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Moving Across Boundaries: Migration in South Africa, 1950–2000

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Abstract

Existing knowledge about historical patterns of black internal migration in South Africa is incomplete, primarily because of the lack of good life course studies as well as the apartheid government's suppression and censoring of data. This article provides a comprehensive picture of historical internal migration patterns with an analysis of a unique individual retrospective life history data set. This sample of the black population, collected in 2000, is the only known nationally representative life history data for South Africa; it includes all residential moves for each individual during his/her lifetime. Various mobility outcomes are analyzed: moves within/across provinces, moves within/across rural and urban areas, forced moves, moves with a nuclear family, and individual moves. The results indicate that migration significantly increased among black South Africans during the last half of the twentieth century, and that this increase began before the Pass Laws were repealed in 1986 and well before the official end of apartheid in 1991 or the first free election in 1994. The timing of this increase in migration rates suggests that migration in defiance of the Pass Laws (albeit a dangerous and desperate proposition) was a way of life for many black South Africans.

Keywords

South Africa; Internal migration; Forced migration Apartheid; Event history analysis

Introduction

The ending of the apartheid system of racial segregation in South Africa during the late 1980s and early 1990s brought dramatic social changes to that country. Those changes have been particularly pronounced for black South Africans[1] because they were the most disadvantaged group under apartheid. Although blacks remain disadvantaged today, one of the social changes that may benefit them is freedom of movement. Geographical mobility, previously restricted by migration control laws, is now legally free for everyone. Social, economic, and political barriers to movement and residential choice remain, but blacks are no longer in danger of being arrested or fined for moving to certain areas.

Historically, migration played a key role in social and political change in South Africa. Yet, because of the paucity of good life-course studies and the apartheid government's censoring

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[1]I use the terms "blacks" and "black South Africans" here because they are still the most common terms used in South Africa for the racial and social grouping that is, in fact, a highly diverse population.

of data about the black population, existing knowledge about historical patterns of black migration within South Africa is incomplete at best. Some scholars made pioneering efforts to document migration for blacks during the apartheid era, and a new generation of scholars has recognized the need to understand past and current mobility patterns. Nevertheless, existing studies of internal migration in South Africa have not been able to take a true longitudinal approach because of the lack of good historical data (Kok et al. 2003).

Thus, a major motivation behind this article is the need for better empirical evidence about historical patterns of black migration in South Africa (White et al. 2008). Much of the existing research on internal migration in South Africa (and also elsewhere in sub-Saharan Africa) has taken one of three approaches: (1) using cross-sectional survey data to get a snapshot of migration patterns for a subpopulation in a given period; (2) employing census data to examine changes in migration patterns for the entire population over a decade or more (this cannot examine individual determinants of migration); or, (3) following the population living in a geographic area annually with a prospective census (closest to a life-course approach, but not nationally representative). Although all these methods give insights into migration patterns, none offers both a longitudinal life course perspective and a nationally representative sample (Kok and Collinson 2006; Kok et al. 2003; Posel and Casale 2003).

This article offers a fourth approach: a historical analysis of individual retrospective migration life history data from a nationally representative sample of the black population. To my knowledge, it is the first research to use event history analysis to study internal migration in South Africa. It not only captures the migration experiences of blacks living in South Africa during the last half of the twentieth century but also gives insights into the micro- and macro-level characteristics and changes that produced these migration patterns.

I find that almost all types of voluntary migration increased among black South Africans during the last half of the twentieth century. I also find that this increase began well before the official end of apartheid in 1991 or the first free election in 1994. These findings are important in the South African context and also have broader implications. The findings speak to the larger theoretical and empirical literature on the effectiveness of migration policies (both internal and international); the social and economic drivers of migration and migrant selectivity; migration patterns in terms of origins and destinations; and the importance of social context, particularly in racially divided societies, in shaping migration behavior.

South Africa: Social, Demographic, and Migration Contexts

South Africa has the largest economy in Africa and is the most developed country in Africa (National Foreign Assessment Center 2011). There are nine provinces: Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo (or Northern), Mpumalanga, Northern Cape, North-West, and Western Cape. The population was approximately 50 million as of mid-2010. More than 60 % of South Africa's population lives in urban areas (Statistics South Africa 2010). Black Africans account for 79.4 % (almost 39.7 million), followed by 9 % each of whites and colored (those of mixed racial or ethnic descent), and 2.6 % Indian or Asian. Fifty-one percent of the population is female, and nearly one-third is younger than 15 (Statistics South Africa 2010).

Migration was severely restricted during the apartheid era, and the Pass Laws required both residential and work permits for blacks to live in restricted areas. Still, there is strong anecdotal evidence that these permits and restrictions were flouted by many blacks in South Africa. To gain access to jobs and public services, informal settlements were formed, land invasions occurred, and forced removals were opposed (Goodlad 1996). Free movement is

allowed today, yet the legacies of apartheid remain in the spatial and economic distribution of the population. Some researchers contend that most contemporary migration is temporary or circulating (Collinson and Wittenberg 2001; Kok and Collinson 2006). Commuter migrants, who live in compounds while at work but commute on a regular basis from rural areas or townships, have become more common (Collinson et al. 2006a; Crush et al. 1991; Kok and Collinson 2006; Kok et al. 2003; Posel 2006). But there is also evidence from KwaZulu-Natal that fewer migrants are sending remittances to rural areas and maintaining their rural ties (Cross et al. 1998; Mosoetsa 2004). This suggests a decline in circular migration in some areas.

South African migration is largely urbanward. Some of this is rural-urban migration, but step migration from smaller cities to the larger metropolises is also considerable (Collinson et al. 2007). There are many potential urban destinations, but many are drawn to Johannesburg, the largest city. The Johannesburg metropolitan region was the destination for almost 40 % of migrant workers during the late 1990s (Cox et al. 2004). Migration to peri-urban areas also appears to be increasingly important in some parts of South Africa, such as KwaZulu-Natal (Muhwava et al. 2010).

Nevertheless, there is still substantial migration between rural areas because some migrants begin their step migration by first moving from rural areas to small towns (Collinson et al. 2007). Researchers have also found evidence of return migration (retirement- or AIDS-related) to rural areas, which suggests that migrants do maintain ties with these areas (Clark et al. 2007; Collinson et al. 2007; Welaga et al. 2009). Some research suggests that permanent migration to rural areas may be driven by the need for improved infrastructure and services, which some advantaged rural areas now have. Some rural areas—particularly small towns—actually now have higher average incomes than some urban squatter settlements (Collinson et al. 2006b; Cox et al. 2004; Cross et al. 1998; Mbhele 1998). There is also evidence of migration from large metropoles to secondary cities, perhaps to escape the squatter settlements (Collinson et al. 2007).

Research Questions and Hypotheses

This study aims to address some lingering questions about how internal migration has or has not changed over time in South Africa, including how patterns of migration have changed, how key determinants of migration (e.g., prior moves, urban residence) have changed, and when the changes occurred in relation to the end of apartheid.

A major focus of this article is to try to understand how the gradual disintegration and ultimate demise of the apartheid system is related to changing migration patterns. It is difficult to set an exact date for the ending of apartheid, but for analytical purposes, four historical periods are included in the models: pre-1976 (omitted category), 1976–1985, 1986–1993, and 1994–2000. The beginning and end dates of each of these periods represent important turning points in South Africa's path toward full freedom: the 1976 Soweto protest, the 1986 repeal of the Pass Laws, and the 1994 election. Prior to 1976, apartheid laws were in force, but the 1976 student uprising in Soweto reinvigorated the somewhat dormant anti-apartheid movement. While crackdowns by the government against blacks continued (and even intensified) after this date, the events of 1976 also signaled a new determination to bring the Afrikaner government's rule to an end (Thompson 2001) and, potentially, a new resistance toward apartheid laws.

