

The Unemployment Impact of Immigration in South Africa

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Abstract

This study sought to investigate the impact of immigrant labour on unemployment in South Africa. for the period 1980-2010. This relationship was examined using Ordinary Least Squares (OLS) method. Unemployment was regressed against immigration, the Gross Domestic Product, inflation and education. The research aimed to establish whether immigrant labour contributes to unemployment in the manner suggested by the econometric model. The result showed a positive relationship between immigration and unemployment in South Africa.

Keywords: Immigrant Labour, Unemployment, Ordinary Least Squares, South Africa.

1. Introduction

South Africa has a vibrant economy and is also amongst the largest economies on the African continent. The country is resource endowed; has a well developed transport sector, automotive industry, agriculture and financial service sector and in addition to this it also has modern world class infrastructure. South Africa is the largest economy in Africa (White, 2011), it accounts for 24% of Africa's GDP. South Africa's strong economy has made it a centre of attraction for the immigrants from Sub-Saharan Africa. Migration is not a new phenomenon in South Africa: South Africa has been a migrant-receiving country for decades (Labour Market Review, 2007). However the flow of immigrant since 1994 has grown remarkably and it has become diverse as many migrants now come as far as Asia, Nigeria, Ghana and Somalia. The main causes of immigration among others include high cost of living, unemployment, violent conflict, poor living conditions, political oppression, political conflict and war (Mosala, 2008 and Sibanda, 2008).

One of the most debatable issues in South Africa has been the effects of immigration on unemployment. The effect of immigration on unemployment has been central to the social, economic and political debate in recent years. Migrant labour has been one of the factors that have been seen to be causing unemployment in South Africa (Tsikata, 1999 cited in Sibanda, 2008). Unemployment is one of the most pressing challenges the South African government faces. High unemployment has led to heated debates about the extent and cause of the problem and policies to address it (Mabiala, 2013). Unemployment brings problems like increased poverty, crime and political and socio-economic instability. A wave of xenophobia in 2008 and to a lesser extent in 2013 affected South Africa.

One of the main reasons for these xenophobic attacks was the belief that immigrants take employment opportunities from South African nationals. "The major problem is communities (in South Africa) with high unemployment rates are the perception that migrants are "stealing" their scarce jobs and means of survival" (Mosala, 2008). Immigrants have been singled out to cause undesirable effects in South Africa. The depicted picture is that African immigrants are competing with local South Africans for and putting a strain on resources such as schools, hospitals and to a larger extent employment. Mosala (2008) argues that migrants do appear to be flooding a precarious labour market and the possibility that their impact drives labour standard down is thus very real.

On the other hand, there are some (Berry and Soligo, 1969; Anorld, 2005; UNFPA, 2005; Forced Migration Studies Programme (FMSP), 2010 and Altbeker and Storme, 2013) who believe that immigrant labour can bring positive outcomes. For instance, Berry and Soligo (1969) revealed that immigrant labour generally improves the economic situation of natives. It is believed that the inflow of skilled labour should be embraced as this could reduce the skill shortages that are currently prevailing in South Africa. South Africa faces an acute skills shortage and this has been

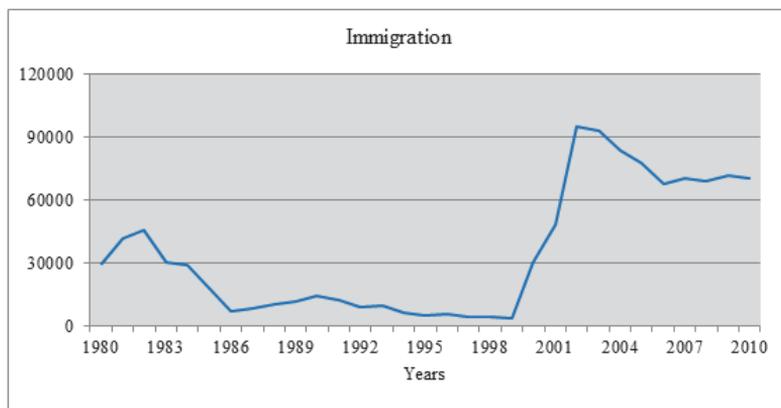
identified by ASGISA as one of the obstacles of growth. ASGISA recognised skills shortages as one of the binding constraints on economic growth in South Africa. Rasool and Botha (2010) and Centre for Development and Enterprise (2010) stress that South Africa is suffering a debilitating skills shortage and this has a negative effect on South Africa's economic prospects because it negatively affects growth and development. This acute shortage of skilled labor makes the South African economy to be dependent on cross-border migration to address some of its skills shortages and sectoral labour needs (FMSP, 2010). In this case, migrant labour is needed to fill the skill shortage gap that South Africa is currently facing.

