

Youth migration, livelihood prospects and demographic dividend: A comparison of the Census 2011 and Agincourt Health and Demographic Surveillance System in the rural northeast of South Africa

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Abstract

The 2011 South African national census shows a cohort of young adults comprising an increasing share of the population. This finding is borne out in longitudinal data from the Agincourt Health and Demographic Surveillance System (HDSS). This primarily descriptive paper uses the Agincourt HDSS to examine the migration, employment and unemployment patterns in young adults. The study reveals high levels of temporary labour migration linking rural areas to metropolitan areas and secondary urban places. The type of work conducted by young adults in the Agincourt population is predominantly unskilled labour for both sexes. However, there is some evidence of female employment increasing in more educated sectors. Across all working ages there is pronounced unemployment, but the main pressure is felt by the younger adult population. Education and skills development for both sexes should be strengthened to support the country's efforts to vastly improve labour force participation amongst the youth.

Keywords: demographic dividend, youth, employment, internal migration, South Africa, census, Health and Demographic Surveillance System

Introduction

South Africa has experienced an appreciable fertility decline in the last 20 years, which is a key component of a demographic transition (Moultrie and Timæus 2003; Garenne et al. 2007). Accompanying this fertility decline is an age-structure transition which has resulted in a rise in the proportion of the working age population and a consequent reduction in the dependency ratios, defined as the number of dependents supported by the working age population. This can, in theory, be an opportunity to spur economic development, because the resources—monetary and otherwise—that would otherwise have been absorbed by raising children and supporting large families can be invested in productive activities and household savings (Basu and Basu 2014). At a population level, this has been described as a potential demographic dividend (Bloom et al 2003; UNFPA 2014).

To explore the empirical reality of age-structure transition and the association with migration and employment, we employ the national census of 2011 and data from the Agincourt Health and Demographic Surveillance System (HDSS). The latter sub-district scale

population has conducted longitudinal surveillance of births, deaths, in- and out-migrations for over twenty years. The comparison with national data offers the representative breadth at the national level, while the longitudinal surveillance data provides depth with respect to the focused area of the HDSS.

The first part of the paper looks at the age and sex structure in the national and sub-district datasets. The second part of the paper uses data from Agincourt to focus on the migration patterns of the youth population and examine how migration relates to employment. The paper then examines the patterns of employment and unemployment for young men and women and the types of work that are gaining prominence. In this way, the paper employs descriptive analyses to reflect on South Africa's potential demographic dividend.

Literature review: Opportunity and variations on the demographic dividend.

While the demographic dividend is a concept that now enjoys wide circulation, it is not a guaranteed outcome as a population moves through the demographic transition.

Furthermore there would seem to be considerable variation in the likelihood that the populations of sub-Saharan Africa, of which there are many distinct national groupings, will harness the dividend. We examine the South African case with this context in mind.

Most discussions of the demographic dividend deem it to be the potential developmental gain that can be realised by the decline in the share of the dependent population, as a correlate of the demographic transition (Bloom et al. 2003; Gribble and Bremner 2012). The well-known demographic transition marks the movement of a population from a regime of high fertility and mortality (with expected low overall population growth) to a regime of low fertility and mortality (with expected low overall growth) (Dyson 2010). For the demographic dividend the key phase of the transition is the window of time in which fertility has fallen for a period of several years, but the consequent aging of the population has not proceeded so far as to substantially raise the share of the population in the dependent elderly age groups.

Beyond the shift in the age structure itself, this transition is expected to usher in a golden moment when there are relatively few young and few old, and hence a large working age to non-working age ratio. The demographic transition itself is seen as generating the potential for spurring economic growth, as there are—for a window of time—relatively few dependents per worker (Eastwood and Lipton 2012). Bloom and colleagues go further in laying out the prospective cumulative benefits of harnessing the demographic dividend: “In fact, the combined effect of this large working-age population and health, family, labour, financial, and human capital policies can effect virtuous cycles of wealth creation” (Bloom et al. 2003:xi). In this further elaboration, the reconfigured age structure can allow for more human capital investment (fewer young persons per worker) which itself can also accentuate economic productivity once those workers enter the labour force.

Not all is guaranteed with the demographic dividend, however. Timing and the behaviour of the population at all levels, from individual household up through national public policy, can determine the yield on such demographic change. Consequential for the path of the demographic dividend—itsself crucially dependent on the fertility and mortality dynamics that drive age structure—is the rate of change in fertility and mortality. For instance, one recent study, re-examining United Nations population projections, challenges the notion that Africa’s demographic dividend might mirror the dramatic pattern exhibited in Asia, arguing instead that slower fertility decline in sub-Saharan Africa will dampen the age restructuring (Eastwood and Lipton 2011).