The next period in the models is 1986–1993, after the infamous Pass Laws were repealed. Other apartheid laws remained on the books until 1991, but the Pass Laws, which required blacks to carry identity passes under threat of arrest for being in the wrong places, were repealed in 1986. Thereafter, blacks could move more freely, and the most important legal

barrier to migration was lifted. The final period, 1994–2000, follows the first free election. The African National Congress (ANC) party, the party of many anti-apartheid activists, won; and Nelson Mandela became the first majority-elected black president. Even though the apartheid system had been crumbling for years and formal apartheid was revoked three years earlier, some blacks felt free to move only after the Afrikaner government was defeated.

Freedom of movement will be measured in terms of the probability of various types of migration. Almost all types of migration are expected to have increased over time after 1976. Although migration restrictions remained on the books until 1991, and the Afrikaner government remained until 1994, I expect that black migration increased in each of the three periods as resistance to apartheid strengthened and mobility opened up.

Although the political changes and modifications to the laws in South Africa are key predictors in the models of increasing migration, there could be other explanations, including a labor market shift from dependence on mining to an economy more focused in the informal sector. Between 1995 and 2003, the informal sector created nearly 60 % of the net increase in jobs (Casale et al. 2004). As fewer men were recruited to mining, more may have moved to cities in search of construction, transportation, trade, or other informal work. Perhaps more women also began to work outside the home. Finally, demographic shifts—decreased fertility and increased AIDS mortality—may also have affected migration. Although I cannot directly test alternative explanations—such as demographic or economic changes—because of a lack of data, it is important to keep in mind that some changes in migratory behavior might be due to economic or sociodemographic changes as well as broader political changes.

Thus, I hypothesize that for black South Africans, (1) the probability of moving increased over all three periods after 1976; (2) this increased migration probability began well before the 1994 election, and even before the official end of apartheid in 1991; and (3) the probability of moving across provinces increased over all three periods after 1976.

As apartheid and its associated labor control system began to crumble, blacks were increasingly free to move into cities. I expect that rural-urban migration would have increased as apartheid declined. In addition, South Africa is in an advancing stage of urbanization, which would also lead to an expected increase in rural-urban migration. Urbanization tends to increase mobility within countries, and there is also some evidence in the literature that those who previously moved (to any type of destination) are more likely to move again: that is, to be repeat movers (Reed et al. 2010; White and Lindstrom 2005). Moreover, the traditional urban poles of Johannesburg, Cape Town, and Durban are probably still significant draws for migrants (Cox et al. 2004). Yet, as countries increase their overall levels of urbanization, there is also often increasing migration between urban centers as well as out-migration from the largest metropolises to smaller secondary cities and towns. Therefore, I hypothesize that for black South Africans, (1) urbanites were more likely to move than rural dwellers; (2) previous movers were more likely to move again; (3) the probability of moving to urban areas from rural or urban areas increased over all time periods; and (4) as with migration generally, this increased probability of urbanward migration began before 1994.

The end of labor control also leads me to expect that family migration would have increased as families became free to move together. There was also an expectation among some analysts that after apartheid ended, circular and temporary migration would decline because of the ability for families to move together. Several studies, however, have found evidence of continuing strong patterns of circular and temporary migration (Cox et al. 2004; Kok and

Collinson 2006; Posel 2006; Posel and Casale 2003). Therefore, while I hypothesize that family migration will have increased over time, it is possible that this increase may be small because of persistent patterns of circular migration and continued strong ties to rural areas.

Note that one type of migration may have decreased, despite an initial increase. Displacement or forced migration (in South Africa during the apartheid era, this is generally forced resettlements and removals by the Afrikaner government) actually is expected to have increased somewhat in the period following Soweto (when crack-downs worsened for a period of time). I expect that displacement would have declined sharply in the latter two historical periods (1986–1993 and 1994–2000) as democratization proceeded. All other things being equal, I hypothesize that (1) the probability of moving with one's immediate family increased over all time periods (net of the overall increase), and (2) the probability of being forcibly removed and resettled by the government peaked between 1976 and 1986 but then declined.

Data and Methods

The data source for this article is the South African Migration and Health Survey (SAMHS), a nationally representative sample of adult (age 18+) black South Africans collected between November 1999 and March 2000. The SAMHS data are deemed to be of high quality for studying migration (Kok et al. 2003) and are particularly useful for examining changes over time because they include lifetime residence histories for all individuals surveyed. Details about any moves of one month or more made during a person's lifetime were collected (Population Studies and Training Center, Brown University et al. 2002). The SAMHS data compare favorably to results obtained from the 1996 census demonstrating the high quality of the data (Population Studies and Training Center, Brown University et al. 2002; N. Roux, personal communication, May 11, 2011).

The SAMHS data are stratified by both urban/rural area and relative proportion of migrants (Roux 2000). All descriptive statistics are presented weighted to account for differential sampling probabilities. The SAMHS response rate was 91.34 % (Roux 2000).

All surveys have limitations. One potential limitation for these data is that a usual resident is defined as a person who usually sleeps in the household for at least four nights per week. This definition makes it difficult to distinguish between temporary and permanent migrants; some temporary migrants might satisfy this condition and be classified as usual residents. Moreover, there was no method to account for missing or absent household members at the various points in time. This is a trade-off in the study; I have a large historical and geographical breadth of data, but I do not have good information about duration of moves of less than one month. For durations of residence that last more than one month, I focus on origins, destinations, and reasons for moving rather than time of residence (which I hope to examine in future research). I assume that all residential moves (e.g., moves of one month or more) are more permanent than temporary. Some temporary moves may be included, and some overestimation of permanent moves may occur.

This is a cross-sectional survey, so it can capture the migration histories of only those still living in South Africa in 1999–2000. Black South Africans who died before 1999 or who emigrated are not in the sample. I have no reason to believe that there is any correlation between having died and one's past mobility, so mortality should not bias the results; yet, obviously the moves of older people who died are omitted, which might result in some underestimation of moves in the earliest period. Those who moved out of the country may have been more likely to have moved (according to the mover-stayer theory). However, emigration by blacks was quite difficult under apartheid, and those who did emigrate were probably involved in the anti-apartheid struggle and likely returned after 1994. In the late

1990s, South Africa was a migrant-receiving country, so I do not expect this to bias the results.

Every survey that employs retrospective information is also subject to recall bias. Respondents may have difficulty recalling details of their lives, particularly events that transpired years ago. When events are placed within the framework of a life history, however, the quality of recall is generally improved (Moreno and White 1989; Smith and Thomas 2003). Detailed questions about each place of residence and circumstances surrounding moves were asked. This approach helps to reduce potential recall bias. If recall bias is a major issue, one might expect to find clustering of moves reported around the years of particularly salient historical or personal events (e.g., the 1976 Soweto uprising or one's marriage date). In fact, moves are fairly evenly distributed across the years of the study, suggesting minimal recall bias. Moreover, even if migration in earlier periods is underestimated because of mortality of older individuals, recall bias, or the telescoping of events (when respondents remember events as happening more recently than they actually did), this suggests only that migration during the apartheid era may have been even more prevalent; in other words, the findings here can be considered to be conservative estimates of the level of migration. Nevertheless, this could lead to exaggerated estimates of the upward trajectory of migration over time.

Finally, there are limitations to the variables used in the statistical analyses. Although residence histories and some individual sociodemographic characteristics are available, some key characteristics were only measured in the year 2000 (the time of the survey), and therefore cannot be included as predetermined covariates in the models. Marital status, the number of children ever born, and completed education are all measured in the year 2000, and therefore represent completed marital, fertility, and educational attainment rather than characteristics measured before a potential move (i.e., predictors). Thus, these variables can serve only as proxies of prior human capital attainment and demographic behavior, but they are not the main focus of the research.

Defining migration requires a geographical definition as well as a temporal definition; here there are four types of moves: (1) *any residential move*, defined as any change in residence; (2) *moves within or across provincial boundaries*, which are compared in the same multinomial logit model and serve as proxies for more local moves (intra-provincial) and longer-distance moves (inter-provincial); (3) *rural-origin moves*, either rural-rural or rural-urban; and (4) *urban-origin moves*, either urban-rural or urban-urban.

