number of emigrants was probably higher than reflected in the official statistics, then it can be assumed that South Africa has not been replacing lost skills through immigration in either of these periods.

TABLE 3 Immigration and emigration of skilled workers, 1988-2000

	1988-1992					1994-2000				
	Immigrants		Emigrants		Net gain/ loss	Immigrants		Emigrants		Net gain/ loss
Skilled workers	Number	Percentage	Number	Percentage	Number	Number	Percentage	Number	Percentage	Number
Engineering and architecture	2 645	25	1 460	24	1 185	1 063	16	2 891	16	-2 867
Natural sciences	1 019	9	631	10	388	489	7	1 482	8	-405
Medical, dental and health services	1 546	14	915	15	631	754	11	2 559	15	-2 072
Education and humanities	2 155	20	1 779	30	376	1 805	27	5 547	32	-4 609
Legislative, executive and managerial	3 393	32	1 246	21	2 147	2 564	39	5 070	29	-3 244
Total	10 758	100	6 031	100	4 727	6 675	100	17 549	100	-13 197

Sources: CSS (1990, 1992b, 1994, 1998b); Stats SA (1999, 2001)

Note: Data for 1993 were not available and are therefore not included in this table.

'Emigration potential' of skilled South Africans

A central question is whether the post-apartheid trends are going to continue. In mid-1998, researchers in the Southern African Migration Project (SAMP) conducted a survey of skilled South Africans in order to assess their 'emigration potential' – that is, how likely it was that they would emigrate and why they were likely to do so (Mattes & Richmond 2000). While the results cannot give us an exact picture of future trends, they do make an informed and calculated estimate of future emigration *potential* of skilled South Africans. Importantly, this study also provides the only glimpse into the similarities and differences with regard to intentions to emigrate between skilled white and black South Africans.

Using a range of indicators, the researchers in the SAMP survey calculated the 'emigration potential' of the respondents (Mattes & Richmond 2000: 17). They report that 2 per cent of the respondents fell into the 'very high potential' category and 10 per cent into the 'high potential' category. There was virtually no difference between white and black in the first category, but a 'higher proportion of skilled whites (11 per cent) than skilled blacks (4 per cent)' fell into the 'high potential' category (Crush, McDonald & Williams 2000: 5). Crush et al (2000: 3-4) remark, therefore, that the common perception held in the late 1990s that a very large proportion of the skilled South African population was or is intending to leave is not supported by the SAMP survey data.

But what makes South African professionals leave in the first place?

FACTORS PROMPTING EMIGRATION

According to Rogerson and Rogerson (2000: 47-48), a major pull factor for skilled South Africans 'is the highly attractive salary packages offered by enterprises in North America, Europe and Australia.' By way of example, Cohen (1996: 2) suggests that high emigration rates within the education sector reflect the 'attractive possibilities for early retirement available in this sector as well as the buoyant demand for teachers in Australasia.' The pull is even stronger when recipient countries develop lacunae in specific occupational categories, such as teaching or nursing – gaps in the workforce which can be filled by a select group of individuals with those supply characteristics in a country such as South Africa.

For young professionals, the opportunity to gain international work experience is also a strong motivation to emigrate, although, as Rogerson and Rogerson (2000: 47) observe, this group may not represent a permanent loss of skills.

The SAMP survey conducted by Mattes and Richmond (2000) revealed a number of common motivations for leaving the country amongst skilled South Africans, and some not surprising similarities and differences between the white and black population groups. Amongst the 'push' factors for both white and black professionals were '(a) the cost of living, (b) levels of taxation, (c) safety and security, and (d) the standard of public and commercial services in South Africa' (Mattes & Richmond 2000: 27). Relatively low income levels were a particular area of dissatisfaction amongst black respondents, while dissatisfaction with the political system and the perceived threat of affirmative action were largely concerns held by whites (Mattes & Richmond 2000: 28, 30-31).

Major political events are also often catalysts to skills migration. As Mattes and Richmond (2000: 29-30) observe, 'the most well known politically-motivated migration is the flight from oppression and persecution, or political turmoil and instability.' As was shown, political upheavals were an important motivating factor behind the emigration of professionals from South Africa before 1994.

