



Interaction of Unemployment, Socioeconomic Factors and Demographic Dividend in South Africa: Issues and Policy Options

Mpho Nkhumeleni¹, Nancy Stiegler¹, Ogujiuba Kanayo^{2*}

¹University of the Western Cape, South Africa, ²University of Mpumalanga, South Africa. *Email: kanayo.ogujiuba@ump.ac.za

Received: 13 June 2022

Accepted: 25 August 2022

DOI: <https://doi.org/10.32479/ijefi.13388>

ABSTRACT

Unemployment is a major barrier to achieving a successful demographic dividend in many countries, including South Africa. A shortage of skills and knowledge among the working-age population is one of the key issues. The objective of this article is to examine if there is a link between youth unemployment in South Africa and demographic indicators. This article examines the relationship between educational achievement and employment status among working-age South Africans. Secondary data was used, and desktop analysis was performed on the information gathered from the Quarterly Labour Force Survey of 2017 and 2019. Findings show a link between youth unemployment and demographic characteristics, as well as a link between educational attainment and work status in South Africa. According to our findings, when it comes to gender and employment possibilities, women have a harder time finding jobs than men in addition, being black or African makes it more challenging to find a job compared to other demographic groups. This suggests that more must be done in the labor market for South Africa's economy to grow. Youth labor force involvement must be increased in the future to reduce the number of discouraged job seekers. Government initiatives that promote labor market flexibility should be implemented.

Keywords: Demographic, Dividend, Employment, Education

JEL Classifications: A12, E21, E24, J11, J18

1. INTRODUCTION

The demographic dividend [DD] refers to a country's ability to achieve significant economic growth when its dependency ratio is low, or when the proportion of its working-age population outnumbers the proportion of unemployed people, such as children and the elderly (UNFPA, 2016). It also refers to a country's ability to achieve rapid economic growth when its dependence ratio is low, or when the proportion of its working-age population is greater than the proportion dependent on others. The relationship between a country's demographic composition and its economic growth potential is the focus of the DD (STATS SA, 2017). The "demographic transition," which is a shift from high fertility and mortality to low fertility and mortality, is one of the population trends linked with the demographic dividend. To achieve a

successful demographic divide (DD), there must be a low dependence ratio (where there are significantly more individuals of working age who can sustain the young and old of the population) (Esther, 2013). DD implies that the proportion of persons in the working-age group (15-64) is larger than the proportion of people in the age categories below 15 and above 64 years, according to this definition (Statistics SA, 2017). Furthermore, a successful demographic dividend is not guaranteed by a sizable share of the population being of working age. For DD to be effective, several requirements must be satisfied. This does not imply that the demographic dividend will succeed.

Through the early stages of demographic transition, the African continent is progressing more slowly than other regions. Regions that struggled to make significant progress throughout the

transition often had to deal with high poverty and disease loads. This is the case because demographic patterns are characteristic of the early stages of the demographic transition when the capacity to alleviate poverty and enhance lives is operationally limited (Cilliers, 2018). Nonetheless, the African Union is heading toward a more prosperous future in which all its citizens, young and old, male and female, rural and urban, of all creeds and backgrounds, can achieve their full potential and feel pleased and proud of their continent. People are healthy, well-educated, and live in affluent and developed economies in the future. This is, indeed, a progressive march toward the “Africa we want,” as envisioned in Agenda 2063. When a country’s working-age population (between 15 and 64 years old) exceeds its dependant population, a window of opportunity [demographic dividend] arises (below 15 and over 64 years of age). This is because a larger labor force compared to the number of dependent relatives has the potential to improve monetary production, investments, and savings (children and the elderly). However, seizing the opportunities will ensure that employee productivity improves as a result of increased nutrition and education, as well as a range of other essential enablers, is critical (Cilliers, 2018). According to, most researchers, a favorable “demographic window” exists when children aged 0-14 make up <35% of the population and those aged 60, make up <15%. The window unwraps when the average age is between 25 and 40 years. A country should also have a high proportion of persons in the prime working-age range of 25-55 years old, as well as labor force growth rates that correspond to job availability. To create a demographic opening of opportunity, a country’s fertility rate must be about 2.8 children per woman or below in most circumstances. Cincotta found that when there is no population shift owing to immigration or an epidemic that changes the age structure, the fertility rate converts to median age of 25.5 years. Replacement fertility rates are commonly calculated at 2.1 children per woman; below this level, populations begin to decline (Cilliers, 2018).

Nonetheless, Africa’s usual economic development rates are too sluggish, and population growth rates are too high, making poverty reduction and increased average income levels unfeasible (Cilliers, 2018). When enduring negative and slow growth in the late 1980s and early 1990s, South Africa’s economy began to gradually improve after the country transitioned to a more inclusive and democratic society in 1994. A robust macroeconomic organization and strong institutional institutions aided this increased progress. Since then, the economy has risen at an average yearly pace of around 3% (Bhorat, 2018). Significant welfare gains, such as greater access to social services, housing, and basic infrastructure, as well as a moderate reduction in extreme poverty, accompanied the growth performance (Bhorat, 2018). However, the poverty headcount ratio has climbed from around 31% in 1995 to around 60% presently, according to STATS SA (STATSA, 2018). The upper bound level of a freshly rebased national poverty criteria is used to determine this ratio. It is certainly high, even though the national lower bound headcount poverty ratio is predicted to be 38% (STATSSA, 2018). Despite a decrease in acute poverty, the national average poverty line continues to grow. Furthermore, society’s unequal nature causes a lack of growth, which results in poverty reduction. The exceptionally high degree of income

inequality, which has a Gini score of 0.63, is perhaps the most significant factor impeding economic growth’s ability to alleviate poverty. Furthermore, the recent Covid-19 has worsened the statistics (Nancy et al., 2020) The uniqueness of South Africa’s financial growth path is emphasized even further by a jobless rate of more than 35% (STATSSA, 2019), with a medium value of more than 28% (STATSSA, 2019) over the last two decades and a low of 17% in 1995. In the first quarter of 2018, 38.2% of young people in South Africa were unemployed, according to Statistics South Africa. (South African Statistics, 2018).

As a result, most working-age individuals are still unemployed and so unable to contribute to economic growth. Favorable labor markets, economic growth, decent governance, education and training, health care, family planning, and gender equity are all examples of socioeconomic conditions (StatsSA, 2017). If these circumstances are well-established, unemployment will fall, and more labor resources will be available for production (Ogujiuba et al., 2012). This article focuses on the nexus between socioeconomic conditions and demographic dividends. It examines the South African demographic parameters such as gender, population group, marital status, geographic type, and province of residence, considering the high unemployment rate.