In addition to basic descriptive analyses, I use discrete-time event history logit models—an extension of logistic regression—to estimate the probability of a migration event occurring in the current year as a result of the previous year's characteristics as well as some current characteristics and constant characteristics (e.g., sex). This estimation procedure divides time to migration into discrete intervals (calendar years) and estimates the probability of observing a move within each interval. This model accommodates not only repeated observations from the same individual but also time-varying covariates because for each discrete interval, a new value of the covariate can be included (Box-Steffensmeier and Jones 2004; Yamaguchi 1991). The time-varying independent variables are lagged by one year on the assumption that changes in covariates in the previous year may affect the probability of migrating in the current year. I begin the analysis at age 12 (the age when the residence history begins) and continue to the current age (in the year 2000) for all adults (age 18 and older in 2000) in the sample. Individuals contribute multiple person-years (equal to the span from age 12 to their age in the year 2000) to the analysis; for example, if an individual is 28, he contributes 16 person-years to the models. Individuals who have moved more than once also contribute multiple moves to the analysis. All multivariate analyses are conducted using

unweighted data, but Huber-White or "sandwich" estimators are used to estimate robust standard errors to adjust for the sampling design and possible correlation within cases in the event history models.

The event history analysis begins with a simple logit model containing basic demographic and socioeconomic characteristics and then moves to a more complex model incorporating historical periods and other covariates. The model for the analysis is

$$\log [p_{it}/(1-p_{it})]=\alpha+\beta_x\mathbf{X}_i+\beta_x\mathbf{X}_{i(t-1)}, \quad (1)$$

where $\mathbf{X}_i$ represents covariates that are constant over time, $\mathbf{X}_{i(t-1)}$ represents time-varying covariates, and the β_xs are the respective coefficients. This equation estimates the probability of any residential move, compared with not moving in a given year. The models focusing on intra-provincial and inter-provincial, and rural-origin and urban-origin moves, rely on multinomial logistic (MNL) regression to capture multiple discrete outcomes—here, alternative destinations.

Additional dependent migration variables are based on reasons for moving and circumstances surrounding the move. Recall that these variables are part of the migration history, so they are available for event history analysis. However, because these variables are available for only those who moved, these analyses are essentially estimating probabilities of different types of moves only for those who ever move during their lifetimes. The first type of these models predicts the probability of any forced move, broadly defined. Forced migration includes both the government forced removals and resettlements that occurred during the apartheid era and also evictions and "economic" forced migrations because of job transfers, retrenchments, and layoffs. These reasons for moving are all self-reported by the respondent. A second type of model measures only forced government resettlements or removals. The next type of model predicts the probability of a move with one's immediate family members (spouse and/or children) as compared with not moving. The last type of model predicts the probability of moving alone as compared with not moving.

The key independent variables for the migration models are the historical time periods and provinces. The four key time periods are pre-1976 (reference category), post-Soweto (1976–1985), post–Pass Laws (1986–1993), and post-election (1994–2000). Other key independent variables are the provincial variables: residence (in the previous year) in one of the Cape provinces (Northern, Eastern, or Western Cape), KwaZulu-Natal, and Gauteng or Free State. The Cape provinces are grouped because of their proximity and the few cases in the Northern Cape, which is very sparsely populated. Gauteng and Free State are grouped because of their proximity and interrelated labor markets. Residence in the other provinces (Northern/Limpopo, North-West, and Mpumalanga) is the reference category; these provinces are grouped because of their relatively rural nature, their proximity to one another, and their locations on the northern border of South Africa. Provincial residence is really a (somewhat limited) proxy for the distance and difficulty of the move, which is yet another reason for grouping the smaller and/or more sparsely populated provinces.

Age is included as a lagged term, so that age in the previous year predicts mobility in the current year. A lagged quadratic term is included (age squared in the previous year) to account for the usual curvilinear pattern of mobility by age. The probability of having ever migrated starts at age 12 at about 30 %, increases gradually to a probability of almost 70 % by age 50, and then levels off and even declines slightly to about 65 % by about age 60.

Two dummy variables—no education and primary education—measure educational attainment. The reference category is secondary or higher education. Measured in terms of years of schooling completed, the black population of South Africa (and this sample) is relatively well educated compared with many other developing countries.[2] Again, this variable measures only completed education in the year 2000.[3]

Urban residence in the previous year is included in the models for any move as well as inter-provincial and intra-provincial moves. Persons in the sample can contribute observations (in person-years) across different risk sets as they change provinces, urban and rural residences, and so on. The total number of moves in the previous year is also included in all models to explore whether those who previously moved are more likely to move again.

Results

Characteristics of the Sample: Lifetime Migrants Versus Nonmigrants

Table 1 shows descriptive characteristics (weighted) of the sample for both migrants (*ever* moved from birthplace) and nonmigrants (*never* moved from birthplace). Migration is a common experience among black South Africans. The majority of the total sample—1,413 people, or 63 %—have moved at least once during their lives. There are more women (1,235) than men (998) in the overall sample, but men are only slightly more likely to have moved than women (about 66 % vs. 61 %, respectively). Overall, more people were born in rural areas (56 %) than urban areas (44 %) (not shown), and rural-born persons were more likely to have moved during their lifetimes than urban-born persons (77 % vs. 46 %, respectively). Although this seems somewhat counterintuitive because much of the literature about migration suggests that urban residents are more likely to move than rural residents (cf., Montgomery et al. 2003; Reed et al. 2010; White and Lindstrom 2005), perhaps the particular situation in South Africa explains the lack of urban mobility, especially during the apartheid era. Many black South Africans were forced to live in rural "homelands," and therefore, rural to urban migration increased greatly as the apartheid system crumbled.

Changing Migration Patterns Through Time

Figure 1 shows overall, inter-provincial, and intra-provincial migration rates in South Africa from 1955 to 1999, calculated from the moves reported by the SAMHS sample (moves per person-year × 1,000). (Note that the overall migration rate is equal to the sum of the other two rates.) Particularly since 1968, there has been a clear increase in overall mobility among this sample.

Although intra-provincial mobility has not increased as much or as dramatically as inter-provincial mobility, it still showed a steady increase from close to 0 during the 1950s to a peak of almost 25 moves per person-year × 1,000 in 1991, to a leveling off around 15 in the late 1990s. The inter-provincial migration rate increased quite rapidly beginning in the late 1960s to a peak of almost 122 in 1991, with some periods of slight decline or adjustment in the mid-1970s and mid-1980s. Although this migration rate declined in 1992, it began to increase again and by 1999, was back up to over 90 moves per person-year × 1,000. The strong increase in inter-provincial mobility is likely the product of two trends. First, as apartheid laws began to crumble, blacks who were previously forced to either remain in the

[2]In developing countries as a group, the mean educational attainment in 2000 was 5.3 years of schooling; in sub-Saharan Africa, it was 3.5 years; in South Africa, it was 6.1 years (Barro and Lee 2000).

[3]To test the utility of the education variables as proxies, I ran the basic event history migration models (any move, intra-provincial versus inter-provincial moves, and rural-urban moves) on a subsample of those who were age 25 and older in the year 2000. These are adults who I expect would have completed their education by that age. The results were very similar to the results with the full sample, suggesting that these education variables are reasonable proxies for prior human capital attainment.

homelands or to move only as a part of highly regulated labor streams to specific places (e.g., mines) were increasingly able to move across provincial boundaries and into other areas that had previously been off-limits. Second, because of increasing urbanization and economic development, migrants have been particularly drawn to major urban areas.

It is interesting to note that migration within South Africa by blacks began to increase even before all apartheid laws were repealed in 1991. Although some of the moves in the 1970s and 1980s may have been circular migration between rural areas and mines or factories, or were forced removals of blacks from their homes, these two types of moves cannot account for all the mobility increase (as shown later in the article). Forced migration decreased sharply over time, while moves of individuals with their nuclear families (which can be assumed to be permanent, not circular moves) increased.