The realisation or harnessing of this dividend is by no means a certainty, even in the presence of the supportive demographic dynamics (Eloundou-Enyegue 2013; Basu and Basu 2014). Young adults need to fulfil their potential, for which policies are needed that enhance their employment opportunities and education. Other policy aspects include

expanding access to contraception and to financial systems (Eloundou-Enyegue 2013; Basu and Basu 2014; UNFPA 2014). Without these interventions the transitions in age-structure may just be a demographic window of opportunity rather than a realised dividend (Pool 2007). The ‘youth bulge’ needs to gain skills that can be directed toward productive activity (Ssewamala 2015). On the optimistic side, one group argues that “If African countries can continue to build on the hard-won development gains, the demographic dividend could account for 11–15% of gross domestic product (GDP) volume growth by 2030, while accounting for 40–60 million fewer poor in 2030” (Ahmed et al. 2016:1). Economic returns to the demographic dividend would be even greater, they argue, if skills improve further because of added educational improvements during the transition. Active and successful family planning interventions are often cited as helping to generate this kind of windfall in economic growth (Cleland 2012; Bloom et al. 2014). Such suggestions, especially from voices from the Global North, are not always adopted uncritically. By contrast there remains some disagreement about how to approach the various opportunities raised by the transition and, in turn, the interventions that might be pursued to promote the dividend (Sankoh 2016).

Further variations in the demographic dynamics also need to be considered. As Rosero-Bixby illustrates for Latin America, within any demographic structure there is considerable variation in the way that intergenerational transfers play out (Rosero-Bixby 2011). While such authors often write in the context of aging (and aging societies), the concerns apply generally to the relative size and roles of labour income and consumption over different portions of the life cycle. As Lee and Mason remind us, the flows between generations at the household level also matter, and here again there is variation from population to population (Lee and Mason 2011). Thus, any potential strategy for harnessing the dividend has to take into account the behaviours that exist at multiple scales and across multiple domains, from parents investing in children to national ministries investing in education or health care.

Several key ‘take-away’ lessons emerge from in these discussions. First is that the demographic dividend itself is shaped—literally when one considers the evolution of the age pyramid—by the proximity and rapidity of the fertility and mortality trends within the population. Second it is clear that once the dividend window opens, its consequences depend on public sector choices, such as investment in health, schooling, and efforts to promote equity (Gribble and Bremner 2012). All this is to say that there remains some uncertainty about how the demographic dividend will unfold in Africa. Here we illustrate and examine these issues with detailed data from South Africa.

Methods

The methodology employed in the national census is well known. In October 2011 a census was undertaken by

Statistics South Africa (Statistics South Africa 2012). The census gathered information on the demographic characteristics of the population as well as employment status.

The Agincourt Health and Demographic Surveillance System

A Health and Demographic Surveillance System is a field and computer based operation that routinely updates a population register for the entire, contiguous, sub-district. It is a prospective, longitudinal data collection on the whole population in a defined area. In the Agincourt HDSS an annual update has been made of each birth, death, or migration since the baseline in 1992. The principle is to maintain a dynamic list of all people living, and who have lived, within the sub-district (Tollman 2008; Kahn et al. 2012). A field operation is conducted each year to visit every household in the surveillance area. In 2015 the number of households visited was 20,000. Trained and supervised fieldworkers interview the best respondent available who is knowledgeable about household events. During this interview the fieldworker verifies existing data and records new data pertaining to individuals and the household, systematically updating the demographic events that have occurred since the preceding year's update (Kahn et al. 2007; Tollman 2008). A dynamic household roster showing current members is printed onto each census form in advance of the annual update. Individual attributes recorded at first observation, i.e. baseline, in-migration or birth, include name, sex and date of birth, mother's identity, mother status, and nationality or refugee status. Specialised modules are added to the core data collection and regularly repeated. These include a range of individual and household level socio-economic data. The labour force participation data used in this study is an example of such a repeated module and described below.

The annual census and vital events update is conducted by four teams of six fieldworkers, with a supervisor who uses GIS-based maps to ensure that every household is covered. The maps are kept up-to-date by taking GPS readings of new dwellings each year. Fieldwork procedures and questionnaires were approved by the University of the Witwatersrand Human Research Ethics Committee (Medical), with Clearance Certificates M960720 and M110138.

In this way, a prospective, longitudinal database of demographic events for the entire sub-district population has been established and regularly updated for over two decades. This enables us to examine the population dynamics, migration dynamics and labour force participation. Presently, three HDSS Centres operate in rural South Africa: Agincourt (in Mpumalanga Province)

(Kahn et al. 2012); Africa Centre (in KwaZulu-Natal) (Tanser et al. 2008), and Dikgale (in Limpopo Province) (Alberts et al. 2015).

Labour force participation

The Agincourt HDSS census ran a labour force participation module in years 2000, 2004, 2008 and 2012, which recorded salient features of labour force participation on all de jure persons in the sub-district aged 10 years and older. The definition of 'working' and categories of unemployment were derived by starting with conventional definitions and undertaking a process of discussion and refinement with local field staff and community members. Several iterations of questionnaire piloting were conducted in the study site and elsewhere in the nearby Bushbuckridge. For the study, 'work' was defined as an activity that brought income or resources into the household from outside. Categories of unemployment included whether a person was looking for a job, involved in subsistence farming, doing primarily home domestic work, a student, not looking for a job, disabled, a volunteer, in between fixed period work, in between occasional work, or other reason. The employment status variables: 'ever worked' and 'currently working' were both included in the study as dichotomous (yes/no) variables. Whether a person was a student and/or received a pension was also recorded. Variables that described either the current job or the previous job (if currently unemployed) were: type of work, sector, type of contract, employer, place of work, and tax status. The total number of individuals for which the labour status questionnaire was completed was approximately 50,000 each year.