2. REVIEW OF RELATED LITERATURE

2.1. Demographic Bonus

2.1.1. Savings

Saving for growth improves a country’s investment and growth prospects, which are aided by demographic change. Both the young and the elderly spend more than they earn or produce, whereas working-age adults have a higher level of economic productivity as well as a higher level of savings (Higgins, 1998; Higgins and Williamson, 1997; Kelley and Schmidt, 1996; Lee, Mason, and Miller, 2000; Mason, 1988). Additionally, adults aged 40-65 have a higher predisposition for saving but are less likely to invest in their children’s education, implying that the need to save for retirement is becoming more essential. As a large proportion of baby boomers hit their forties, national savings tend to rise. Motives to pursue specific hobbies may enhance the tendency of young baby boomers to amass.

If a society fully leverages the demographic dividend, it is more likely to regenerate (Deaton and Paxson, 1994). According to many researchers, the reduction in the savings ratio among adults in their early 30s is linked to the consumption needs of those with young families. (Hoover and Cole, 1958). Several studies have investigated the relationship between age structure and savings. Kelley and Schmidt (1996); Higgins and Williamson (1997); and Bloom, Canning, and Graham (2002). Nonetheless, even if a dual-employee family’s expanded assets make it very easy to make monetary care available, an extended family would likely take care of its elderly members less than a nuclear-powered family with both parents working. Similarly, as seen in East Asia (Krugman, 1994; Young, 1994; Asian Development Bank, 1997, pp. 141–197; Higgins, 1998; Kelley and Schmidt, 1996), the required capital for growth can be obtained through personal domestic savings.

2.1.2. Human capital

The demographic shift has a huge impact on human capital investments. Despite being the least obvious, their impacts are the most significant and widespread. Beginning with variations in death rates, this shift in demographic dynamics leads to a population that lives longer and is healthier. Longer life lengths result in significant changes in people's lifestyles. The People are encouraged to become valuable assets thanks to the Demographic Dividend. It is well acknowledged that income and education have a positive relationship. A worker with six years of formal education in Latin America is expected to earn 50% more than a worker with no formal education. Earnings increased by 120% for those who complete ten years of secondary school and by over 200% for those who complete seventeen years of secondary school (i.e., higher education) (UNDP, 2007). Parents are more likely to opt to educate their children to a higher level as they live longer. As a result, healthier children outperform their less healthy peers in terms of intellectual growth per year of schooling. Parents also understand that having fewer children allows them to devote more time and money to each child throughout their working careers. This educational investment is valuable because it helps the labor force to become more dynamic, resulting in higher earnings and a higher standard of living. Males and females are thus more likely to enter the workforce later, partly because of their longer education, but they are also more likely to be innovative once they do. Sevilla, Bloom, and Canning (2000; Roskam, 1996). The foregoing mechanisms are heavily influenced by the policy environment. Adults will only be productive if the labor market is flexible enough to accommodate their growth and macroeconomic policies that stimulate, and support investment is in place. People will only save if they have access to appropriate savings methods and have faith in their local financial institutions. Finally, because of the demographic transition, people are more willing to invest in their own and their children's health and education, resulting in huge economic rewards, particularly in today's increasingly sophisticated economies (Bloom et al., 2000).

2.1.3. Labor supply

Demographic change has a two-fold impact on labor materials. First, the ongoing and inescapable adulthood of the baby-boom generation has a mechanical consequence (Bloom, Canning, and Sevilla, 2000). People in this age range (between 15 and 64 years old) are particularly likely to work, lowering the ratio of dependent to non-dependent relatives. Labor force participation rates by age group have a significant impact in various parts of the world. Even when you're at the height of your job, this kind of effect lasts a long time (20-54). As a result, if the labor market can attract more workers while also improving per capita production, the number of persons seeking work (labor allocation) rises (Bloom et al., 2000). Because more women are expected to enter the workforce, the demographic shift has an impact on lower family sizes. In fully matured females, however, this effect is accentuated (Teitelbaum, 1985). Furthermore, a fall in the labor force size does not always imply a reduction in the population. This is due to increases in female labor force participation, retirement age, and net immigration, which is more selective of working-age people. However, in Japan (21%) and Italy (23%), the gender difference in labor force participation is bigger than in most high-income

nations, including France and the United Kingdom (12 and 14%, respectively) (World Bank, 2001; World Development Indicators; data for 1999). Furthermore, when compared to life expectancy, retirement ages have been objectively slow. Between 1965 and 2000, Italy's life expectancy went from 71 to 79 years, whereas Japan's increased from 71 to 81 years. Italy, on the other hand, has a retirement age of 62 for men and 56 for women (up from 61 for men and 56 for women over the same period), while Japan has a retirement age of 65. Raising the retirement age could help the workforce cope with the effects of an aging population (McCarthy, 2004).

2.2. Socioeconomic Characteristics and Demographic Dividend

2.2.1. Labor market/employment

South Africa's and Africa's age structures have developed because of lower fertility and mortality rates. As a result, the number of people of working age has increased. It also reduced dependency, which could contribute to faster economic growth. South Africa's fertility rate dropped from 2.5 children per woman in 2015 to 2.4 in 2018. STATSSA (STATSA, 2018). African youth, on the other hand, account for more than 60% of African unemployment and makeup 37% of working-age Africans. This shows that a larger proportion of this group is not contributing to the economy. The rate of economic growth is proportional to the rate of employment. This implies that a high employment rate aids economic growth. When more individuals are working, it means they can produce more (Lister, 2019). One of the causes of youth unemployment is a lack of skills and experience. As a result, many graduates are unemployed. According to statistics from the last quarter of 2018, 1.7% of young people in South Africa were graduates, while 6.3% of the unemployed had some form of tertiary education (STATSSA, 2018).

2.2.2. Education

The population structure transforms when working-age populations outnumber non-working-age populations, resulting in rapid economic growth, which is important for reaping a demographic dividend. A considerable demographic dividend can be received if education levels are high, as more working-age persons with higher education will be available (Lutz, 2019). Two of the most important variables that define a youth's or young adult's ability to participate in the economy are education and training. Adolescent education would provide them with some of the necessary information, skills, and confidence to pursue a career in the labor market. Policymakers must encourage young women to participate in educational and training efforts (OECD, 2012). Educational skills are especially important when seeking a job because competent persons provide a high rate of output. Education is also important for future generations since educated parents can inspire their children to do the same when they are older. This will result in a more educated future generation and more labor market involvement, both of which are beneficial to the economy.

2.2.3. Youth unemployment and demographic characteristics

According to StatisticsSA, South Africa's unemployment rate fell to 26.7% in the fourth quarter of last year, down from 27.7%

the previous quarter. At the fourth-quarter labor force findings in Pretoria, analyst general Risenga Maluleke noted, “This demonstrates that we are 12.7% behind the National Development Plan (NDP) goal for 2020.” For 2020, the NDP set a target of 14%. In the fourth quarter, 16.2 million people were employed, while 5.9 million were unemployed, according to the numbers. More than 66% of unemployed persons had been out of work for a year or more, according to StatisticsSA. Even though South Africa had 37.5 million persons of working age between the ages of 15 and 64, the study argues that 15.5 million were not economically active (Mhlanga, 2018).