When all this information is taken into consideration, it can be realised that the issue of immigration on unemployment is an area of debate and as a result, it needs to be investigated. In light of this, the present study seeks to contribute to literature by examining the impact of immigration on unemployment in South Africa.

2. Immigration and Unemployment Trends in South Africa

Southern Africa has a long history of organised and informal labour migration between its territories. From the late nineteenth century, South Africa was a key recipient of labour migrants from Malawi, Zimbabwe, Zambia, Botswana, Lesotho, Swaziland and Mozambique (Crush, 1995). Recent years has seen a change in the immigration trends in South Africa. Immigrants now come as far as China, Bangladesh and Pakistan. One of the reasons why South Africa has been receiving high immigration numbers has been the fact that South Africa is an emerging market and as such it has a lot of economic opportunities that attracts people from many countries. Figure 1 below shows the immigration trends from 1980 to 2010.

Figure 1: Trends in immigration from 1980 to 2010

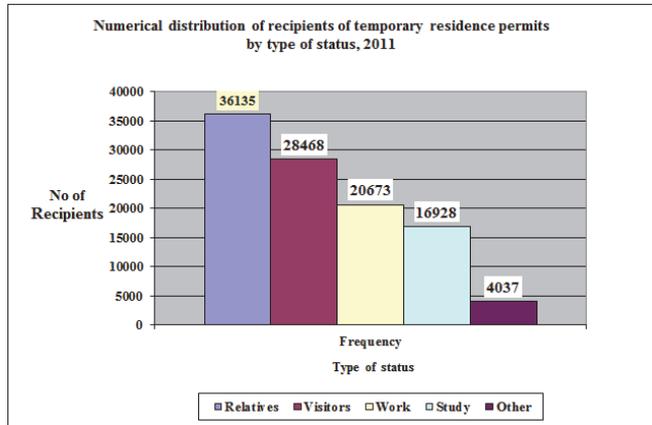


Source: Data compiled from StatSA (2013)

Figure 1 shows that there was a steadily falling trend of the number of immigrants into South Africa since the year 1981 until 1999. In 1999 there was a sharp increase in the number of immigrants into South Africa and the rising trend continued until the year 2002. From 2003 there was a decrease in the number of immigrants but the number of immigrants crossing into South Africa was still high.

In 2011 the Department of Home Affairs issued 106 173 permits (StatsSA, 2013). Statistics from temporary residence permits issued in 2011 were used in this study to shed more light on nature of the permits issued, countries of origin of the immigrants, and the demographic composition of immigrants. Figure 2 shows that numerical distribution of recipients of temporary residence permits by type of status.

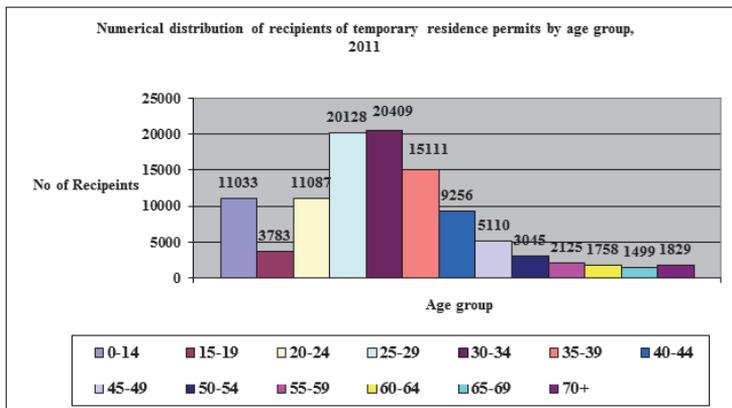
Figure 2: Number and percentage distribution of recipients of temporary residence permits by type of status, 2011