The sharp peak of the migration rate in 1992 followed the 1991 repeal of all apartheid laws. However, the increases in migration clearly began in the late 1980s, before the laws officially ended. Some of the peak in 1992 might also be misreporting, with people remembering that the laws ended in 1991, so they reported that they moved in the following year even though they actually moved either slightly before or after 1992. Another sharp increase is apparent following the 1994 election, followed again by some adjustment in the late 1990s.

Figure 2 shows migration rates for four types of moves—rural-rural, rural-urban, urban-rural, and urban-urban—for the four time periods. Although the other three types of moves followed the same relative trajectory as overall migration, rural-rural migration increased only slightly through the post–Pass Laws period and then almost leveled off after 1994. Mobility between rural areas appears to be less common now and accounts for a smaller proportion of overall mobility. This is not surprising because urbanization continues apace in South Africa and as the changing economy concentrates more jobs in urban areas. This pattern is quite different from much of sub-Saharan Africa, however, where movement between rural areas still makes up a large percentage of mobility.

Multivariate Event History Results

Any Residential Move—Table 2 shows results for three versions of the model predicting any residential move; here, I emphasize the results from Model 3. I limit my discussion to the interpretation of findings related to the hypotheses—the historical period, urban/rural, and provincial variables.

Relative to the pre-1976 period, the probability of moving increased substantially and significantly ($p < .001$) in each of the subsequent historical periods: after the Soweto uprising (1976–1985; $\beta = 0.77$), after the Pass Laws were repealed (1986–1993; $\beta = 1.38$), and after the first free election (1994–2000; $\beta = 1.52$). This is strong evidence that mobility among blacks increased over the three post-1976 time periods and also that mobility began to increase before the official end of apartheid and before democracy was instituted in South Africa in 1994. These strong period effects are found in the majority of the models estimated.

With respect to provincial region of residence, residents of the Cape provinces (Northern, Eastern, or Western Cape), KwaZulu-Natal, and Gauteng/Free State had significantly higher log odds of moving compared to those in the north. Mobility in these southern and central areas of the country is likely higher than in the north because these are highly urbanized and centers of agriculture, industry, and mining. Infrastructure is also better developed in these provinces, which facilitates mobility. The effects of urban residence and total number of moves are both positive and significant.

Inter-Provincial and Intra-Provincial Moves—Table 3 presents results for models of intra- and inter-provincial moves. There is no information about the distance between places of residence, but one might assume that intra-provincial moves are shorter distance than inter-provincial moves. (Of course, one can move a long distance within a province, or a short distance across a provincial border.)

The key finding for this model is that urban residents have a significantly higher probability of moving between provinces compared with rural residents. They are not significantly more likely to move within a province, probably because there are only a few major urban centers in South Africa. Thus, someone already living in an urban area in a province is unlikely to move without crossing a provincial border. Previous movers also are significantly more likely to move again, both within a province or across provincial borders.

The probability of intra-provincial moves was significantly higher during the post–Pass Law era and the post-election era than before 1976. The coefficients for interprovincial moves, however, are highly significant (at $p < .001$) and strongly positive for all three post-1976 periods, and the coefficients are much larger than those for the same variables in the model predicting the probability of any residential move. Some of this movement in the 1976–1985 period may have been forced removals by the government, yet forced migration cannot account for all the increase, particularly for inter-provincial moves, because most blacks who were forced to move were relocated within the same province. Although Cape residents are significantly more likely to move within their own province compared to residents of the north, residents of Gauteng or Free State are significantly less likely to move within their province but significantly more likely to move across provinces.

Moves Between Rural and Urban Areas—Table 4 gives estimates of the probability of moving for rural residents. As shown in the previous two models, people who have moved before are significantly more likely to move again, both between rural areas and from rural to urban areas. Moreover, the probability of both types of moves increased significantly in each subsequent time period compared with the period before 1976. Rural residents of the Cape provinces, KwaZulu-Natal, and Gauteng or Free State are all significantly less likely to move to another rural area compared with residents of the north. However, rural residents of these same three areas are more likely to move to urban areas (not statistically significant for Gauteng/Free State). Rural-rural migration streams are probably more common in the northern areas of South Africa where agriculture (and some safari tourism) dominates the economy, and urban areas are smaller and fewer.

The results for urban-origin residents (see Table 5) are similar. As in the earlier models, previous movers who live in urban areas are significantly more likely to move again, and there are significant and strong positive increases in the probability of both types of moves over the three later historical periods compared with the period before 1976. The ending of apartheid may have allowed people who were living in urban areas (many illegally or on limited labor contracts) to move to new urban destinations, or to return home to rural areas (because of unemployment, ill health or retirement), but more research is needed to understand these flows.

Finally, there are also strong provincial effects. Those who live in the Cape provinces and KwaZulu-Natal are significantly less likely to move to a rural area but are significantly more likely to move to another urban area. There is no significant effect of living in Gauteng or Free State provinces on urban-rural mobility, but there is a strongly positive and significant effect on urban-urban migration.

Special Types of Migration—Of particular interest to this study are types of migration, such as forced migration.[4] Other analyses examined the percentage of all moves that are displacement and resettlement over time, as reported by respondents (see Fig. 3). Forced migration as a percentage of all moves declined over the four time periods, from 28 % before 1976 to 19 % after 1994. Not surprisingly, the majority of this decline is due to a decline in resettlement, which dropped from 12 % of total migration before 1976 to a mere 3 % of the total in the post-election period. Displacement has not declined as a percentage of all moves, however, but remained relatively steady at around one-sixth of all moves in each of the four time periods. Thus, although violent upheavals and forced removals (common under the apartheid government) have become rare, black South Africans in 2000 were still suffering economic dislocation at the same rates that they did during apartheid.

One can assume that a family move was likely a permanent move, so family and solo moves tell us a bit about temporary versus permanent migration. The rates for family and solo moves, both overall and for men and women separately, are shown over the four time periods in Fig. 4. The solid lines are family migration, and the dashed lines are solo migration. Family migration increased over the four periods, from a rate of less than 5 moves per person-year × 1,000 before 1976 to almost 25 after 1994. This is expected: moving with one's family was difficult and generally illegal for blacks under apartheid. Yet women have a higher family migration rate than men in every period except for a brief anomaly during the post–Pass Laws era, and women move with family at a rate three times that of men in the post-election period (30 compared with 10). The increase in family migration for men came after the Pass Laws were repealed in 1986, but after 1994, their rate declined slightly.

The solo migration rates, on the other hand, show almost the opposite trend. Although the overall solo migration rate also increased steadily over the four time periods, from less than 5 to about 25 by the post-election era, rates for men and women again diverge. The rate of men moving alone increased sharply (fivefold) after the Pass Laws were repealed in 1986, and reached a high of almost 45 after 1994. Meanwhile, women's solo migration rate increased only very slightly after 1986 and leveled off thereafter at less than 15. This suggests that the ending of apartheid, starting with the repealing of the Pass Laws in 1986, opened a floodgate of men's labor migration that had previously been stifled. Note, however, that this could also be due to labor market shifts; mining recruitment began to decline in the 1980s, so more men were going in search of employment elsewhere, particularly to urban areas. There is little evidence here, however, of women moving alone at high rates, and it seems that women who did move primarily moved with their families. This suggests that women were not entering the labor market in large numbers, which is what one might expect to see if it were economic changes driving these migratory shifts.

Turning now to Table 6, one can compare the factors affecting the probability of being displaced (including economic displacement), being resettled or forcibly removed, moving with one's immediate family members, and moving alone. Urban residence in the previous year has a negative effect on the odds of any of the four types of moves, although this is significant only for moving alone ($\beta = -0.6$, $p < .001$). Thus, rural residents are very likely to move alone, which probably entails moving to an urban area for work and sending remittances back to their families. Interestingly, the odds of moving with family and solo moves diverge over time. The log odds of moving with one's family are higher in each period after 1976 and increase from 0.21 ($p < .05$) in the post-Soweto period to 0.61 ($p < .001$) after 1994. Meanwhile, the log odds of moving alone are *lower* in each period after 1976 and decline from −0.18 ($p < .05$) in the post-Soweto period to −1.09 ($p < .001$) in the post-election period. This suggests that the ending of apartheid allowed black families to

move together when they previously could not, but also indicates that families were moving together even before the official end of apartheid, in desperation and in violation of the law.