Females and teenagers were the ones who were most affected. In contrast to 2008, there were more men (51.4%) unemployed in 2018. Young people are more affected by long-term unemployment than adults are. Despite a 7.4% decline in youth long-term unemployment from 2008 to 2018, young people (15–34 years) made up over 66% of long-term unemployed people in 2018. (STATSSA, 2018). According to Stats SA, job shares for men with less than matric education were greater than those for females in the same cohort between 2008 and 2015, regardless of age (2015). Between 2008 and 2015, the share of men and women with less than a matriculation education declined by 5.1 and 6.4%, respectively. In 2015, 49.1% of employed males and 43.6% of employed women both had less than a matric education. In both 2008 and 2015, women with matric, other tertiary, and tertiary education had higher employment shares than men in the same educational categories. This shows how important education is in minimizing adolescent unemployment. This also shows that gender inequality exists, which is a socioeconomic condition that must be addressed if South Africa is to achieve a successful demographic dividend. The demographic dividend will not be achieved until girls with the same level of education are offered equal employment chances as boys. Regardless of their educational status, females are affected. With 22 and 39%, respectively, white women and Indian men finished second and third (Statistics South Africa, 2015). The unemployment rate among the youth was higher regardless of educational level, but those with less than matric had a far harder time obtaining a job. Furthermore, 3.1 million of the 10.3 million young people aged 15 to 24 were not in employment, education, or training (NEET). (Mhlanga, 2018). This indicates that only one out of every seven persons (14%) was unemployed or underemployed, the lowest rate of unemployment or underemployment among all population groups and genders. With 22 and 39%, respectively, white women and Indian males came in second and third (Statistics South Africa, 2015). Youth unemployment was higher regardless of educational level, but those with less than matric were bound to have severe difficulties finding work. Furthermore, of the 10.3 million young people aged 15–24, 3.1 million were not in employment, education, or training (NEET) (Mhlanga, 2018).

3. DATA AND METHODS

Data from the quarterly labor force survey 2017; 2019 and the community household survey 2016, as well as secondary data from the South African statistics website, were used in this study. The focus in South Africa is on the working-age range (15–65 years),

as opposed to dependents, who are those under the age of 15 and above 65 (dependency ratio). Working-age South Africans (15–65 years) are marked against dependents (those under the age of 15 and those above 65 years) (dependency ratio). South Africa’s youth and unemployment, as well as fertility and death rates, are all factors in generating a demographic dividend, according to the study. This study used a cross-sectional design since the data was collected at a particular point in time. This investigation relied on secondary data. The study questionnaire contained questions about marital status, language, demographic group, education, and other topics. Both univariate and bivariate approaches were used to examine the data, using the SPSS software. In bivariate analysis, cross-tabulation was used to explore percentage trends in two-way tables.

4. FINDINGS AND DISCUSSION

4.1. Education Level

Table 1 above shows that in all of South Africa’s provinces, girls had higher levels of schooling than boys. Gauteng had the highest percentage of female matriculants (29.3%), followed by KwaZulu Natal (28%) and the Western Cape and Mpumalanga (both 25%), the Free State (23.3%), the Northwest (21.3%), the Northern Cape (19.3%), Limpopo (18%), and the Eastern Cape (18%). (16%). Even though women have more education than males, disparities exist amongst provinces. Gauteng has the greatest percentage of male Matric holders (26.5%), followed by KwaZulu Natal (22.9%) and the Western Cape (23.4%), as well as 23.3% in the Free State, 21.3% in Mpumalanga, 20.3% in the Northwest, 19.2% in the Northern Cape, and 15.4% in the Northern Cape. Limpopo had 13.6%, while the Eastern Cape had 15.4%.

4.1.1. Grade 9

Females in grade 9 are between the ages of 16 and 17. In comparison to other provinces (41.3%), Gauteng has a higher proportion of female grade 9 holders (47%) than males (41.3%). (41.3%). Gauteng has the highest proportion of female grade 9 holders (47%), followed by the Western Cape (43%), KZN (42%), Limpopo (41%), Mpumalanga provinces (40.3%), the Free State (40.3%), the North West (43%), the Eastern Cape (37%), and the Northern Cape (37%). (36%). In comparison to other provinces in the country, Gauteng has the greatest percentage of boys who have passed grade nine (41.3%), followed by the Western Cape (37.8%), KZN (37.7%), Limpopo (37.5%), Mpumalanga (34.7%), Free State (33.8%), North West (32.5%), and the Free State (33.8%). The Northern Cape had the greatest percentage (31.8%), while the Western Cape had the lowest (30.2%).

4.1.2. Completed Education: Aged 24 Years

Female adolescents who finished their education at the age of 24 are older than male adolescents in all of South Africa’s provinces. Gauteng, KwaZulu Natal, and Limpopo have the highest percentages of around 2%, followed by the Free State (1.4%), Eastern Cape (1.2%), and Mpumalanga (1.2%), North West and Western Cape at 1%, and Northern Cape at 1%. (0.7%). In all of South Africa’s provinces, male adolescents who finished their education at the age of 24 are younger than female adolescents. Gauteng has the highest proportion of educated males (0.9%),

followed by KwaZulu Natal (0.8%), Limpopo (0.8%), Free State (0.6%), Eastern Cape (0.6%), Mpumalanga (0.6%), Northwest (0.5%), Western Cape (0.6%), and Northern Cape (0.6%). (0.2%).

4.1.3. Any Tertiary

There are more educated women than men in all of South Africa's postsecondary institutions. Gauteng has the largest percentage of female students at tertiary institutions (5%), followed by the Western Cape (4%), Free State (3.7%), Limpopo (3.2%), North West province (2.9%), Eastern Cape (2.8%), KwaZulu Natal (2.7%), Mpumalanga (2.3%), and Northern Cape province (2.3%). (2.1%). In South Africa's higher education institutions, males outweigh females. Gauteng has the greatest percentage of males enrolled in tertiary institutions (4%), followed by the Western Cape (3%), the Free State (2.7%), Limpopo (2.5%), Northwest (2%), KwaZulu Natal (1.9%), Mpumalanga (1.8%), Eastern Cape (1.7%), and Northern Cape (1.7%). (1.5%).

4.2. Employment Status and Demographic Characteristics

4.2.1. Youth (15-34 years)

Table 2 above shows the Youth data. Across all population groups, 41.72% of youngsters (15-34 years old) were not economically active, 29.48% were employed, 19.35% were jobless, and 9.45% were discouraged, job seekers. White youth made up 50.18% of

all employed youth, followed by Indian/Asian youth (45.94%), Colored young (41.23), and black/African youth (41.23). (41.23). (26.53%). Unemployment rates were highest among Black/African youth (20.63%), followed by Coloured (18.80%), Indian/Asian (6.63%), and White (6.63%). (6.63%). (5.74%). Black/African/Africans made up 10.56% of discouraged job seekers, followed by Colored (4.99%), Indian/Asian (1.83%), and White (1.83%) (9.45%). Other non-economically engaged youth included 44.59% of Indian/Asian children, 42.27% of black/African children, 42.25% of white children, and 42.25% of colored children.