Source: Data compiled from StatSA (2013)

Figure 2 shows that the highest proportions of temporary permits issued were the one that fell into the relative category, the visitors category was second; it constituted 26.8% of the proportion of temporary permits issued. Work permits were the third highest; they made up 19.5% of temporary permits. Study permits made up 15.9% of the temporary permits and the other category made up 3.8% of temporary permits. This other category was mainly composed of medical, business, exchange, treaty, corporate and retired persons permits. Figure 3 shows the numerical distribution of recipients of temporary residence permits by age group.

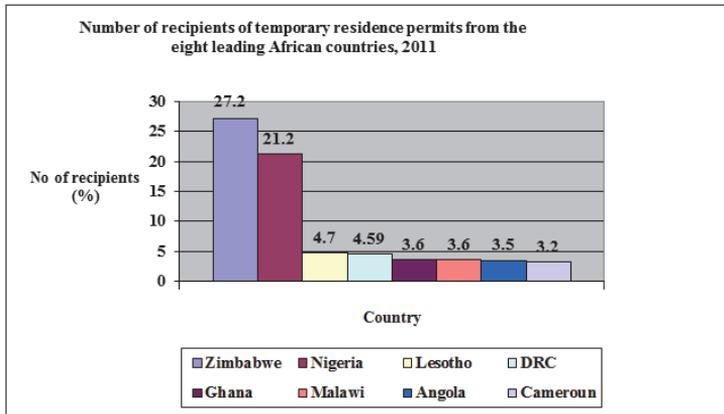
Figure 3: Numerical distribution of recipients of temporary residence permits by age group, 2011



Source: Data compiled from StatSA (2013)

Figure 3 shows that the highest proportion of the immigrants was found in the 30-34 age group. This 30-34 age group was slightly above the 25-29 age group ; the 30-34 age group had 281 recipients more than the 25-29 age group. The 0-14 age group fourth and it constituted 10.4 % of the temporary permits issued in 2011. Figure 3 shows that the economically active age groups had the highest proportions of the immigrants. This is shown by the numbers of immigrants from the 20-24 age group to the 45-49 age group. Figure 4 shows the number of recipients of temporary residence permits from the eight leading African countries.

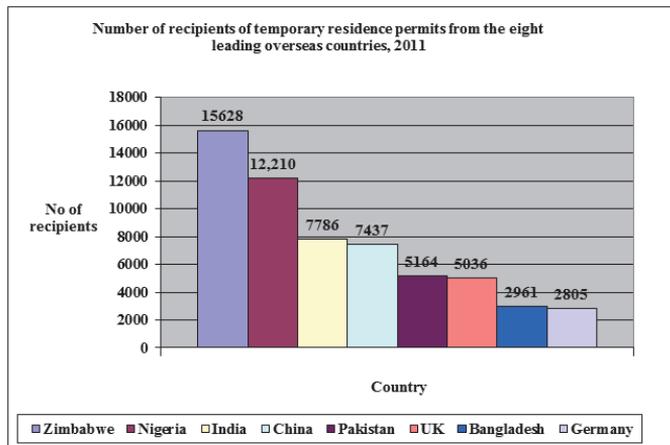
Figure 4: Number of recipients of temporary residence permits from the eight leading African countries, 2011



Source: Data compiled from StatSA (2013)

Figure 4 shows that the largest numbers of permits were issued to Zimbabwe nationals; 27.2% of the permits were issued to Zimbabweans. Nigerian nationals were second; 21.2% of the permits were issued to Nigerian nationals. It is important to note that permits issued to Zimbabwean and Nigerian nationals constituted almost half of the total permits issued to Africans. Of all the top eight countries five were from the SADC region. The SADC region has been South Africa's traditional supplier of labour and this partly explains the reason why 5 out of 8 countries were from the SADC region. Figure 5 shows number of recipients of temporary residence permits from the eight leading overseas countries.