Summary and Conclusions

This article analyzes the patterns and determinants of migration for black South Africans and how these patterns changed over time. There are several key findings across all of the models. First and foremost is the finding that almost all types of migration increased over the three post-1976 historical periods, and that this increase —a substantial proportion of which was voluntary migration—began even in the period before the Pass Laws were repealed and thus before apartheid started to end. This supports the hypothesis that overall migration has increased over time and that migration began to increase prior to 1994. Across all the models, there is a striking and consistent pattern: the period coefficients are nearly uniformly positive and significant. In addition, the magnitude of the coefficients generally increases for each subsequent time period in comparison with the period before 1976.

Maylam (1990), who noted that from 1916 to 1984, nearly 18 million Africans were arrested or prosecuted under the Pass Laws, argued that millions more must have evaded arrest. Of course, some of the migration captured in the SAMHS data was legal, authorized migration by contract workers to mines or factories, but this cannot explain all migration during the earlier periods. Although labor market shifts and demographic transitions likely also played a role, black South Africans were defying the Pass Laws (whether as political protest or economic desperation) well before they were repealed, and their migratory response to poor conditions and political changes shows up in these data. Given the paucity of historical data on black South African mobility during the apartheid era (Kok et al. 2003), this finding is particularly noteworthy. Despite significant legal barriers under apartheid, blacks exercised their migratory agency.

I hypothesized that overall mobility increased over time, but I expected this to be primarily driven by urbanward migration and inter-provincial migration. Although there is evidence that moves between rural areas and intra-provincial moves did not increase as much or declined compared with moves to urban areas or moves across provinces, almost all types of moves increased over time and before the ending of apartheid. Nevertheless, there were robust and strongly positive indications across most of the models that urban residents are more likely to move than rural residents. In addition, those who have previously moved at least once are significantly more likely to move again. Both results are consistent with research elsewhere in Africa (e.g., Reed et al. 2010).

The results in terms of provincial residence as a predictor of mobility were also mixed, but there were clear differences in many of the models. These suggest that the urban centers of the southern part of the country—such as Johannesburg, Durban, Port Elizabeth and Cape Town—have developed particular characteristics over time that drive much of the migration in their regions. These forces seemed particularly salient in the post–Pass Laws period and in the case of Gauteng and Free State, after the election in 1994, when residents of these provinces were significantly more likely to move than residents in the northern part of the country. I also found that while both types of mobility increased after the Pass Laws were repealed in 1986, interprovincial mobility began to increase after 1976. This is far earlier than one might expect, and although some of this might be labor mining or industry recruitment, increases after 1986 are likely to reflect voluntary migration flows across provincial borders. Intra-provincial mobility also increased, but the increases for inter-provincial mobility were larger over every subsequent time period relative to their starting point. This suggests that migration across provincial borders became more important and more possible as an economic strategy as new freedom of movement opened up. Finally, I

found that each of the four types of moves (rural-rural, rural-urban, urban-rural, and urban-urban) increased over each of the historical time periods. However, these increases were not comparable in magnitude across the different types of moves.

The models that examined determinants of different reasons for moving—including displacement and government resettlement, moving with one's immediate family, and moving alone—had some mixed results. Contrary to expectations, the results do not indicate that forced removals and government resettlements peaked after Soweto and then declined after the Pass Laws were repealed. However, it is possible that there are unknown biases that led to undercounting of forced removals in this sample. For example, some of those who were forced to move might have been at greater risk of violence and might have been killed.

Family moves and solo moves, however, show a clear temporal change. Family moves became significantly more likely over the four time periods, while moving alone became significantly less likely. This makes sense as restrictions on family moves were lifted, but the change began even before the Pass Laws were repealed.

Discussion

Although there was some anecdotal evidence about increased black migration before apartheid's end, this is the first comprehensive empirical analysis of a nationally representative sample of black South Africans to confirm that this significant increase in migration occurred starting after the Soweto uprising. It suggests that the apartheid labor control system was not only unjust but also increasingly ineffective over time as a strategy to control mobility. Although macro-level economic changes and demographic shifts probably also had an effect, the robustness of the period effects across various models suggests that national political changes influenced migratory changes.

The magnitude of these migration increases is substantial and too large to be explained solely by forced removals and government resettlements after Soweto. Overall migration approximately doubled between 1976–1985 and 1994–2000. Increases of similar magnitude were found for most types of moves analyzed, including intra-provincial moves and rural-rural moves (although these leveled off slightly in the post-1994 period). Rural-urban, urban-urban, and inter-provincial moves all approximately doubled in magnitude over the three time periods. Moreover, urban dwellers have become about twice as likely to move compared with rural residents, and those who had previously moved are more likely to move again. This suggests that although the changing political economy was an important driver of migration patterns, migration was also affected by economic development and its accompanying overall transition to a more geographically mobile society.

The results suggest a more complex and nuanced story of historical migration change in South Africa than most researchers have previously articulated. They indicate that voluntary migration was increasing throughout the period after the Soweto uprising, even as the government was cracking down in the early 1980s, and that a fair proportion of it was family migration rather than simply contract worker temporary or circular migration. This migratory increase gained more momentum after the Pass Laws were repealed in 1986 and after the 1994 election. The historical political economy framework employed in this article indicates the continued agency of black migrants even in the face of harsh restrictions on mobility. Moreover, South Africa is not the only country to employ internal migration restrictions, suggesting other avenues for further comparison.

The social context of South Africa brings to mind migration processes in another racially divided society that relied on an unjust racially based labor system: the historical United States. The "Great Migration" of southern blacks to northern areas of the United States

during the first three-quarters of the twentieth century bears many similarities to the migration of black South Africans during and after apartheid. Both migrations were driven by both social and economic push and pull factors (Tolnay 2003). Racial disadvantage in the American South was a push factor for blacks to move northward, just as poor conditions pushed black South Africans to move to restricted "white" areas and informal settlements for opportunities to work and support their families. This parallel between these two historical migrations is unique in terms of race as a push factor for migration that overwhelmed the migrants' fears and dangers related to the hostility of reception (and illegality of migration in the South African case). Moreover, just as urban South African blacks were more likely to move than rural dwellers, there was more selection in the Great Migration than previously thought. Southern black migrants were more likely to be literate and urban than those who stayed, which may explain why they fared better than northern-born blacks (Alexander 1998; Marks 1989; Tolnay 2003).

There is also a parallel to be drawn with the breaking of international migration laws. For example, the U.S./Mexico border is enforceable by the U.S. government, but only up to a point (Kossoudji 1992). Harsh anti-immigration policies may actually lead to reductions in circular migration and more permanent settlement in the United States (Fernández-Kelly and Massey 2007; Reyes 2004). There are indications that migration controls may be effective in these cases but only for a period of time. An inefficient economy and migrant labor system will ultimately fail to keep free movement of labor migrants in check.

Finally, perhaps the most salient example of the long-term ineffectiveness of migration policies is the Chinese case, in which a household registration (*hukou*) system restricts migration to cities and promotes rural development. This system has broken down, and there are many "illegal" migrants in Chinese cities (Liang and Ma 2004). The so-called "floating population" has moved from rural areas to cities in China in burgeoning numbers (Davin 1999; Liang 2001; Liang and White 1996). As Chan (2009) argued, the reliance of China on the *hukou* (like the passes used under apartheid) system has led to the creation of a dual economy and society, which is now an obstacle to further development. These cases all illustrate that migrants will move to better their economic and social situations, even when faced with legal barriers, hostile contexts of reception, and danger. This suggests the need for more precise research about how, when, and why migration restrictions are effective (or not), but also points to the continued importance of migratory agency in the face of structural barriers.