Findings

Population age and sex structure

The population pyramid of the South African population in the national census 2011 is reproduced in Figure 1 (Statistics South Africa 2012). It can be seen that in 2011, a large proportion of the population were in their early twenties. The population age structure is changing with a cohort of children, born at a time when fertility rates were higher and family sizes larger, entering adulthood. This cohort was in their mid-to-late twenties in 2011. Fertility rates declined in women born later and subsequent cohorts had fewer children. The pyramid tucks in at the bottom as fertility rates declined. The fertility rates have become relatively stable in South Africa in recent times, and the observed increase in the number of under-5 children could be accounted for by increasing numbers of people, women especially, entering reproductive age.

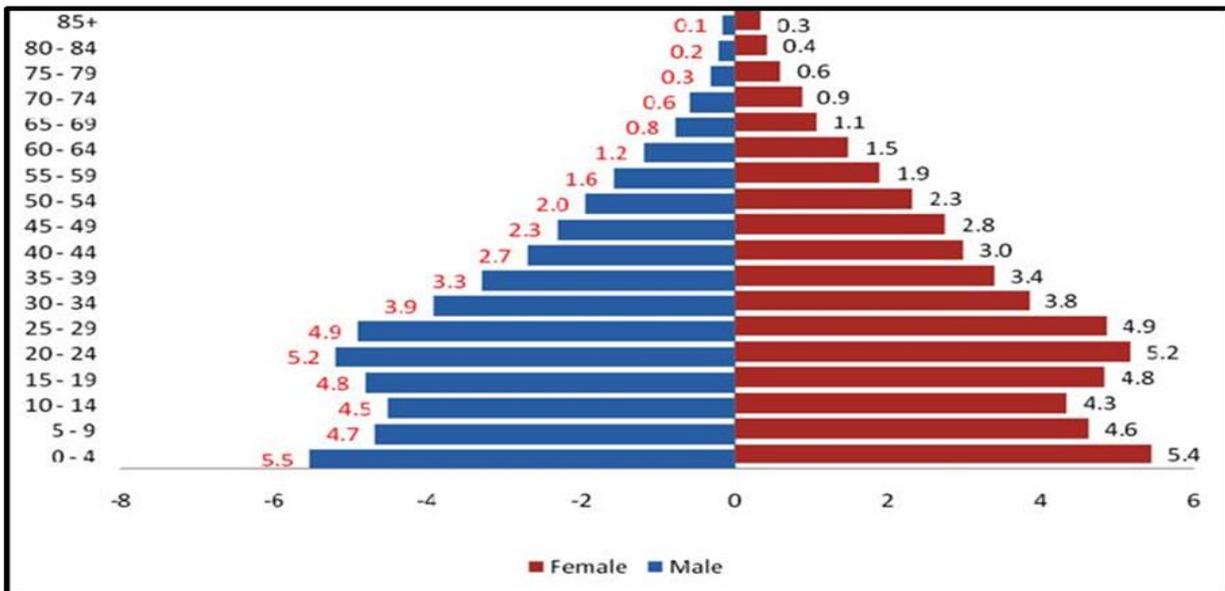


Figure 1. National population by age and sex in Census 2011

The evidence of the rapidly emerging working age population is met out by the Agincourt HDSS data. The four population pyramids in Figure 2 depict a series of age and sex distributions in the Agincourt population from 1996 to 2011. The age-sex pyramids show a reduction and then, more recently, an increase in the number of under-five children compared to older children, which matches the pattern reported in Census 2011.

The HDSS data show that there is a relatively large cohort born 20-24 years ago who are now entering the labour market as young adults. This will contribute to the unemployment situation that the country is now facing.

Another key population change is that the older population is increasing, with a growing proportion over age 65 years, drawing attention to the pension and health care burden that the country will have to bear.