4.2.2. Adults (35-64 years)

Adults aged 35-64 reported being employed 57.36% of the time, unemployed 24.01% of the time, jobless 12.63% of the time, and discouraged job seekers 5.99% of the time. Whites made up 70.34% of employed youth, followed by Indian/Asian and colored youth (56.34%), and black/African youth (56.34%). (56.34%). Unemployment among young people was highest among colored (9.71%), Indian/Asian (6.73%), and white (6.73%) people (3.59%). 7.18% of Black/African/African job searchers felt discouraged, with color (3.02%), Indian/Asian (1.83%), and white (1.30%) following closely behind. 34.83% of adults were Indian or Asian, 24.76% were white, 30.32% were colored, and 22.65% were black or African American. Figure 1: Employment Status of 15-64-Year-Olds by Population Group per 100 Active People.

Table 1: Education levels across Provinces by Age and Gender amongst the Youth

Provinces	Gender	Education			
		Matric equivalent	16-17 Comp Grade 9	Aged 24 Educ (completed)	Any tertiary
EC	Females	15.7	36.8	1.2	2.8
	Males	13.6	30.2	0.6	1.7
FS	Females	23.3	38.9	1.4	3.7
	Males	21.6	33.8	0.6	2.7
GA	Females	29.3	46.5	1.9	5
	Males	26.5	41.3	0.9	4
KZN	Females	27.7	41.9	1.8	2.7
	Males	22.9	37.7	0.8	1.9
LIM	Females	17.6	40.9	1.7	3.2
	Males	15.4	37.5	0.8	2.5
MP	Females	24.6	40.3	1.2	2.3
	Males	21.3	34.7	0.6	1.8
NW	Females	21.3	37.5	1	2.9
	Males	20.3	32.5	0.5	2
NC	Females	19.3	35.5	0.7	2.1
	Males	19.2	31.8	0.2	1.5
WC	Females	25	42.6	1	4
	Males	23.4	37.8	0.5	3

Table 2: Proportions of employment status across age groups according to population group

Employment Status	Black/African	Coloured	Indian/Asian	White	All population
Youth (15-34 years)					
Employed	26,53	41,23	45,94	50,18	29,48
Unemployed	20,63	18,80	6,63	5,74	19,35
Discouraged Job Seeker	10,56	4,99	2,84	1,83	9,45
Other not Economically Active	42,27	34,98	44,59	42,25	41,72
Total	100	100	100	100	100
Youth (35-64 years)					
Employed	55,72	56,94	56,61	70,34	57,36
Unemployed	14,46	9,71	6,73	3,59	12,63
Discouraged Job Seeker	7,18	3,02	1,83	1,30	5,99
Other not Economically Active	22,65	30,32	34,83	24,76	24,01

As shown in Figure 1, unemployment was 17.87%, while 9.05% had given up looking for work. Colored people made up 49.34% of the workforce, 32.58% of the unemployed, 14.11% of the unemployed, and 3.98% of job searchers who were discouraged. Indian and Asian individuals made up 51.93% of the workforce, with 39.11% unemployment, 6.68% unemployed, and 2.28% discouraged job seekers. White individuals made up 62.64% of the workforce, 31.44% of the unemployed, 4.41% of the unemployed, and 1.50% of job seekers who were discouraged.

Figure 2 above shows the employment status of persons between the ages of 15 and 64. Between the ages of 15 and 64, 62.51% of married persons were employed, 23.22% were unemployed, 9.45% were unemployed, and 4.82% were discouraged, job seekers. The employment rate was 56.53% for married couples, 19.38% for unemployed couples, 16.72% for other non-economically active couples, and 7.37% for discouraged job seekers. Widows and widowers were 47.88% unemployed, 6.88% employed, and 4.73% discouraged job seekers. 60.08% of divorced or separated people worked, 24.49% did not work, 10.19% were unemployed, and 5.24% were job seekers who were discouraged. Individuals who had never married were unemployed 40.12% of the time; 31% were employed, 19.39% were unemployed, and 9.49% were discouraged, job seekers.

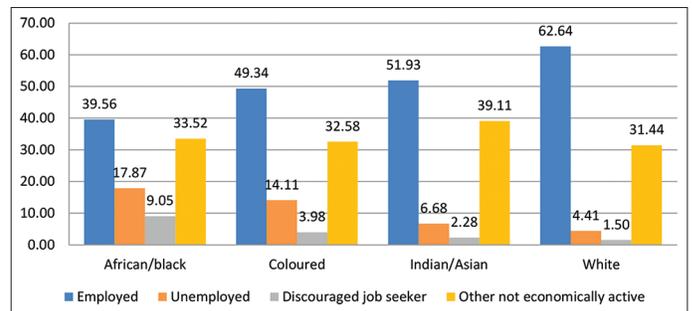
Table 3 above shows that those employed (42.56%) had the greatest percentage across all provinces, followed by others not economically engaged (33.42%), jobless (16.20%), and discouraged job seekers (7.83%). WC had the largest percentage of employed people at 54.55%, followed by GP (50.07%), FS (42.17%), MP (41.20%), NC (40.13%), NW (37.48%), LIM (37.19%), KZN (36.68%), and EC (36.68%) (30.57%). MP (21.38%), GP (20.83%), EC (18.27%), NC (14.08%), NW (13.45%), WC (13.21%), KZN (12.31%), and LIM (12.31%) had the highest rate of unemployed persons (8.43%). NW (13.09%), KZN (11.64%), NC (10.54%), EC (8.90%), MP (6.31%), and GP had the highest rate of discouraged job seekers (16.51%) (6.31% percent). (4.01). With 42.26%, EC had the highest percentage of non-economically active persons, followed by KZN (39.37), LIM (37.87%), NW (35.99%), NC (35.25%), FS (31.19), MP (31.12%), WC (30.68%), and GP (25.54% percent).

Figure 3 above shows a summary of the employment status based on geographical area. In cities, 48.19% of people were employed, 29.47% were engaged in various capacities, 17.29% were unemployed, and 5.05% were discouraged, job seekers. Traditional/tribal villages had 43.79% of residents who were not economically active. There were 27.04% employed, 14.69% discouraged job seekers, and 14.48% unemployed.

Farmworkers accounted for 85.50% of the workforce, with 25.97% unemployment, 9.79% unemployed, and 5.74% discouraged job seekers.

According to Table 4 above, for those with no formal education, 53.80% of adults aged 15-64 were employed, 30.5% were unemployed, 8.16% were discouraged job seekers, and 7.52% were unemployed. Jobless people with less than a high school diploma made up 42.86%, 34.63% of employed people, 12.79% of unemployed people, and 9.72% of discouraged job seekers.