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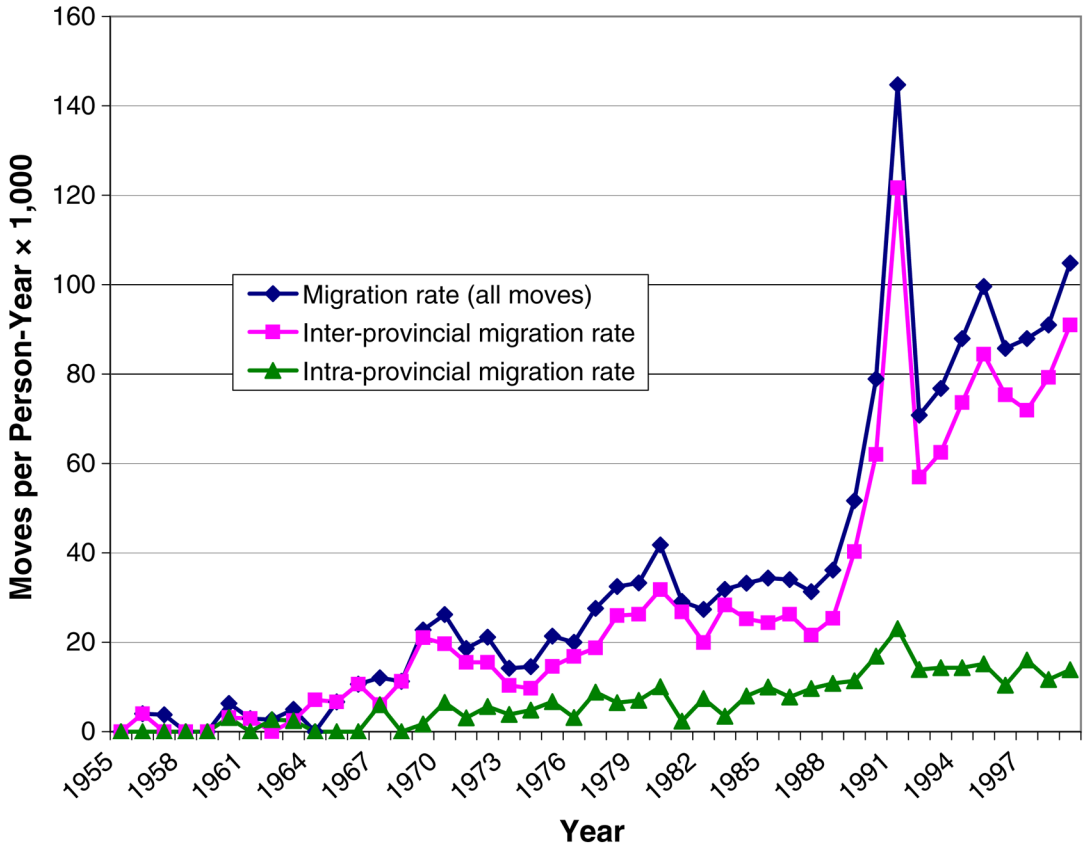