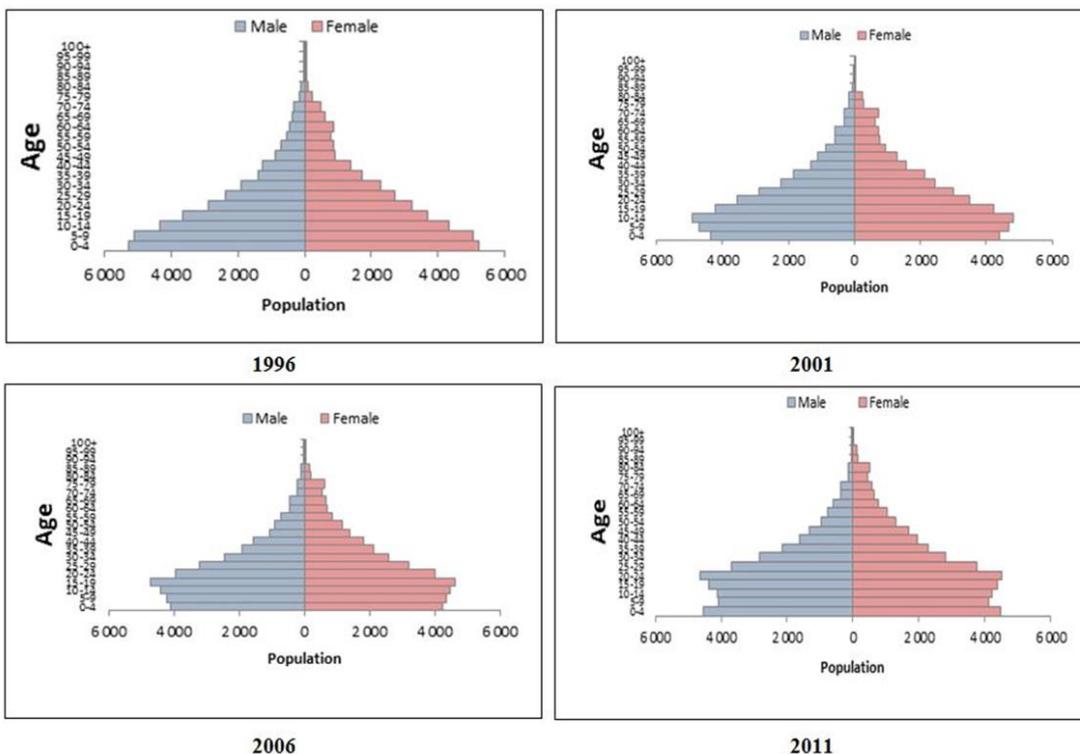


Figure 2. Population age-sex structure in 1996, 2001, 2006, 2011, rural north-east South Africa

Temporary migration

Earlier work at Agincourt has shown the prevalence of temporary migration and the ongoing two-way flow of people, money and goods between rural or peri-urban areas and the metropolitan or secondary urban centres.

This labour migration lifestyle is a direct consequence of the spatial inequity of the former apartheid regime, which divided people from work opportunities, and produced decades of labour migration (Bocquier et al. 2014; Collinson et al. 2014). The scale and methodology of the HDSS is more conducive to monitoring temporary migration compared to the national census. The household is visited frequently by the HDSS fieldworkers and the absence or presence of household members recorded. This residence or migration status is updated at regular intervals, which enables a more complex household definition to be employed in the HDSS. The national data requires a de facto household definition to prevent duplication in the census, whereas the HDSS can use a de jure household definition. The de jure definition implies that household members who are absent at the time of the interview, but considered to be members of the household, can be kept track of and monitored by the HDSS field operation.

Because the HDSS has a de jure household definition we can compute the age and sex profile of temporary

migration, using a cut-off of six months out of the last twelve that a person spends away, to meet the definition of a temporary migrant. Once a person who belongs in a rural household is absent for more than six months in the previous year we call them a temporary migrant. This is a fairly conservative definition. There is a large amount of mobility that keeps people away for less than six months in a year, but these people are considered to be permanent residents.

The age and sex profile of the prevalence of temporary migration in the Agincourt population is presented in Figure 3. The main change in age-sex profile of temporary migration is the increase in the proportion of young adults of both sexes becoming temporary migrants. For women in the 25-35 age group, the jump in likelihood of being a temporary migrant went from 24% to 36% over the decade 2000 – 2010. For young men in their late twenties, the likelihood of being a temporary migrant jumped from 50% to 60%, while for men in their early thirties, the likelihood of being a temporary migrant rose from 59% to 67%.

The major change in the migration pattern is growth in the likelihood of temporary migration amongst both male and female young adults.