However, the 'push-pull model' does not take into account a more pervasive influence on skills migration – globalisation. Writers like Cao (1996: 269-272), Mahroum (1999: 17-19) and the OECD (2000: 25) argue that the nature of skills migration in the new millennium is qualitatively different from the 'brain drain' patterns of the 1960s and 1970s, and that the shift is directly linked to the rise of globalisation, and the internationalisation of higher education.

The fact of the matter, however, is that the mobility of highly skilled people is not evenly spread around the globe, and therefore not all countries benefit from these flows. Rather, only a handful of countries and regions receive a substantial proportion of the world's skilled people. The reasons are obvious: countries in North America and the European Union, and increasingly in Asia and Australasia, have plenty to offer highly skilled people. This points to the need to consider the opportunities and threats posed by international skills mobility to nations and regions. What impact does skills migration have on home economies and societies?

IMPACT OF SKILLS MIGRATION

If the brain drain is taken to mean a substantial loss of skilled and professional workers who, by definition, are well-educated and make a significant contribution to the economy and society, then the potential impact is intuitively obvious: a home country is deprived of the people who help to generate and drive economic growth, who can support social and political development, and who can lead it into a more competitive economic position globally (Glass & Choy 2001: 8). At the same time, the home country is left with a majority of people who are too old, too young, or otherwise incapable of playing this important role (Haffajee 2001).

A significant net outflow of skilled people from a country has various negative implications for the home country economy. Firstly, it can decrease economic productivity and therefore have an adverse effect on economic growth (Glass & Choy 2001: 8-10; Kaplan, Meyer & Brown 1999: 4). Secondly, a significant net outflow can reduce a nation's capacity to develop as a knowledge society and affect its ability to compete effectively in the global economy. As Glass and Choy (2001: 9) put it: '... the main implication is that a continuous outflow of high-skilled labour would deplete the source country's level of human capital and thus reduce the capacity of that country to achieve as much technological progress as other economies.'

Thirdly, a brain drain can represent a real loss in terms of a country's investment in education, training and experience (Glass & Choy 2001: 13; Kaplan et al 1999: 4). When graduates emigrate, taxpayers' and private sector money spent on the education and training of these individuals is effectively wasted. Kaplan et al (1999) calculated that in 1997, 'R67.8 billion of investment in human capital left South Africa.' It also takes time to educate a new cadre of professionals to replace the lost skills, and even longer for them to develop the expertise and experience necessary to make a truly significant contribution to socio-economic development (Rogerson & Rogerson 2000: 54).

Given that a brain drain can impact negatively on South Africa's economy, let us now consider some of the national and international strategies relating to skills migration.

ADDRESSING THE BRAIN DRAIN

Since the 1960s, various strategies and policies have been adopted in countries around the world to counteract brain drain. Some have been more successful than others.

Strategies to counter 'brain drain'

According to Meyer and Brown (1999: 4), strategies that are considered less effective (typical of initiatives up until the 1980s to address the brain drain problem in developing countries) 'focused on countermeasures, either to prevent/regulate flows of skills or to cancel their negative effects through taxation.' These policies included (see Cao 1996: 276-277; Cohen 1996; Gaillard & Gaillard 1997: 204; Meyer & Brown 1999: 4):

- inhibiting or restricting emigration in either the source or destination countries, usually via financial incentives and strict emigration regulations in the home countries, and labour market or immigration policies in the destination countries;
- taxation, either for the individual emigrant or for the host country; and
- delaying emigration by introducing a period of public service after graduation (as was proposed for medical graduates in the late 1990s in South Africa, for example).