Fig. 1.
Historical migration rates in South Africa

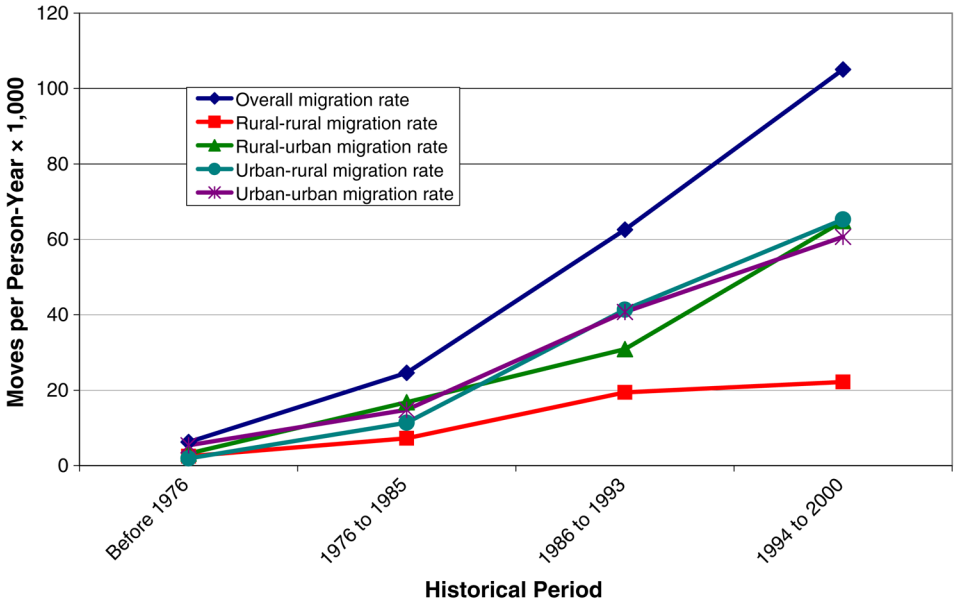

Fig. 2.
Rural and urban migration rates

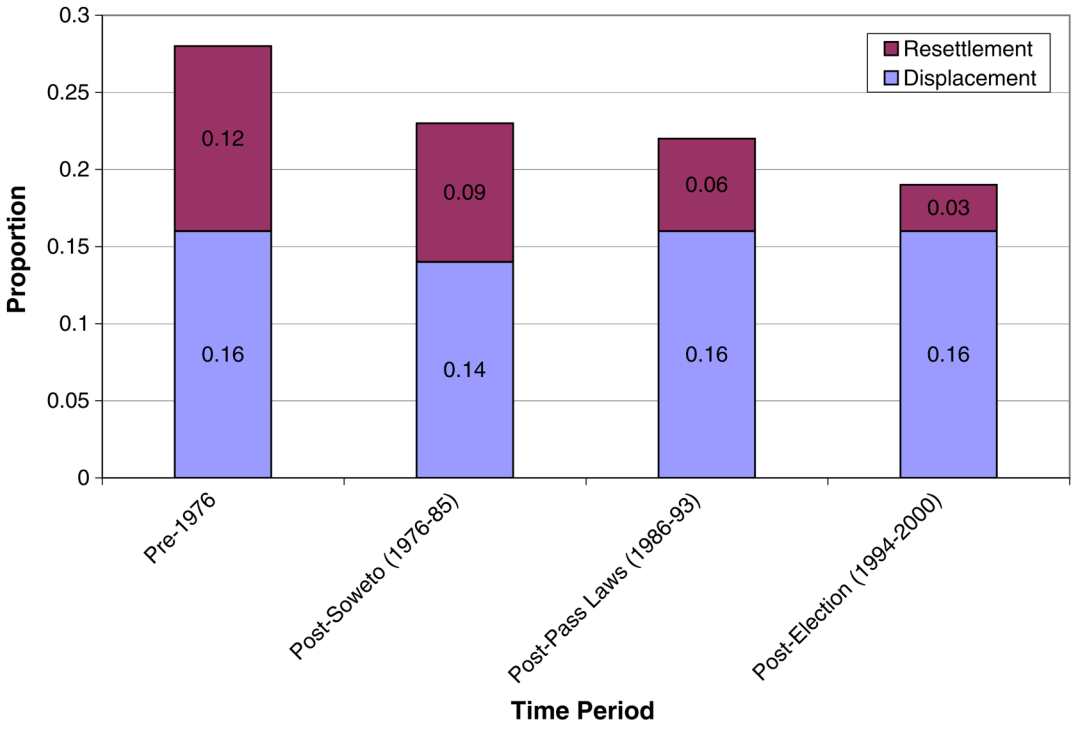

Fig. 3.
Forced migration: Displacement and resettlement over time

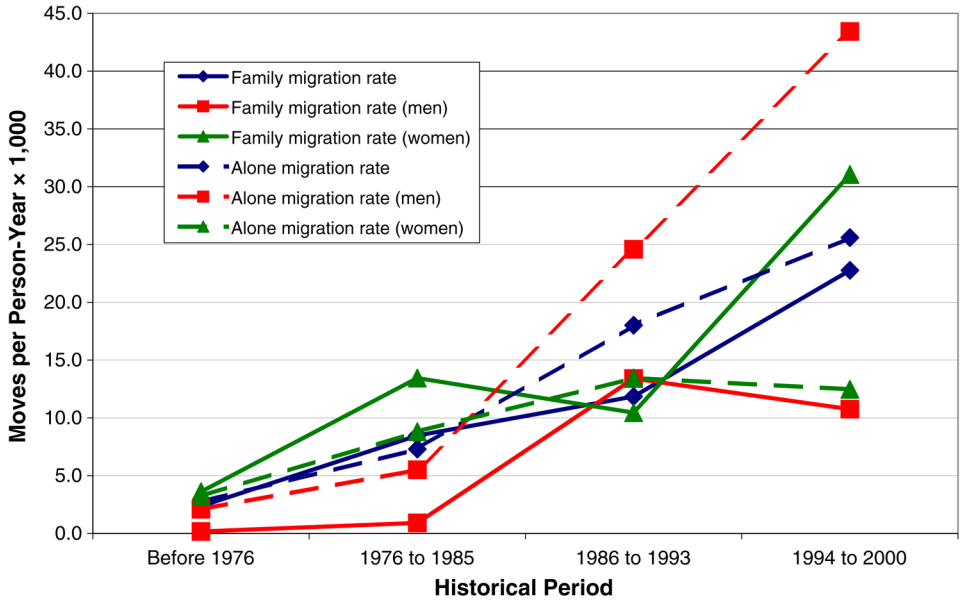

Fig. 4.
Family and alone migration rates, by sex

Table 1

Descriptive characteristics of the South Africa Migration and Health Survey, 2000 (all adults ages 18+ in the year 2000)

	Migrants (ever moved)		Nonmigrants (never moved)	
Characteristic	***N***	**% or Mean**	***N***	**% or Mean**
Total	1,413	63.3	820	36.7
Sex				
Male	656	65.8	342	34.2
Female	757	61.3	478	38.7
Age	1,413	37.4	820	33.5
Foreign-born	18	1.3	N/A	N/A
Urban/Rural Birthplace				
Urban	453	46.0	531	54.0
Rural	960	76.9	288	23.1
Province of Current Residence				
Western Cape	14	84.0	3	16.0
Eastern Cape	300	69.9	129	30.1
KwaZulu-Natal	281	70.8	116	29.2
Mpumalanga	148	58.3	106	41.7
Northern	183	70.0	77	30.0
North-West	62	59.0	43	41.0
Gauteng	119	81.4	27	18.6
Free State	306	49.0	318	51.0
Relationship to Household Head				
Head	828	71.6	329	28.4
Spouse/partner	261	69.5	115	30.5
Son/daughter	178	40.7	259	59.3
Brother/sister	51	62.8	30	37.2
Other relative or nonrelative	95	52.5	86	47.5
Marital Status				
Never married	585	55.5	469	44.5
Married or living with partner	629	71.3	253	28.7
Separated, divorced, or widowed	200	67.2	98	32.8
Children Ever Born (only for women)				
None	99	46.2	115	53.8
One	128	50.0	130	50.0
Two	170	77.2	50	22.8
Three	126	67.5	61	32.5
Four	74	63.7	42	36.3
Five or more	109	67.8	52	32.2
Literate[a]	1,248	64.1	700	35.9
Educational Attainment				

	Migrants (ever moved)		Nonmigrants (never moved)	
Characteristic	***N***	**% or Mean**	***N***	**% or Mean**
No schooling	180	65.2	96	34.8
Primary school	413	60.8	266	39.2
Attended secondary school	725	63.1	424	36.9
Secondary school diploma	86	77.2	26	22.8
Higher degree	10	54.6	8	45.4
Labor Force Status				
Unemployed	511	69.3	227	30.7
Employed in informal sector	259	73.8	92	26.2
Employed in formal sector	325	70.0	140	30.0
Unpaid family worker, homemaker, retired, disabled	211	58.8	147	41.2
Student	107	33.4	214	66.6

Note: Values are weighted.

Source: South Africa Migration and Health Survey, 2000.

[a] Literate persons are defined as those who reported being able to read *or* to read and write.

Table 2

Discrete-time binomial logit model of any residential move (vs. no move in a given year)

	Model 1		Model 2		Model 3	
Covariate	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**
Age[a]	0.3744***	0.0089	0.0005	0.0094	−0.0285**	0.0097
Age Squared[a]	−0.0002	0.0001	0.0001	0.0001	0.0003*	0.0001
Female	0.2732**	0.0808	0.1528*	0.0660	0.0251	0.0615
Married[b]	−0.3558***	0.0667	−0.2433***	0.0521	−0.1064*	0.0502
Children Ever Born[b]	−0.1795***	0.0250	0.1232***	0.0209	−0.0455*	0.0205
No Education[b]	−0.8042***	0.1096	−0.5763***	0.0913	−0.1405	0.0893
Primary Education[b]	−0.1836*	0.0793	−0.1075	0.0635	0.0209	0.0584
Secondary + Education[b] (ref.)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Urban Residence[a]			0.5764***	0.0464	0.5383***	0.0425
Total Number of Moves[a]			0.3916***	0.0195	0.3332***	0.0161
Pre-1976[a] (ref.)					0.0000	0.0000
Post-Soweto (1976–1985)[a]					0.7737***	0.1205
Post–Pass Laws (1986–1993)[a]					1.3820***	0.1176
Post-Election (1994–2000)[a]					1.5178***	0.1199
Northern, Eastern, or Western Cape[a]					0.2980***	0.0772
KwaZulu-Natal[a]					0.1898*	0.0803
Gauteng or Free State[a]					0.2855**	0.0898
Other Provinces[a,c] (ref.)					0.0000	0.0000
Constant	−3.3494***	0.1465	−3.2589***	0.1499	−4.0806***	0.1934
Person-Years (*N*)	56,683		56,683		56,683	
Wald Chi-Square	197.93 (7)		865.07 (9)		1,040.13 (15)	
Pseudo-R^2	.0217		.0708		.0925	
Log Pseudo-Likelihood	−11,107.88		−10,550.53		−10,304.10	

[a]Lagged by one year.

[b] Current status, measured in 2000.

[c] Reference category includes Northern (Limpopo), Mpumalanga, and North-West provinces, and countries other than South Africa.

* $p < .05$;

** $p < .01$;

*** $p < .001$

Table 3

Discrete-time multinomial logit model of intra-provincial or inter-provincial moves (vs. no move in a given year)

	Intra-provincial Move		Inter-provincial Move	
Covariate	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**
Age[a]	−0.0415 *	0.0162	−0.0249 *	0.0109
Age Squared[a]	0.0005 **	0.0002	0.0002	0.0001
Female	0.0621	0.1412	0.0180	0.0709
Married[b]	−0.3394 **	0.1146	−0.0518	0.0582
Children Ever Born[b]	−0.0148	0.0424	−0.0557 *	0.0237
No Education[b]	−0.9049 ***	0.2156	0.0209	0.1002
Primary Education[b]	−0.1523	0.1367	0.0674	0.0694
Secondary + Education[b] (ref.)	0.0000	0.0000	0.0000	0.0000
Urban Residence[a]	0.1542	0.0991	0.6201 ***	0.0475
Total Number of Moves[a]	0.1732 ***	0.0387	0.3612 ***	0.0175
Pre-1976[a] (ref.)	0.0000	0.0000	0.0000	0.0000
Post-Soweto (1976–1985)[a]	−0.0627	0.1632	1.1174 ***	0.1635
Post–Pass Laws (1986–1993)[a]	0.5096 **	0.1527	1.7434 ***	0.1618
Post-Election (1994–2000)[a]	0.4072 *	0.1741	1.9263 ***	0.1630
Northern, Eastern, or Western Cape[a]	1.1721 ***	0.1459	0.0485	0.0807
KwaZulu-Natal[a]	0.2130	0.1683	0.1760 *	0.0810
Gauteng or Free State[a]	−0.5065 *	0.2402	0.3527 ***	0.0894
Other Provinces[a,c] (ref.)	0.0000	0.0000	0.0000	0.0000
Constant	−4.6447 ***	0.3459	−4.7175 ***	0.2116
Person-Years (*N*)	56,683			
Wald Chi-Square	1,335.21 (30)			
Pseudo-R^2	.096			
Log Pseudo-Likelihood	−11,460.47			

[a] Lagged by one year.