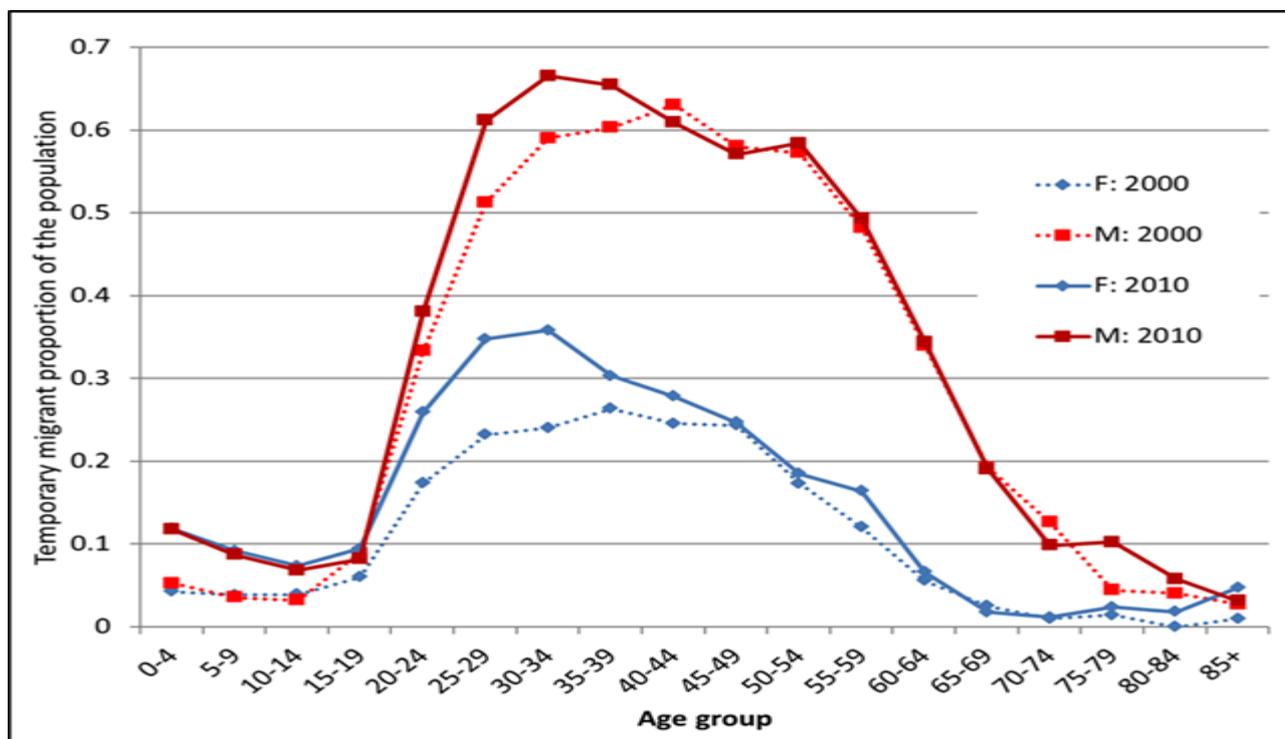


Figure 3. Age-sex profile of temporary migration in 2000 and 2010, Agincourt HDSS

The destinations of temporary migrants from Agincourt are explored in other papers (see Statistics South Africa 2015). The migration destinations are strongly tied to labour market potentials and frequently temporary migrations span large distances to the metropolitan cities. In a survey of

temporary migrant destinations in 2002, nearly a half (46%) of moves were to the primary metropolis of Gauteng, with another 41% to secondary urban centres such as Nelspruit and Middleburg. Only 13% of temporary migration comprised moves to nearby small towns or villages like Hazyview.

Other work also shows that the migrants remit to rural households and this is an important source of income especially for the households that are already better off. For the poorest households, sending a female temporary migrant is the strategy that works to get them out of poverty.

Youth employment patterns

The labour module in the Agincourt HDSS gives a repeated measure of the whole working age population at the time of

the vital events update. Figure 4 shows the percent employed by five-year age groups from 15 to 34 years. The likelihood of employment changes rapidly with age. The HDSS is used to partition the population into four segments and compute the percentage employed in each segment, shown in Figure 4, namely, male permanent residents, female permanent residents, male temporary migrants and female temporary migrants.