'Brain gain' strategies

More recent and successful strategies have focused on brain *gain*. Unlike any of the other strategies, these approaches view the skills abroad as an *asset* rather than a loss (see Gaillard & Gaillard 1997: 212-218; Meyer & Brown 1999: 5-6):

- Return/repatriation strategies that involve providing funding or other incentives to encourage skilled expatriates to return to their country of origin. For most developing countries this remains a costly option since its success depends on creating conditions in the home country which are conducive or attractive to expatriates. This might include offering salaries comparable with those in developed countries, improved infrastructure, up-to-date technological resources and networking opportunities.
- Tapping into the intellectual diaspora; in other words, the skilled personnel from a particular country who are living and working abroad. The 'diaspora' option involves identifying, contacting and inviting these skilled people to find ways to contribute to development at home without having to physically relocate. This approach is increasingly evident in countries throughout the world and, recently, the South African Network of Skills Abroad (SANSA) was established.⁷ The apparent value of this approach is that it does not rely on a prior infrastructural investment in the home country since it capitalises on the resources in other countries. In addition, through its intellectual diaspora, a country has access to the professional or knowledge networks in the host country, as well as resources, equipment and opportunities that are not available locally.
- There is a lesson to be learned from the benefits enjoyed by countries such as the USA, the UK, Germany, Canada, Australia and New Zealand, as a result of their selective immigration policies (see Glass and Choy 2001; Mahroum 1999: 19; OECD 2000: 25). Their experiences show that for countries experiencing a brain drain, skills immigration can help to replace the skills lost through emigration in the short-term and, in many cases, add value to the local economy.

POLICY IMPLICATIONS FOR HRD

Taken together, the official migration data and findings from other sources, such as migration and removal agencies, embassies, consulates and receiving country data, suggest that South Africa is a country with a net *loss* of skills. In addition, these figures show that this trend started long before 1994, and that it is likely to continue in the future.

Official statistics indicate that it is the most economically productive age groups (35 to 54 years) that are leaving the country. Figures also show that most of the skilled emigrants are white and male, although some evidence suggests that this might be changing (*Mail & Guardian* 5 February 2001; McDonald & Crush 2002: 8; *The Mercury* 29 May 1997).

Recent studies also show that the movement of skilled South Africans out of the country has been influenced by major political upheavals and, more recently, by a range of concerns about safety and security, health and education, poor economic growth rates and a devaluing Rand. It is therefore not surprising that most of the skilled emigrants are heading for 'greener pastures' in the wealthiest, most industrialised countries in the world.

Finally, South Africa is losing skills in every sphere of professional life. The largest flows (of both immigrants and emigrants) appear to be amongst professionals in education and the humanities, and the legislative, executive and managerial occupations.

The questions that remain have to do with the real extent of skilled emigration from South Africa, the impact the brain drain is having on the economy and society, what is *being* done and what *should* be done about it. In this final section, some of the ways in which we might improve our ability to constructively and positively respond to and manage skills migration in this country are considered.

Skilled human resources are critical to South Africa's social and economic development. Since there are currently severe skills shortages in the South African economy, any loss of skills will have a detrimental impact on our socio-economic development and our participation in the global economy. As such, the brain drain in South Africa has a range of policy implications. For instance, in order to expand the shrinking skills base, schools and higher education institutions are under pressure to increase throughput and output rates, while at the same time ensuring the quality of education, especially in science and mathematics. The private sector also faces a challenge in terms of providing opportunities and incentives for human resources development (Rogerson & Rogerson 2002: 89).

Policy options

What will make skilled South Africans stay? To stem the flow of highly skilled professionals from South Africa, strategies are required to address the concerns that motivate these individuals to leave in the first place. In part, this means improving safety and security and the delivery of social services such as education and health, as well as the salaries and incentives for professionals.

Clearly, however, the long-term nature of some of these solutions suggests that shorter-term actions are also required. In most countries, this means recruiting much-

needed skills from abroad. The South African government's current stance on skills immigration and procedural delays in the application process, however, suggests that it does not wish to countenance this short-term strategy.

An examination of South Africa's immigration policy indicates that, at the time of writing, the new Immigration Act, which will replace the apartheid government's Aliens Control Act, is in place. At the time of writing the new Act is still to be implemented, but it has been commended for its bold steps towards acknowledging the need for skilled immigrants in South Africa. However, it has also been surrounded by controversy which centres on two main concerns.