Figure 5: Number of recipients of temporary residence permits from the eight leading overseas countries, 2011



Source: Data compiled from StatSA (2013)

Figure 5 shows that the highest number of permits were issued to Zimbabwean nationals (15 628), followed by Nigeria (12 210), India (7 786), China (7 437), Pakistan (5 164), UK (5 036), Bangladesh (2 961) and Germany (2 805). Recipients from these countries contributed more than half of (55,6%) of the permits issued in 2011 (StatsSA, 2013).

3. Unemployment Trends in South Africa

The annual unemployment rates have been disturbingly high and this has been one of the concerns that the government has been worrying over. Unemployment in South Africa averaged 25.2% from 2000 until 2013 and this is high by global standards. Figure 6 shows the unemployment trends in South Africa from 1980 to 2013.

Figure 6: Trends in Unemployment 1980 to 2013



Source: Data compiled from StatSA (2013)

Figure 6 shows the unemployment rate increasing from 9.8 per cent in 1980 to 26.1 per cent in 2010. The year 1981 recorded the lowest unemployment rate of 6.1 per cent, while the highest rate of unemployment (30.4 per cent) was recorded in 2002. Since the year 1989 the unemployment trends have been exhibiting a steadily rising trend. However there was a steadily falling trend from the year 2001 until 2008 where the unemployment rate started to rise again.

South Africa unemployment rate is high and it currently stands at 24.1% (Vollgraaf and Mbatha, 2014). The reasons for the high rates of unemployment in South Africa has been, among other factors, lack of the South African economy to create jobs and the global financial crisis which has reduced global demand and consequently, leading to a fall in exports. The problem of unemployment has created social tensions with local South Africans blaming foreign nationals for “stealing” the few jobs that are available in South Africa. In other words, foreign nationals have been seen to be a contributing factor to the increases and high rates of unemployment in South Africa. However it must be noted that the issue of the impact of immigrants on unemployment is a complex issue and as a result it requires a lot of attention for it to be understood. The next section shall look at studies that examined the link between immigrants and unemployment.

4. Literature Review

There is a large pool of literature regarding the relationship between immigration and unemployment. Card (1990) developed an ordinary least squares to assess the effect of unskilled immigrants on the employment prospects of US natives. Results from the study showed that the US labour market smoothly absorbed immigrants and as a result immigrant labour had no effect on employment and wages of unskilled US natives. Akbari and DeVoretz (1992) analyzed Canadian data to assess the impact of immigrant workers on the employment of Canadian-born workers for 125 Canadian industries using 1980 data. They used translog specification of the production function. The estimated cross elasticities suggested no economy-wide displacement of Canadian born workers by immigrants. Marr and Siklos (1994) studied the relationship between immigration and unemployment in Canada using quarterly data for the period 1962-1990. They used Granger causality and found that before 1978 changes in immigration levels did not affect the Canadian unemployment rate but after 1978 immigration rates contributed to changes in the unemployment rate.

Friedburg and Hunt (1995) employed an ordinary least squares to evaluate the impact of immigration in the United States. Results from the study showed that there was a negative relationship between immigration and unemployment; increases in immigrant labour reduced the unemployment rate. However increases in immigrants reduced the wages for unskilled labour. In another study, Friedburg (1997) employed an ordinary least squares to evaluate the impact of

immigrant in Israel. The study showed that immigrants increased the labour force. Immigrants from Russia were shown to have no significant effect on wages and employment prospects of locals in Israel. However, immigrants, in general, had an impact on low wage occupation and on unskilled workers. Shan, Morris and Sun (1999) used a Granger no-causality testing procedure developed by Toda & Yamamoto (1995) to contribute to the debate on immigration and unemployment in Australia and New Zealand. Their study investigated a possible causal linkage between these variables in a six-variable vector autoregression (VAR) model. Their research found no Granger causality between immigration and unemployment. Instead it found evidence of Granger causality running from industrial structural changes, measured by the Stoikov and HDB indices, to unemployment, and from several other economic variables to unemployment.