Figure 1: Employment Status



Source: Authors' calculations

Figure 2: Employment status of persons aged 15-64 years according to marital status per 100 active persons

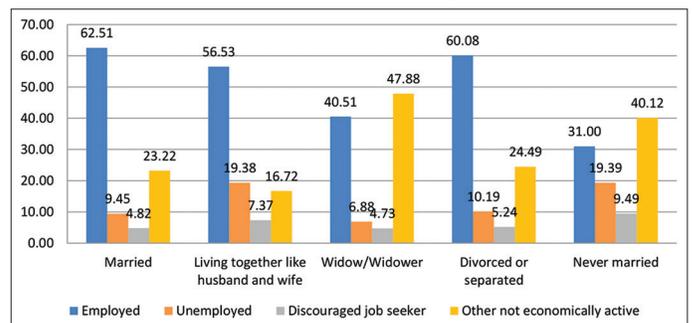


Figure 3: Employment status of persons aged 15-64 years according to geographical area per 100 active persons

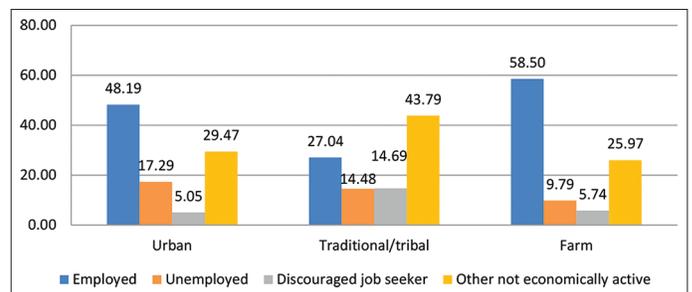


Table 3: Employment Status of People aged 15-64 Years According to Province Per 100 Active People

Employment status	WC	EC	NC	FS	KZN	NW	GP	MP	LIM	All provinces
Employed	54,55	30,57	40,13	42,17	36,68	37,48	50,07	41,20	37,19	42,56
Unemployed	13,21	18,27	14,08	22,62	12,31	13,45	20,38	21,38	8,43	16,20
Discouraged Job Seeker	1,57	8,90	10,54	4,02	11,64	13,09	4,01	6,31	16,51	7,83
Other not Economically active	30,68	42,26	35,25	31,19	39,37	35,99	25,54	31,12	37,87	33,42
Total	100	100	100	100	100	100	100	100	100	100

Unemployment among those who completed primary education was 41.60%, with 36.46% working, 13.28% unemployed, and 8.66% discouraged job seekers. There were 41.15% unemployed, 32.57% employed, 17.15% unemployed, and 9.13% discouraged job seekers among people who did not complete high school. 47.30% of high school graduates were employed, 26.30% were unemployed, 19.03% were job seekers, and 7.37% were unemployed. There were 74.50% employed, 11.53% jobless, 10.90% not economically involved, and 3.03% discouraged job seekers. Furthermore, 51.19% of those surveyed were employed, 32.87% were unemployed, 9.36% were unemployed, and 6.58% were discouraged, job seekers.

4.2.3. Gender and economic opportunities

4.2.3.1. Unemployment

As shown in Table 5 above, females in South Africa are unemployed at a higher rate than males and face a greater health risk (Fadila et al., 2012; Fadila et al., 2013). Gauteng has the highest female unemployment rate (12.4%), followed by the Free State (10.3%), the North West (9.9%), the Western Cape (9.9%), Mpumalanga (9.8%), KwaZulu Natal (8.5%), Limpopo (8%), and the Eastern Cape (8%). (7.3%). Although men are employed at a lower rate than women, there are differences between the provinces. Gauteng has the highest male unemployment rate (10.9%), followed by the Western Cape (9.1%), 8.9% in both the Free State and North West provinces, 8.2% in Mpumalanga, 8.1% in the North Cape, 7.6% in KwaZulu Natal, 7.1% in the Eastern Cape, and 6.7% in Limpopo.

4.2.3.2. Not employed/schooling

Figure 4 above shows gender and unemployment in South Africa. Females who are unemployed yet educated outweigh males in South Africa. The Northern Cape has the highest percentage of unemployed females in school (21.4%), followed by the Northern Cape (20.7%), Free State (19.9%), Mpumalanga (18.5%), KwaZulu Natal (18%), Western Cape (17.5%), Eastern Cape and Gauteng (17.4% each), and finally Limpopo (17.4%). (17.4% percent). Males, who make up 16% of the population in South Africa, are more likely than females to be in school and unemployed. The Northern Cape has the highest proportion of unemployed males in school (16%), followed by the North West (15.9%), Eastern Cape (15.5%), Western Cape (15.1%), Free State (14.5%), KwaZulu Natal (14.2%), Mpumalanga (13.5%), and Limpopo (13.5%). (13.5% percent). 11.5 percentile point.

Figure 4: Gender and unemployment

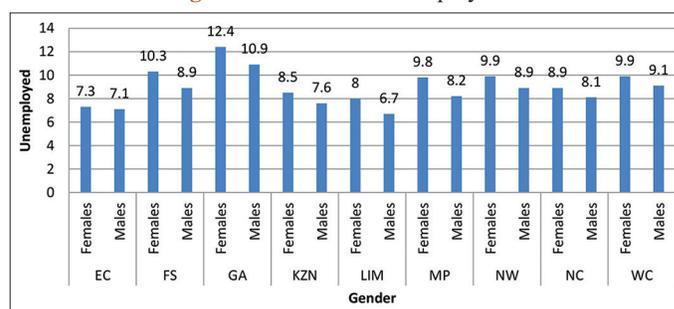


Table 4: Employment status of persons aged 15-64 years according to education level per 1000 persons

Employment status	No schooling	Less than primary completed	Primary completed	Secondary not completed	Secondary completed	Tertiary	Other
Employed	30,51	34,63	36,46	32,57	47,3	74,5	51,19
Unemployed	8,16	12,79	13,28	17,15	19,03	11,53	9,36
Discouraged Job Seeker	7,52	9,72	8,66	9,13	7,37	3,03	6,58
Other not Economically active	53,8	42,86	41,6	41,15	26,3	10,9	32,87
Total	100	100	100	100	100	100	100

Table 5: Cross-tabulation of gender and economic opportunities amongst SA youths

Provinces	Gender	Economic Opportunities			
		Unemployment	Not in Employment/Education	Formal Employment	Informal Employment
EC	Females	7.3	17.4	32.6	6.1
	Males	7.1	15.5	38.4	9.8
FS	Females	10.3	19.9	27	5
	Males	8.9	14.5	41.1	11.4
GA	Females	12.4	17.4	33.8	3.4
	Males	10.9	14.1	43.8	6.4
KZN	Females	8.5	18	35.5	4.9
	Males	7.6	14.2	41.4	7.7
LIM	Females	8	16	25.6	5.9
	Males	6.7	11.5	38.5	14.2
MP	Females	9.8	18.5	27.7	5.1
	Males	8.2	13.5	42.1	12.2
NW	Females	9.9	21.4	24.2	4.4
	Males	8.9	15.9	42.7	12.9
NC	Females	8.9	20.7	29	5.2
	Males	8.1	16	42.2	11.7
WC	Females	9.9	17.5	37.2	4.8
	Males	9.1	15.1	42.7	7.2