The first is that the Act requires that government – not the market – will determine which skills are in short supply at any one time, and therefore which skills may be imported. This requirement is intended to ensure that no South African – and especially South Africans from previously disadvantaged groups – will lose a job to a skilled immigrant. Some local analysts have dismissed this argument as unfounded. For example, Mattes, Crush and Richmond (2000: 7) suggest that skilled immigrants 'are far more likely to add energy, innovation and jobs to an economy than steal them from locals.'

Others have argued that it is beyond the capabilities of the government to calculate what skills are needed, especially since skills needs are constantly changing (Bernstein n.d.). These critics urge the government to develop a more market-driven policy which opens doors to any skilled people, entrepreneurs and investors wanting to make a contribution in the country.

The second contentious issue is the 'licence fee' that employers who import skilled people will have to pay. The licence fee will comprise a certain percentage of the foreign worker's annual salary and the funds generated will be poured back into the training of South African workers. This arrangement is intended to strike a balance between the employment of foreigners to meet short-term skills needs, and the upliftment of local South Africans in the long run.

Critics in business and industry have argued, however, that the licence fee amounts to a 'double tax': employers are paying top salaries for foreign skills in addition to contributing a local skills levy (Bernstein n.d.; Rogerson & Rogerson 2000: 59). There is also a more general concern that the licence fee will impact negatively on domestic and foreign growth (*Business Report* 17 April 2002).

These policy developments have led some to refer to the new government's stance on skills immigration as 'restrictionist' or 'anti-immigrationist', and to call for further debate on the issue (see, for example, Crush et al 2000: 2; Mattes et al 2000: 12). The question that these local analysts are asking is why the government has taken this restrictive view of immigration, rather than using it 'as a public policy tool that could benefit South Africa' or as 'an opportunity to exploit' (Mattes et al 2000: 6), as is currently the international trend. As Glass and Choy (2001: 5) argue

There is a need to move the public debate on immigration and emigration away from a reaction to short-term and volatile numbers, to a longer-term perspective, and towards a more sophisticated conception of what will be an ongoing trend – that is, the increasingly free flow of people ... around the globe.

Biography

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Notes

¹ 'Education at the third level' includes a university degree or other post-secondary study.

² Immigration data were collected from the UK Immigration Research and Statistics Service, the US Department of Justice, Immigration and Naturalization Service, the Australian Department of Immigration and Multicultural Affairs, Statistics New Zealand, and the Citizenship and Immigration Office of Canada.

³ The foreign data were not available for the years prior to 1987.

⁴ The terms 'skilled' and 'professional' migrants are used interchangeably in this chapter. Following the Stats SA definitions, 'skilled' or 'professional' migrants refer to those individuals who declare themselves as economically active, and who fall into the category of 'professional, semi-professional and technical workers'. These figures only refer to the individual and not to their families, who might well migrate with them.

⁵ The official Stats SA definition of these terms, as used in relation to the data presented in this chapter, is provided below (Stats SA 2001: x-xi):

Documented immigrants refer to residents of other countries who have been accepted as permanent residents in South Africa. The permanent residence status could be given either before or after arrival in South Africa. ... Self-declared emigrants refer to South African residents who, at the time of departing from South Africa, state their intention to leave the country and reside permanently elsewhere.

⁶ Over the 30-year period of the data, the country categories have changed: some countries have been divided into new countries (e.g. the erstwhile USSR), while others have been joined to create a new country (e.g. East and West Germany). Yet others have changed their names (e.g. Zimbabwe). For the purpose of being able to indicate trends in emigration destinations, the Stats SA data have been organised according to the latest format in the 2000 migration report.

⁷ For more information on the South African Network of Skills Abroad (SANSa) initiative, visit the website at <http://sansa.nrf.ac.za/>.