Bodvarsson and Van den Berg (2003) used interviews to assess the effect of immigration on the labour market. The study showed that immigrants created their own demand for labour and as a result of this, they did not affect the unemployment rate. Immigrants contributed to increases in demand for output and this then led to increases in the demand for labour. Mete (2004) assessed the impact immigration has on GDP and unemployment in Finland. The results on the unit root test indicated that all the series are non-stationary and in $I(1)$ process. The Johansen cointegration test revealed that there was no cointegration among the data sets. The Granger causality test showed that when level of immigration increases, GDP per capita also increases. It has also been found that increased immigration resulted in increased unemployment. In Italy Venturini and Villisio (2004) used an ordinary least squares to examine the immigration labour on the labour market. the study showed that immigrant labour had a positive effect on unemployment; an increase in immigrant labour reduced the employment prospects for natives. A similar result was reached by Bohn and Sanders (2006). Bohn and Sanders (2006) employed an ordinary least squares to investigate the effect of immigrant labour on the Canadian labour market. The study used data from 1980 and 2000. Results showed that immigrant labour displaced natives and it also depressed the wages in the Canadian labour market.

Islam (2007) examined the relationship between unemployment and immigration in Canada. The study used a bidirectional causality test, cointegration tests and a vector error correction model. The results indicated that, in the short-run, more immigration was possibly associated with attractive Canadian immigration policies, and in the long run, as the labour market adjusted, Canadian born workers were likely to benefit from increased migration. In another study, Carter and Sutch (2007) employed an ordinary least squares to examine the impact of immigrant labour on the labour market in the US. The study showed that immigrants increased the supply of labour in the US and as a result, immigrants depressed wages in the US labour market.

An analysis of literature above shows that the issue of the impact of immigration on unemployment is still an area of contentious debate and, as a result, there is no settled opinion as to the likely effects of immigration on unemployment. Several studies (Borjas, 1994, Asadul, 2007) have echoed this and it has been noticed that the impact of immigration can either be beneficial or harmful. Asadul (2007) argued that the impact of immigration on the labour market largely depends on the particular conditions and on varying elasticities to immigration.

5. Methodology

The study uses an Ordinary Least Squares to test the relationship between immigration and unemployment in South Africa. The study uses secondary data on unemployment, immigration, economic growth and education prepared by the Statistics South Africa, Reserve Bank of South Africa and the South African Department of Trade and Industry. The data used for the estimation of regression is annual time series which covers the period 1980-2011.

5.1 Model specification

The model used in the study was adopted from Edward (2004 where a single regression model was expressed. The model of this study takes the form:

$$unemp = \beta_0 + \beta_1 IMM + \beta_2 GDP + \beta_3 INF + \mu \dots \dots \dots (4.1)$$

Where;

unemp: is the unemployment rate. The unemployment rate is expressed as a percentage (%) of the total labour force.

IMM: is the rate of immigration (into SA) and it is the total number of people who entered South Africa for the period 1980 – 2011.

GDP: is the Gross Domestic Product per capita for South Africa.

INF: Inflation is the continuous increase in prices of goods and services over a period of time.

μ : is the error term.

$\beta_0, \beta_1, \beta_2, \beta_3$ and β_4 are parameter estimates.

5.2 Stationarity/ Unit roots test

A stationary time series can be defined as one with constant mean, constant variance, and constant auto covariance for each given lag (Granger, 1974). Estimating the regression model where a series is non stationary would give rise to a spurious regression, biased t ratio incorrect inferences, and the R^2 will be artificially high, close to 1. To test for stationary, the study employs the Phillips Perron test. Results from the Phillips Perron test are presented in Table 1 below.

Table 1: Phillips Perron Test

Variable	Intercept	Trend and intercept	None
UNEMP	-5.961	-6.414	-5.774
IMM	-6.853	-6.464	-6.183
GDP	1.603	-1.716	2.646
DGDP	-4.031*	-4.415*	-2.797*
CPI	-5.842	-5.662	-5.667
Critical 1%	-3.670	-4.310	-2.647
Values 5%	-2.964	-3.574	-1.953
10%	1.6102	-2.890	-0.9854

Source: Authors' own computation using Eviews 8

Table 1 shows that GDP became stationary after being differenced once. The other variables were stationary at levels.