4.2.3.3. Formal employment

Females are less likely than males to have worked in more than one province as per Figure 5 above. The Western Cape has the highest percentage of formally employed females (37.2%), followed by KwaZulu-Natal (35.8%), Gauteng (33.8%), Eastern Cape (32.6%), Northern Cape (29%), Mpumalanga (27.7%), Free State (27.7%), Limpopo (25.6%), and Northwest province (25.6%). (25.6% percent). 24.2% In South Africa, males are more likely than females to have worked in a formal setting. The Western Cape (42.7%), Mpumalanga (42.1%), KwaZulu Natal (41.4%), Free State (41.1%), Limpopo (38.5%), and Eastern Cape (38.5%) have the greatest percentage of formally employed females (38.4%).

4.2.3.4. Informal employment

In South Africa, women are less likely than men to work in the informal economy as per Figure 6 above. The provinces with the largest percentages of informally employed women are Limpopo (5.9%), Northern Cape (5.2%), Mpumalanga (5.1%), Free State (5%), KwaZulu Natal (4.9%), Western Cape (4.2%), North West province (4.4%), and Gauteng (4.4%). Males are more likely to work in the informal economy than females. Limpopo has the greatest percentage of males in informal employment (14.2%), followed by the North West province (12.9%), Mpumalanga (12.2%), Northern Cape (11.7%), Free State (11.4%), Eastern Cape (9.8%), KwaZulu Natal (7.7%), Western Cape (7.2%), and Gauteng (7.2%). (7.2%). 6.4 percentage points 7.2%.

4.2.3.5. Provinces

Females (7.3%) outnumbered males in the Eastern Cape (7.1%). Furthermore, there are more unemployed girls (17.4%) in school than unemployed boys (15.5%). In the nominally employed sector, males (38.4%) outweigh females (32.6%), whereas, in the jobless sector, males (9.8%) outnumber females (6.1%). Females

outnumber males in the unemployment sector in the Free State, with more ladies (10.3%) unemployed than males (8.9%), and more females (19.9%) unemployed and enrolled in school than boys (14.5%). Males outnumber females in both the informal and formal sectors, with 41.1% of men versus 27% of women in the informal sector and 11.4% of men versus 0.5% of women in the formal sector. Unemployed females (12.4%) outweigh unemployed males (10.9%) in Gauteng province, and unemployed females (17.4%) outnumber males (14.1%) who are enrolled in school. In both the formal (33.8% vs. 43.8%) and informal (males' 6.4% vs. females') sectors, males outweigh females. In KwaZulu Natal, females outweigh males in the unemployment sector, with more females (8.5%) than males (7.6%) unemployed and more females (18%) than males (14.2%) unemployed and enrolled in school. Men outnumber females in both the informal and formal sectors, with 41.4% of males compared to 35.5% of females in the informal sector and 7.7% of males compared to 4.9% of girls in the informal sector.

In Limpopo province, unemployed females (8%) exceed unemployed males (6.7%), with more ladies (16%) than males (11%) unemployed and enrolled in school. In both the formal (38.5% vs. 25.6%) and informal (males' 14.2% vs. 5.9% females) sectors, males outweigh females. Unemployed ladies (9.8%) outweigh unemployed males (8.2%) in Mpumalanga province, where females (18.5%) surpass males (13.5%) who are unemployed and enrolled in school. In both the formal (42.1% vs. 27.7%) and informal (males 12.2% vs. 5.1% females) sectors, men outnumber women. In the Northwest province, unemployed women (9.9%) outnumber unemployed men (8.9%), whereas there are more females (21.4%) than males (15.9%) who are unemployed and enrolled in school. In both the formal (42.7% vs. 24.2%) and informal (12.9% vs. 4.4%) sectors, men outweigh women. Unemployed females (8.9%) outnumber unemployed males (8.1%) in the Northern Cape province, with more females (20.7%) than males (16%) unemployed and enrolled in school. Men also outnumber women in both the formal and informal sectors (42.2% vs. 29%) (males 11.7% vs. 5.2% females). Unemployed females (12.4%) outnumber unemployed males (10.9%) in Mpumalanga, with more girls (17.5%) out of school than boys (15.1%). In both the formal (42.7% vs. 37.2% females) and informal (7.2 vs. 4.8%) sectors, males outweigh females. Although females attend school in greater numbers, males are employed in greater numbers in all of South Africa's provinces. Furthermore, the majority of girls are still in school or unemployed, compared to males. Females employed in the informal sector outweigh males in both the formal and informal sectors of South Africa. This scenario impacts negatively the dynamics of consumption and production (Ogugiuba et. al. 2012). As a result, most young women focus on other duties after high school rather than using their skills, leading to a decline in production.

Governments must continue to play a key role in creating an environment that supports excellent health and education services. This is required to maximize the situation's potential. (Bloom et al., 2003). When compared to European countries, Africa is the world's most unequal continent in terms of income and wealth. The Gini table from the World Bank shows a range of

Figure 5: Not in employment of schooling

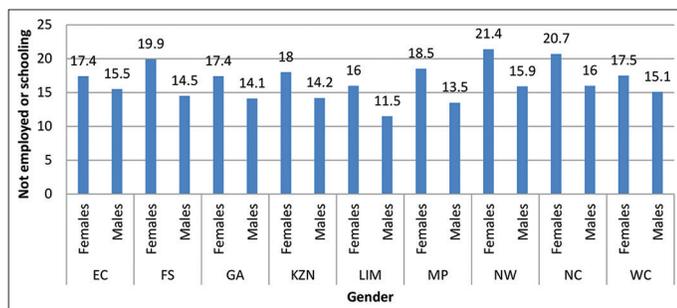
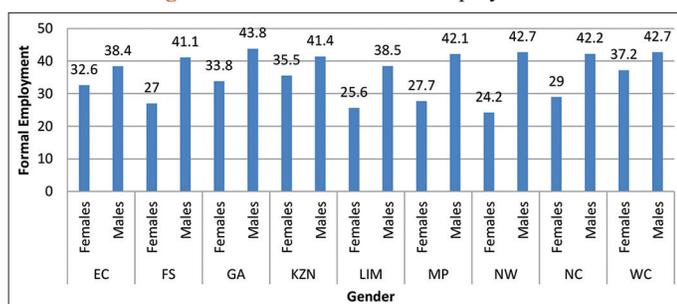


Figure 6: Gender and formal employment



scores from around 25 (as seen in several European countries) to 63 (as given in South Africa) (Simkins, 2019). As a result, many disgruntled job seekers are underpaid or discriminated against during their hunt. This highlights the problem of corruption in African countries. Young South Africans, for example, are growing up in an era in which nearly every leader and politician is corrupt (McKenzie, 2017). The jobless rate in 2019 jumped from 27.1% in 2018 to 27.6% in the first quarter, according to Stats SA. According to the data, 55.2% of South African youngsters are unemployed (StatisticSouthAfrica, 2018). However, because it is difficult for young people to start a farm or business without finance, the government must make business financing more accessible to them. More work options open up for job seekers as more people start their firms. Based on the success of Mauritius Employment and Entrepreneurship projects aimed at reducing youth unemployment through increased investment in divisions with job-multiplier effects and the development of internships, one of the focus areas were expanding access to credit based on national and local youth assets and government procurement for young businesspeople (UNOSSA, 2017).