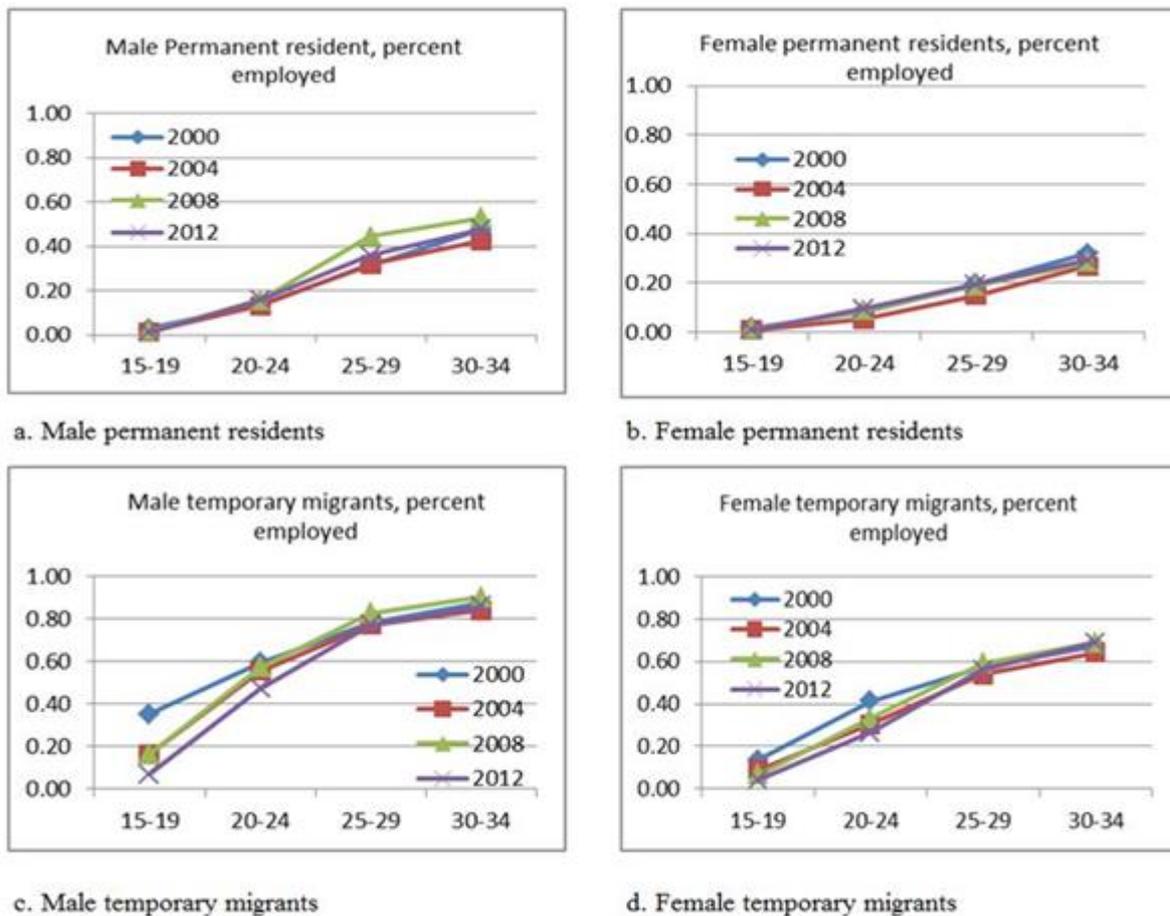


Figure 4. Proportion of the population employed by age and year

The segment of the population with the highest likelihood of employment is male temporary migrants, with employment amongst young male temporary migrants reaching 80% of 25-34 year olds and 60% of 20-24 year olds. The next segment of the population revealing relatively higher levels of employment are the female temporary migrants: 60% of female temporary migrants aged 25-34 and 30% of 20-24 year olds indicated that they were employed. Thereafter, levels of employment amongst male permanent residents comprised 40% of 25-34 year olds 16% of 20-24 year olds.

The segment least likely to be employed was the female permanent resident population. Only about 30% of 30-34 year olds and 20% of 25-29 year olds in this category were employed.

For young men, by age 20 it is entrenched that temporary migration is necessary to obtain employment. Young men become temporary migrants to access employment, although there are some opportunities for employment in the rural areas. For young women, temporary migration is increasingly being used to access employment.

The main types of work undertaken by males and females in the 15-34 age group is presented in Table 1. For each sex the 12 most common types of work are ordered by rank. Also, for each sex the type of work is reflected for years 2000 and 2012 to establish possible shifts in labour market participation over time.

For young adult men and women there is large growth in unskilled work as the leading type of employment (7% of males and 3% of employed females were working in

unskilled professions in 2000 compared to 17% and 14% in 2012 respectively). For young men, 'skilled worker' and 'mine worker' categories increased and construction work decreased between 2000 and 2012. For young adult women informal selling and domestic work declined as a

source of employment, with health sector, clerical and office work, and cleaning work having increased. Farm work declined for both sexes in this age group.

Table 1. Types of work of employed males and females, aged 15-34 years, giving the top 12 ranking types of work for males and females separately, and for each the percent employed in that type of work in 2000 and 2012.

Rank	Type of work	Male		Rank	Type of work	Female	
		2000	2012			2000	2012
1	Unskilled worker	7%	17%	1	Unskilled worker	3%	14%
2	Skilled worker	6%	12%	2	Informal selling	29%	8%
3	Mine work	7%	12%	3	Health sector (formal)	1%	8%
4	Construction work	15%	10%	4	Domestic work	15%	8%
5	Driver	7%	9%	5	Clerical and office work	3%	8%
6	Security work	7%	8%	6	Cleaning work	3%	8%
7	Clerical and office work	3%	3%	7	Small business assistant	9%	7%
8	Farm work	10%	3%	8	Farm work	11%	6%
9	Small business assistant	4%	3%	9	Cook/ chef/ catering	3%	5%
10	Waiter/ barman	2%	2%	10	Skilled worker	3%	5%
11	Game farm	2%	2%	11	Security work	1%	4%
12	Cook/ chef/ catering	1%	2%	12	Teacher	8%	3%

Note: Dark grey shows a downturn in type of work, light grey shows an upturn in prominence of work

Patterns of youth unemployment

In the HDSS labour module the labour status of each individual is recorded. If a person is not employed at the time of the interview then the fieldworker records the type of unemployment. A key category of unemployment is whether or not the person is looking for work, which is important

in determining unemployment rates. Figure 5 shows the percentage of people unemployed and looking for work in the same four population segments as above, namely, male permanent residents, female permanent residents, male temporary migrants and female temporary migrants.