References

- Bernstein, A (n.d.) SA must open its doors to skilled immigrants, *Business Day* Online (7 October 2002) <<http://www.bday.co.za/>>
- Brown, M, Kaplan, D & Meyer, J-B (2001) Counting brains: Measuring emigration from South Africa, *Migration Policy Brief*, No. 5 (eds) J Crush & V Williams, Southern African Migration Project (SAMP)
- Brown, M, Kaplan, D & Meyer, J-B (2002) The brain drain: An outline of skilled emigration from South Africa, *Destinations Unknown: Perspectives on the Brain Drain in Southern Africa*, (eds) D A McDonald & J Crush, African Century Publications Series No. 5, Pretoria: Africa Institute of South Africa and Southern African Migration Project
- Business Report* (1997) A genuinely new SA would say immigrants are a strength, Independent Online 2002 <<http://www.iol.co.za/>> 30 June
- Business Report* (2000) Brain drain 'biggest threat' to growth, Online (7 October 2002) <<http://www.busrep.co.za/>> 10 April
- Business Report* (2001) Brain drain fears 'misplaced', Online (7 October 2002) <<http://www.busrep.co.za/>> 18 October
- Business Report* (2002) Immigration bill welcomed but levies opposed, Online (7 October 2002) <<http://www.busrep.co.za/>> 17 April
- Business Times* (1998) Brain drain not a crisis – yet, Online (7 October 2002) <<http://www.btimes.co.za/98/0927/news/news03.htm>> 27 September
- Cao, X (1996) Debating 'brain drain' in the context of globalisation, *Compare*, 26 (3): 269-285
- Cape Times* (1997) South Africa is haemorrhaging skills ..., Independent Online 2002 <<http://www.iol.co.za/>> 13 June
- Cohen, R (1996) *Brain-drain Migration*, Background research paper prepared for the Green Paper on International Migration, Online (25 June 2002) <http://www.polity.org.za/govdocs/green_papers/migration/cohen2.html>
- Crush, J, McDonald, D & Williams, V (2000) Is South Africa losing its minds? *Losing our Minds: Skills Migration and the South African Brain Drain*, (ed) J Crush, Cape Town: Idasa
- CSS (Central Statistical Service) (1974) *Tourism and Migration 1970 and 1971*, Report No. 19-01-02, Pretoria
- CSS (1977a) *Tourism and Migration 1972-75*, Report No. 19-01-03, Pretoria
- CSS (1977b) *Tourism and Migration 1976*, Report No. 19-01-04, Pretoria
- CSS (1979a) *Tourism and Migration 1977*, Report No. 19-01-05, Pretoria
- CSS (1979b) *Tourism and Migration 1978*, Report No. 19-01-06, Pretoria
- CSS (1980) *Tourism and Migration 1979*, Report No. 19-01-07, Pretoria
- CSS (1981) *Tourism and Migration 1980*, Report No. 19-01-08, Pretoria
- CSS (1983) *Tourism and Migration 1981*, Report No. 19-01-09, Pretoria
- CSS (1984) *Tourism and Migration 1982*, Report No. 19-01-10, Pretoria
- CSS (1985) *Tourism and Migration 1983*, Report No. 19-01-11, Pretoria
- CSS (1986a) *Tourism and Migration 1984*, Report No. 19-01-12, Pretoria
- CSS (1986b) *Tourism and Migration 1985*, Report No. 19-01-13, Pretoria
- CSS (1987) *Tourism and Migration 1986*, Report No. 03-51-01 (1986), Pretoria
- CSS (1988) *Tourism and Migration 1987*, Report No. 03-51-01 (1987), Pretoria
- CSS (1989) *Tourism and Migration 1988*, Report No. 03-51-01 (1988), Pretoria