4.3. Stylized facts: unemployment in South Africa

According to the data on youth unemployment in South Africa, being young and black has a bigger impact on unemployment than being white. Only 29% of Black/African adolescents were employed, compared to more than 50% of white adolescents. Black teenagers had the highest percentage of economically inactive - unemployed and discouraged job seekers - when compared to all other population groups, including Colored, Indians/Asians, and Whites. The aforementioned facts do not only affect adolescents; black adults have the highest percentage of unemployment when compared to other population groups. They also spent more on job searchers who were discouraged and economically disengaged. 55% of black adults and 70% of white adults were both employed. Despite their identical ages, these statistics suggest that black South Africans are the population group most vulnerable to unemployment. Because they make up most of the population when compared to other groups, Black and African people have the highest unemployment rate. Furthermore, during apartheid, African/Black and colored people, particularly adults, were purposely exposed to second-class schooling for nearly 50 years and are consequently less skilled for the contemporary employment market (Levinsohn, 2007; Viljoen, 2014).

People who are married or live together as husband and wife are more likely to work, according to marital status. Singles are those who are still in school and under the age of marriage but over the age of 15. As a result, marital status has no impact on employment, and there are more married persons working. This makes sense because, unlike most young single people still in school, most married people have already completed their education and are seeking a job. Although the findings do not appear to show that unemployment influences females in general, a literature study suggests that marital status has an impact on females because women were traditionally not allowed to participate in any activities, including working. Females are also thought to be better at marriage, childbirth, husband care, and

home tasks, therefore there is a link between marital status and job search (UNIFEM, 2005; Ortiz-Ospina and Tzetskova, 2017). Studies on the association between unemployment and educational achievement have found that a person's educational attainment has a considerable impact on their ability to find work (Van der Westhuizen et al., 2006; Mhlanga, 2018). Previously, those with a lower education level were more likely to be unemployed than those with a higher education level.

However, because South Africa's modern business requires highly skilled workers with comprehensive knowledge (Ogujiuba et al., 2019), many people with advanced degrees are now unemployed (Van der Westhuizen et al., 2006; Leibbrandt et al., 2010). Female education and training, according to StatisticsSA (2010), is a vital tool for engaging women and achieving gender equality. Our findings show that the majority of currently unemployed females did not complete secondary school, with those who did coming in second. As a result, the rate of unemployment rises in tandem with one's level of education. Metropolitan areas have the highest rate of unemployed persons, followed by rural areas, and finally farms. They have the highest percentages of people of working age due to the vast population size of individuals of working age in urban areas, where many people move for improved career possibilities (2018 Mid-Year Population Estimates). According to the literature, city dwellers face difficulties in finding work that requires more time. Because more people have moved to metropolitan areas, their population is larger than in traditional communities and rural areas (Ogujiuba et al., 2019). Because most farm residents work on the farm, they have the lowest percentage (Statistics South Africa, 2015; Mid-year Population Estimates, 2018; Bilas, 2010).). The Eastern Cape, Gauteng, and Mpumalanga have the highest rates of female unemployment when compared to other provinces in terms of residency and unemployment. According to the literature, Limpopo, KwaZulu-Natal, and the Eastern Cape have historically had the highest unemployment rates in South Africa (Van der Westhuizen et al., 2006). However, more people are migrating to urban areas like Gauteng in search of better job opportunities. As a result, it's not unexpected that people in Gauteng have been unemployed since moving to the province in pursuit of better job opportunities. Competition for the few open seats is also heating (Van der Westhuizen et al., 2006; Mid-year Population Estimates, 2018).

5. CONCLUDING REMARKS

Unemployment is a problem not only in South Africa but throughout the world. This manuscript examined the relationship between the dependent (unemployment) and independent variables interacted (age group, population group, marital status, education status, geographic type, and province of residence). Without a decrease in the unemployment rate, increased economic growth (demographic dividend) will be hard to attain. South Africa's demographic transition from high fertility and mortality to low fertility and mortality is nearing completion. If the demographic dividend is to be achieved, the socioeconomic realities of South Africa must be considered. Because of their knowledge and ability to manage birth, as well as their understanding of various birth control options, females in education, may have an impact

on fertility government should create economic and corporate governance mechanisms to instill confidence and trust among domestic and global investors. Evidence on population patterns supports an evidence-based paradigm for development planning and evaluation at the local level.

5.1. Recommendation

1. The government of South Africa should invest more in small enterprises to help educated women acquire a stronger financial voice and better care for their children. Furthermore, because most black people work in the low-wage informal sector, there is a need to promote black education to develop their skill sets so that they can obtain more white-collar employment. Because black teenagers are the poorest of all population groups, the government should focus on creating more jobs for them.
2. To achieve a low fertility rate, it is necessary to enroll girls in higher education. Through their knowledge of multiple birth control choices and their ability to manage birth, females in education have the potential to influence fertility. As a result, the number of dependents will decline while the number of women entering the workforce will rise.
3. For the demographic dividend to materialize across provinces, a well-implemented, supporting policy framework is essential. This would necessitate labor market flexibility, enabling expansionary incentives. This must be accompanied by macroeconomic structures and policies that encourage savings and investments in the domestic financial sector. Because of the positive externalities for households, reproductive health treatments must be made available. Government should provide support structures to encourage women to complete their studies at universities, thereby reducing gender disparities in education.
4. To optimize educational and training products' contributions to developmental demands, education reform must involve all sectors of the province working together to accomplish development. Former policies, particularly those that affected human settlement patterns, resulted in inequitable natural resource supply and access among provincial population groupings. As a result, the government should encourage companies to offer more internship and graduate programs. This will make it easier for young people to find full-time jobs. This leads us to human capital, which is a bundle of skills, knowledge, and talents acquired via education, training, and experience.
5. For the enormous youthful population to contribute to economic progress, policymakers and the donor community must give greater opportunities and skills to young people. In addition to providing high-quality health care, education, and other services, openings should be combined with education, with a focus on alternatives to premature marriage, healthy nutrition, and family planning. Better outcomes may result from the promotion of an enabling environment for decision-making and appropriate incentives for youth.