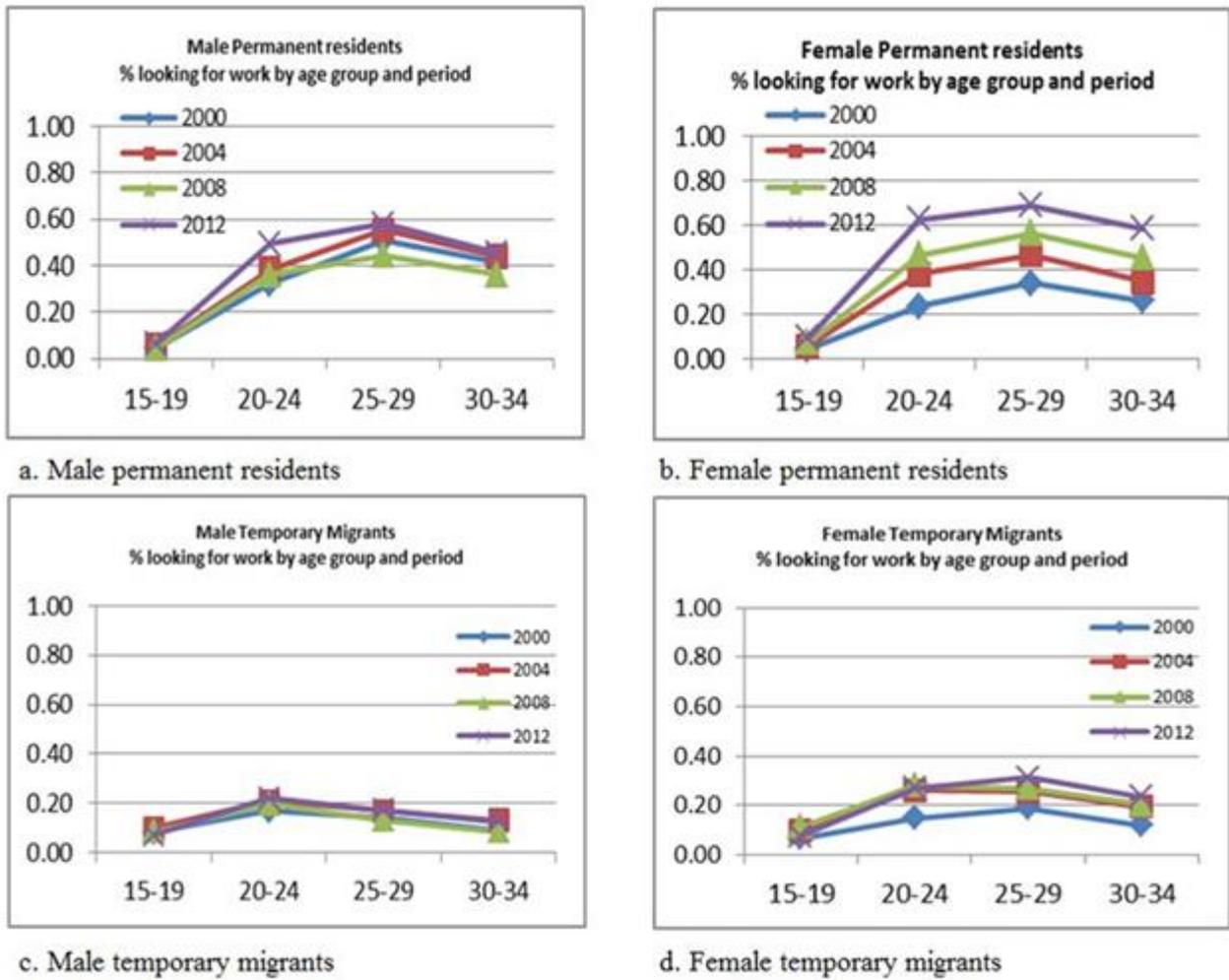


Figure 5. Proportion unemployed and looking for work by age and year

It is seen in Figure 4 above that temporary migrants are much more likely to be employed, and similarly Figure 5 reveals that they are also much less likely to be unemployed. This seems to confirm that temporary migration is a critical factor in securing employment. Female temporary migrants present with higher levels of unemployment than their male temporary migrant counterparts, but they have lower levels of unemployment than male permanent residents. The unemployment rate amongst male permanent residents is approximately 50%.

Female permanent residents in this age group reveal a clear trend over time in the percentage looking for work. Over the period of observation, the percentage of female permanent residents looking for work increased steadily. In the age group 25-29 the percent unemployed doubled from 34% in 2000 to 69% in 2012. This change occurs despite the evidence shown in Figure 4 that there has been very little change in the likelihood of employment for this age of female permanent residents.

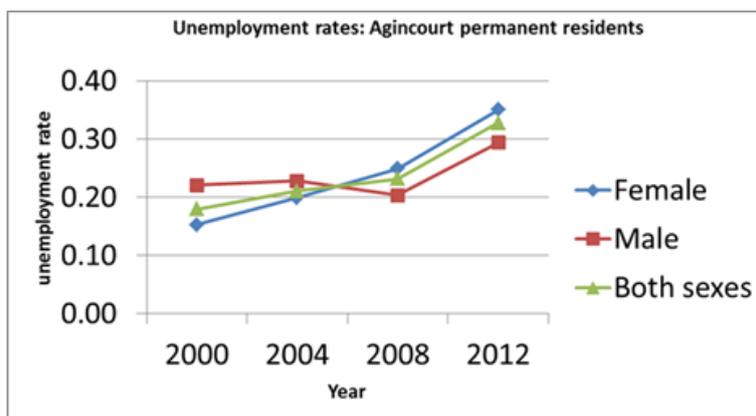


Figure 7: Unemployment rates for working age permanent residents in the Agincourt sub-district.