- CSS (1990) *Tourism and Migration 1989*, Report No. 03-51-01 (1989), Pretoria
- CSS (1992a) *Tourism and Migration 1990*, Report No. 03-51-01 (1990), Pretoria
- CSS (1992b) *Tourism and Migration 1991*, Report No. 03-51-01 (1991), Pretoria
- CSS (1993) *Tourism and Migration 1992*, Report No. 03-51-01 (1992), Pretoria
- CSS (1994) *Tourism and Migration 1993*, Report No. 03-51-01 (1993), Pretoria
- CSS (1997) *Tourism and Migration 1994*, Report No. 03-51-01 (1994), Pretoria
- CSS (1998a) *Tourism and Migration 1995*, Report No. 03-51-01 (1995), Pretoria
- CSS (1998b) *Tourism and Migration 1996*, Report No. 03-51-01 (1996), Pretoria
- Gaillard, J & Gaillard, A M (1997) Introduction: The international mobility of brains: Exodus or circulation? *Science, Technology & Society*, 2 (2): 195-228
- Glass, H & Choy, W K (2001) Brain drain or brain exchange? *Treasury Working Papers*, No. 01/22, New Zealand: Crown
- Haffajee, F (2001) Turning the brain drain into financial gain, *Financial Mail*, June
- Iredale, R (2001) The migration of professionals: Theories and typologies, *International Migration*, 39 (5): 7-26
- Kaplan, D (1998) Migration of the professional, semi-professional and technical occupations in South Africa: Past patterns, current trends and policy, *International Scientific Migrations Today*, (eds) J Cahrum & J-B Meyer, Proceedings of the international symposium held in Bogota, June 1996
- Kaplan, D, Meyer, J-B & Brown, M (1999) 'Brain drain': New data, new options, *Trade and Industry Monitor*, 11
- Mahroum, S (1999) Competing for the highly skilled: Europe in perspective, *Science and Public Policy*, 26 (1): 17-25
- Mail & Guardian* (2001) 'SA is losing its best brains', Online (7 October 2002) <<http://archive.mg.co.za/>> 5-11 February
- Mattes, R, Crush, J & Richmond, W (2000) The brain gain: Skilled migrants and immigration policy in post-apartheid South Africa, *Migration Policy Series*, No. 20, Cape Town: Idasa/Southern African Migration Project
- Mattes, R & Richmond, W (2000) The brain drain: What do skilled South Africans think? *Losing our Minds: Skills Migration and the South African Brain Drain*, (ed) J Crush, *Migration Policy Series* No. 18, Cape Town: Idasa/Southern African Migration Project
- McDonald, D A & Crush, J (2002) Thinking about the brain drain in Southern Africa, *Destinations Unknown: Perspectives on the Brain Drain in Southern Africa*, (eds) D A McDonald & J Crush, African Century Publications Series No. 5, Pretoria: Africa Institute of South Africa and Southern African Migration Project
- Meyer, J-B & Brown, M (1999) Scientific diasporas: A new approach to the brain drain, Paper prepared for the *World Conference on Science, UNESCO-ICSU*, Budapest, Hungary, 26 June-1 July 1999, Online (11 June 2002) <<http://www.unesco.org/most/meyer.htm>>
- Meyer, J-B, Brown, M & Kaplan, D (2000) Assessing the South African brain drain: A statistical comparison, *Development Policy Research Unit Working Papers*, No. 00/40, Cape Town: University of Cape Town
- OECD (Organisation for Economic Co-operation and Development) (1995) *The Measurement of Scientific and Technological Activities: Manual on the Measurement of Human Resources Devoted to S&T (Canberra Manual)*, Paris
- OECD (2000) *Mobilising Human Resources for Innovation*, Paris
- Rogerson, C M & Rogerson, J M (2000) Dealing in scarce skills: Employer responses to the brain drain, *Losing Our Minds: Skills Migration and the South African Brain Drain*, (ed) J Crush, *Migration Policy Series* No. 18, Cape Town: Idasa

Rogerson, C M & Rogerson, J M (2002) Dealing in scarce skills: Employer responses to the brain drain in South Africa, In *Destinations Unknown: Perspectives on the Brain Drain in Southern Africa*, (eds) D A McDonald & J Crush, African Century Publications Series No. 5, Pretoria: Africa Institute of South Africa and Southern African Migration Project

Stats SA (Statistics South Africa) (1999) *Documented Migration 1997 and 1998*, Report No. 03-51-03 (1997 & 1998), Pretoria

Stats SA (2000) *Documented Migration 1999*, Report No. 03-51-03 (1999), Pretoria

Stats SA (2001) *Documented Migration 2000*, Report No. 03-51-03 (2000), Pretoria

The Mercury (1997) Businessmen quitting KZN, Independent Online 2002 <<http://www.iol.co.za/>> Accessed 29 May 2002