REFERENCES

- Alwyn, Y. (1994), Lessons from the East Asian NICS: A contrarian view. *European Economic Review*, 38(3-4), 964-973.
- Bhorat, H. (2018), *Demographic, Employment, and Wage*, United Nations: United Nations University.
- Bilas, V. (2010), *Understanding the Importance of Human Capital and the Labour Market*. Zagreb: Faculty of Economics and Business, University of Zagreb.
- Bloom, D., Canning, D., Graham, B. (2003), Longevity and life-cycle savings. *Scandinavian Journal of Economics*, 105(3), 319-338.
- Bloom, D., Canning, D., Jaypee S. (2003), *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*. Santa Monica, CA: RAND Corporation. Available from: https://www.rand.org/pubs/monograph_reports/MR1274.html
- Canning, D. (2002), *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*, Santa Monica: Library of Congress Cataloging.
- Cilliers, J. (2018), *Getting to Africa's demographic dividend*, Pretoria: Institute for Security Studies.
- Deaton, A. (1994), Intertemporal choice and inequality. *Journal of Political Economy*, 102(3), 437-467.
- Deaton, A., Paxson, C. (1994), Intertemporal choice and inequality. *Journal of Political Economy*, 102(3), 437-467.
- Esther, A. (2013), *Id the Population Experts*. Available from: <https://blog.id.com.au/2013/population/population-trends/my-shout-or-yours-a-closer-look-at-dependency-ratios-finished> [Last accessed on 2013 Jul 11].
- Fadila, J., Ogujiuba, K., Stiegler, N. (2013), Health sector reforms: Implications for maternal and child healthcare in South Africa. *Mediterranean Journal of Social Sciences*, 4(6), 1-10.
- Higgins, E.T. (1998), Promotion and prevention: Regulatory focus as a motivational principle. *Advances in Experimental Social Psychology*, 30, 1-46.
- Higgins, M., Williamson, J.G. (1997), Age structure dynamics in Asia and dependence on foreign capital. *Population and Development Review*, 23(2), 261-293.
- Kelley, A.C., Schmidt, R.M. (2005), Evolution of recent economic-demographic modeling: A synthesis. *Journal of Population Economics*, 18(2), 275-300.
- Krugman, P. (1994), Competitiveness: A dangerous obsession. *Foreign Affairs*, 73(2), 28-44.
- Lee, R., Mason, A., Miller, T. (2000), Lifecycle saving and the demographic transition: The case of Taiwan. *Population and Development Review*, 26, 194-219.
- Leibbrandt, M., Woolard, I., Finn, A., Argent, J. (2010), *Trends in South African Income Distribution and Poverty Since the Fall of Apartheid*. OECD, Directorate for Employment, Labour and Social Affairs, OECD Social, Employment and Migration Working Papers.
- Levinsohn, J. (2007), *Two Policies to Alleviate Unemployment in South Africa*. Available from: http://levinsohn.commons.yale.edu/files/2010/10/policies_sa.pdf [Last accessed on 2016 Oct 03].
- Lister, J. (2019), *Chron*. Available from: <https://smallbusiness.chron.com/hiring-additional-employees-affect-economy-31964.html> [Last accessed on 2019 Jan 25].
- Lutz, W. (2019), *Education Trumps Age Structure in Terms of Providing a Demographic Dividend*. United States of America: International Institute for Applied System Analysis.
- Mason, A. (1988), Saving, economic growth, and demographic change. *Population and Development Review*, 14(1), 113-144.
- McKenzie, B. (2017), *Business Anti-corruption Portal*. Available from: <https://www.ganintegrity.com/portal/country-profiles/south-africa>
- Mhlanga, S. (2018), *Unemployment is Lower, but Black Females, the Youth Remain the Most Vulnerable*. Pretoria: Mail and Guardian.
- Ogujiuba, K., Fadila, J., Stiegler, N. (2012), Policy growth and economic growth in South Africa: Understanding the Nexus. *Mediterranean Journal of Social Sciences*, 3(11), 647-647.

- Ogujiuba, K., Patience, A., Stiegler, N. (2019), Analysis of ramifications of migration and xenophobia in Africa. *Journal of African Foreign Affairs*, 6(3), 65-85.
- Ogujiuba, K., Stiegler, N., Jumare, F. (2012), Sustainable development in developing countries: Case studies of consumption and production in South Africa and India. *Journal of Economics and Behavioral Studies*, 4(9), 489-496.
- Ortiz-Ospina, E., Tzvetkova, S. (2017), Working Women: Key Facts and Trends in Female Labor Force Participation Our World in Data. Available from: <https://ourworldindata.org/female-labor-force-participation-key-facts> [Last accessed on 2019 Apr 15].
- Roskam, E. (1996), International Labour Organization, Introduction to Occupational Health and Safety. Workers' Education Programme, Geneva: ILO.
- Simkins, C. (2019), Politics Web. Available from: <https://www.politicsweb.co.za/opinion/does-the-gini-index-show-that-sa-is-the-most-unequal> [Last accessed on 2019 Oct 31].
- Statistics South Africa. (2017), Quarterly Labour Force Survey 2017. Pretoria: Statistics South Africa.
- Statistics South Africa. (2017), Whither a demographic dividend South Africa. In: *The Overton Window of Political Possibilities*. Pretoria: Statistics South Africa.
- Statistics South Africa. (2018), Statistics South Africa. Available from: <http://www.StatisticsSA.gov.za/publications/P03093/P030932016.pdf> [Last accessed on 2018 Mar 27].
- Statistics South Africa. (2019), Quarterly Labour Force Survey. Pretoria: Statistics South Africa.
- Statistics South Africa. (2019), Youth Graduate Unemployment Rate. Pretoria: Statistics South Africa.
- Stiegler, N., Jean-Pierre, B. (2020), South Africa: Challenges and successes of the COVID-19 lockdown Afrique du Sud: Defis et succes du confinement lies au COVID-1. *Annales Médico Psychologiques, Revue Psychiatrique*, 178(7), 695-698.
- UNIFEM. (2005), *Progress of the World's Women 2005 Women, Work and Poverty*. United Nations: New York.
- United Nations Department of Economic and Social Affairs, Population Division. (2007), *World Population Prospects: The 2006 Revision, CD-ROM Edition Extended Dataset in Excel and ASCII formats (United Nations Publication, Sales No. E.07 XIII 7)*.
- UNOSSA. (2017), *The New Urban Agenda and Demographic Dividend: Investments for Africa's Youth*. UNOSSA.
- Van der Westhuizen, C., Goga, S., Oosthuizen, M. (2006), *Women in the South African Labour Market: 1995-2005*. DPRU Working Paper 06/118, Development Policy Research Unit, Cape Town.
- Viljoen, J.M.M. (2014), *Economic and Social Aspects of Street Waste Pickers in South Africa*. South Africa: Unpublished Doctoral Thesis, Department of Economics and Econometrics, University of Johannesburg.