To link back to the national situation Figure 7 shows the unemployment rates for the full working age population of Agincourt permanent residents, which can be compared to the national figure because it is the de facto population definition. The trend in unemployment rate shows a monotonic increase for females from 2000 to 2012. For males the unemployment rate is stable until 2008 and then increases steeply, from 20% to 30%, between 2008 and 2012. The unemployment rate for both sexes in 2012 is 33%, which is about same as the figure reported nationally.

Discussion

The comparison of national census and HDSS data has value in sharpening the understanding of what is really going on in a population. The similarity of the age-structure validates the broad and representative national data obtained in the census as well as the longitudinal sub-district data provided by the HDSS.

A key finding is that young adults have grown in prominence in the age structure. This is evident in the national and the Mpumalanga HDSS datasets. The changing age structure is indirectly a consequence of health and demographic transition because in the pre-transition stage, women had higher levels of fertility that created the broad age band of contemporary young adults. The children born twenty years ago were born into families with more siblings than there are now. In addition, people are becoming healthier and living longer as part of the transition.

The second key finding of the study is the solid demographic evidence of the links between rural areas and metropolitan and secondary urban places through temporary migration. For the youth, temporary migration is a key strategy for gaining employment and is being used to achieve this end. The links between temporary migrant and the rural household imply remittances flow back to rural households and commitments exist for the migrant to remain part of the rural household. Migration has indeed been highlighted as a mechanism through which labour markets may become more efficient (Sankoh 2016).

A third important study finding is that the type of work conducted by youth in the Agincourt HDSS data is predominantly in unskilled labour sectors; the largest proportion of young men and young women are employed in this sector. A skilled work-force has yet to properly emerge, although there is some evidence of it in the female employment profile and the increased participation in mine work amongst younger men. This can be resolved with human capacity building programmes, which are the main focus required to gain more dividend from the changes in population age structure.

The fourth contribution of the study is the verification of nationally recorded high levels of youth unemployment for young men and women. At all working ages there is pronounced unemployment, but the main pressure is felt by the younger adult population, i.e. the new boon generation. A study of youth and barriers to employment cites lack of

skills, a lack of information on job opportunities and an overall lack of jobs as the main barriers (Wilkinson et al. 2016). Women in this study were perceived as more suitable for formal employment versus physical labour. The study concluded that in rural areas, there is a vital need to connect youth with nearby organisations providing vocational skills, increase formal sector employment opportunities, and promote financial literacy.

For rurally-based young woman of the Agincourt HDSS population, there is a steady increase in the personal aspiration to work and to earn a living, which has increased unemployment rates. 'Looking for work' is part of the definition of unemployment, which implies that the unemployment rates have increased in this segment like no other. Female permanent residents, where the employment is the lowest, have a period-on-period increase in the unemployment rate due to aspiration of these women to work. In the earlier years of the cohort, i.e. 2000, there were a larger proportion of women for whom the household respondent reported that they were not looking for work due to domestic duties, including child care, keeping house and cooking. Because they were not looking for work the unemployment rate was lower in this earlier period. In the later period, as the demographic transition might predict, lower fertility can be part of young women's growing aspiration to work instead of only being a parent.

With regards to an analysis of the demographic dividend, we need a measure to discriminate whether a population age-structure transition provides a demographic dividend or an emerging challenge. The HDSS together with the national census with its analysis of changes in labour patterns and types of jobs young people undertake may provide such a measure. The HDSS reports the labour status and aspiration to work for the working age population of a rural sub-district, including permanent residents and temporary migrants.

What does 'type of work' tell us about whether the emerging age-structure will be a dividend or missed opportunity? If more skilled work was on the increase it would seem to predict a demographic dividend. A striking feature in these data is the rise in unskilled labour as a type of work for youths in rural areas. These findings may forewarn us of a potential to miss the demographic opportunity. However, it is somewhat more positive that young women are aspiring to becoming employed and that more educated types of work are becoming available to young women. The challenge of youth unemployment necessitates the development of government policy and interventions that focus on youth and address ways to improve access to employment and skills development amongst the young (Oosthuizen 2013; 2014). At the same time, initiatives to grow the labour market in directions that better match the skills sets of those seeking employment opportunities are important (Oosthuizen 2013).

Conclusion

Potential limitations to the study arise from that fact that the data are collected from a defined geographic area in the rural northeast of Mpumalanga, South Africa, and it is not clear how generalisable the findings are to other settings. However, the comparability of the age-sex structure of the sub-district population with the national implies that the findings may be highly comparable with respect to the dynamics of migration, fertility and mortality. In addition, while this study's goal was to characterise migration and employment patterns of youth over time, the focus on population-level patterns may disguise heterogeneity within the sub-district population. In future research the Agincourt data can be used to further explore migration and employment patterns by sub-groups within the population. Also, research directed towards understanding employment challenges amongst youth in a range of South African contexts would be of value in deepening our collective understanding of the issues and potential opportunities for intervention.

A vital purpose of health and socio-demographic data at the national and sub-district level is planning and several of the themes covered in this paper provide important insights. Youth-friendly services are vitally needed, as is youth participation in planning such services. Migration must be made healthier and safer, since it is of vital importance in the current socio-political and household economy. We must strengthen education and skills development for both sexes, at all levels, and support the country's efforts to vastly improve labour force participation amongst the youth.

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