[b] Current status, measured in 2000.

[c] Reference category includes Northern (Limpopo), Mpumalanga, and North-West provinces, and countries other than South Africa.

* $p < .05$;

** $p < .01$;

*** $p < .001$

Table 4

Discrete-time multinomial logit model of rural-rural or rural-urban moves (vs. no move in a given year)

	Rural-Rural Move		Rural-Urban Move	
Covariate	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**
Age[a]	0.0002	0.0230	−0.0156	0.0122
Age Squared[a]	−0.0001	0.0003	0.0002	0.0002
Female	−0.3154	0.1683	0.0691	0.0974
Married[b]	−0.3181 *	0.1371	−0.1793 *	0.0744
Children Ever Born[b]	−0.0424	0.0547	−0.0609 *	0.0288
No Education[b]	−0.5140 *	0.2074	−0.2137	0.1255
Primary Education[b]	−0.2315	0.1485	−0.0887	0.0871
Secondary + Education[b] (ref.)	0.0000	0.0000	0.0000	0.0000
Total Number of Moves[a]	0.3404 ***	0.0340	0.1110 **	0.0349
Pre-1976[a] (ref.)	0.0000	0.0000	0.0000	0.0000
Post-Soweto (1976–1985)[a]	0.7761 **	0.2918	1.0918 ***	0.1916
Post–Pass Laws (1986–1993)[a]	1.2932 ***	0.2940	1.6533 ***	0.1877
Post-Election (1994–2000)[a]	1.1937 ***	0.3025	1.8264 ***	0.1945
Northern, Eastern, or Western Cape[a]	−0.2947 *	0.1500	1.3840 ***	0.1693
KwaZulu-Natal[a]	−0.2924 *	0.1360	1.2488 ***	0.1707
Gauteng or Free State[a]	−1.3654 ***	0.2833	0.1253	0.2256
Other Provinces[a,c] (ref.)	0.0000	0.0000	0.0000	0.0000
Constant	−4.4681 ***	0.4820	−5.7490 ***	0.3209
Person-Years (*N*)	33,939			
Wald Chi-Square	684.05 (28)			
Pseudo-R^2	.0767			
Log Pseudo-Likelihood	−6,049.98			

[a] Lagged by one year.

[b] Current status, measured in 2000.

[c] Reference category includes Northern (Limpopo), Mpumalanga, and North-West provinces, and countries other than South Africa.

* $p < .05$;

** $p < .01$;

*** $p < .001$

Table 5

Discrete-time multinomial logit model of urban-rural or urban-urban moves (vs. no move in a given year)

	Urban-Rural Move		Urban-Urban Move	
Covariate	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**
Age[a]	−0.0423**	0.0154	−0.0216	0.0190
Age Squared[a]	0.0004	0.0002	0.0002	0.0003
Female	−0.0612	0.1344	0.1780	0.1178
Married[b]	−0.0461	0.1111	0.1107	0.0981
Children Ever Born[b]	0.0391	0.0474	−0.0318	0.0405
No Education[b]	0.2211	0.2110	0.0055	0.1796
Primary Education[b]	0.3366*	0.1415	0.1253	0.1223
Secondary + Education[b] (ref.)	0.0000	0.0000	0.0000	0.0000
Total Number of Moves[a]	0.5138***	0.0456	0.3605***	0.0347
Pre-1976[a] (ref.)	0.0000	0.0000	0.0000	0.0000
Post-Soweto (1976–1985)[a]	0.9611***	0.2235	1.0126**	0.3118
Post–Pass Laws (1986–1993)[a]	1.5917***	0.2258	1.8482***	0.3158
Post-Election (1994–2000)[a]	1.7991***	0.2392	2.0652***	0.3201
Northern, Eastern, or Western Cape[a]	−0.5348**	0.1655	0.7139***	0.1645
KwaZulu-Natal[a]	−0.5423***	0.1528	0.5584***	0.1588
Gauteng or Free State[a]	0.2729	0.1399	0.7596***	0.1655
Other Provinces[a,c] (ref.)	0.0000	0.0000	0.0000	0.0000
Constant	−4.1311***	0.3114	−5.3136***	0.3942
Person-Years (*N*)	20,435			
Wald Chi-Square	438.83 (28)			
Pseudo-R^2	.1002			
Log Pseudo-Likelihood	−5,686.41			

[a]Lagged by one year.

[b]Current status, measured in 2000.

[c]Reference category includes Northern (Limpopo), Mpumalanga, and North-West provinces, and countries other than South Africa.

*$p < .05$;

**$p < .01$;

***$p < .001$

Table 6

Discrete-time binomial logit model of four different types of moves (vs. no move in a given year) for migrants only

	Displacement (including economic dislocation)		Resettlement or Forced Removal		Move With Family		Move Alone	
Covariate	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**	**Coefficient**	**Robust SE**
Age[a]	0.1580***	0.0207	0.1249**	0.0360	0.0942***	0.0111	−0.0442***	0.0088
Age Squared[a]	−0.0015***	0.0003	−0.0010*	0.0005	−0.0009***	0.0001	0.0004**	0.0001
Female	−0.4541*	0.2236	0.3626	0.3229	0.3622*	0.1602	−0.4189**	0.1228
Married[b]	0.0598	0.1732	−0.0361	0.2640	0.3859**	0.1182	0.0992	0.0937
Children Ever Born[b]	−0.1639*	0.0694	−0.0750	0.0913	0.1338**	0.0464	−0.0492	0.0383
No Education[b]	−0.0344	0.2449	−1.0919*	0.4446	−0.2862	0.1849	−0.1451	0.1511
Primary Education[b]	−0.2944	0.2024	−0.5178	0.3359	−0.1220	0.1385	−0.1044	0.1147
Secondary + Education[b] (ref.)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Urban Residence[a]	−0.2828	0.1801	−0.2782	0.2767	−0.2014	0.1178	−0.6017***	0.0986
Total Number of Moves[a]	0.0714	0.0523	0.0970	0.0796	0.0378	0.0397	−0.0216	0.0386
Pre-1976[a] (ref.)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Post-Soweto (1976–1985)[a]	0.0703	0.1392	0.2327	0.2281	0.2120*	0.1025	−0.1812*	0.0727
Post–Pass Laws (1986–1993)[a]	0.0443	0.1760	0.0180	0.2712	0.3885**	0.1275	−0.4886***	0.0938
Post-Election (1994–2000)[a]	0.0735	0.2074	−0.0919	0.3166	0.6102***	0.1489	−1.0888***	0.1139
Northern, Eastern, or Western Cape[a]	−0.7458**	0.2489	−0.5247	0.4221	−0.6980***	0.1496	0.3575**	0.1166
KwaZulu-Natal[a]	−0.9704***	0.1920	−0.3002	0.2851	−0.9615***	0.1537	−0.3913**	0.1168
Gauteng or Free State[a]	0.4954*	0.2170	−0.5583	0.4206	−0.2037	0.1739	0.7370***	0.1369
Other Provinces[a,c] (ref.)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Constant	−4.7786***	0.3668	−5.6555***	0.5841	−3.7334***	0.1994	1.0361***	0.1386
Person-Years (*N*)	56,683		56,683		56,683		56,683	
Wald Chi-Square	429.66 (15)		139.02 (15)		688.65 (15)		909.44 (15)	
Pseudo-R^2	.1213		.0626		.103		.0852	
Log Pseudo-Likelihood	−13,847.37		−7,014.20		−23,965.75		−33,657.68	

[a]Lagged by one year.

[b] Current status, measured in 2000.

[c] Reference category includes Northern (Limpopo), Mpumalanga, and North-West provinces, and countries other than South Africa.

* $p < .05$;

** $p < .01$;

*** $p < .001$