5.3 Model Estimation

The ordinary least squares (OLS) method was used as the preferred parameter estimation technique. Unemployment was regressed against five explanatory variables and the results shown on Table 2 were obtained.

Table 2: OLS Regression Results

Variable	Coefficient	t- statistic	Probability
C	-3.425783	-1.611433	0.1192
LIMM	0.205065	3.169077***	0.0039
DLGDP	-0.105684	-4.404323**	0.0002
CPIX	-0.195861	-1.407320	0.1712

Source: Authors' own computation using Eviews 8

R-squared	0.661895
Adjusted R-squared	0.614494
S.E. of regression	0.111305
F-statistic	8.336625
Prob (F-statistic)	0.000182
Durbin Watson	1.972530

The estimated equation can now be represented using the regression results as follows:

$$Unemploy = -3.43 + 0.21IMM - 0.11GDP - 0.21INF + 0.11.....(3)$$

The coefficient of immigration is positive 0.205065 representing a positive relationship that exists between immigration and unemployment. Immigration has a p value of 0.0039 signifying that the variable is statistically significant at five percent level of significance. The 3.169077 t-statistic corresponding to IMM exceeds the standard value of 2 which shows that changes in IMM are statistically significant in explaining changes in Unemployment. Mete (2004), Venturini and Villisio (2004), Bohn and Sanders (2006) also came up with a similar result; their studies proved that immigration and

unemployment are positively related.

The coefficient for *GDP* is (-) 0.105684 and it has a negative sign which shows that there is negative relationship between *GDP* and unemployment. The t-statistic -4.404323 and the p value (0.0002) corresponding to the *GDP* show that the *GDP* is statistically significant in explaining changes in unemployment. Our findings are consistent with economic theory. For instance, Okun hypothesized that movements of the unemployment rate and the real gross domestic product (*GDP*) depicts a negative correlation (Khan et al. 2013). Findings from Miskolczi et al. (2011), Azmi (2013) and Umair and Ullar (2013) also found that there is inverse relationship between output and unemployment rate.

The coefficient for *CPIX* is a negative (-) 0.195861 and this negative sign shows the negative relationship between inflation and unemployment. This negative relationship between the two reinforces economic theory particularly the Phillips curve which showed that there is a trade-off between inflation and unemployment. Several studies support this inflation and unemployment trade-off. Metin (1991), Chaudhary and Ahmed (1995) and Volker (2005) found that unemployment is negatively influenced by inflation. However, the findings of this study are not statistically significant as shown by the t-statistic (1.407320) which is less than the standard critical value of 2.

5.4 Diagnostic Tests

A number of residual diagnostics tests were carried out and these are as follows: For the Histogram and Normality Test, Jarque-Bera is 0.596018 and the Probability is 0.5570. Thus Jarque-Bera is insignificant at 5 per cent level of significance and therefore, the null hypothesis of a normal distribution was not rejected. The Ramsey test was also carried out and it indicated that there is no misspecification. The *p*-value from the Ramsey test turned to be 0.1973 and as a result of this it was concluded that there was no misspecification in the model. The heteroscedasticity test showed an F statistic of 12.87660 and probability of 0.9994. The statistical insignificance of the *p* value and the *t* statistic showed that there was no heteroscedasticity in the residuals. The Correlogram of Residuals test also showed that there was no ARCH in the residuals. The autocorrelations and partial auto correlations came out all, in absolute terms, greater than 0.05 and showed statistical insignificance at 5% significance level indicating that there was no ARCH in the residuals. The Durbin-Watson statistic showed that there was no autocorrelation in the residuals and its value was around 2.

6. Conclusion

The main purpose of this study was to examine the impact of immigrant labour on the South African labour market. A survey of literature was consulted and it was found that there is no settled opinion on the relationship between immigration and unemployment. A regression model was designed to test the relationship between immigration and unemployment and several other variables. Results showed that that immigration has a positive relationship with unemployment. Results also showed that *GDP* is statistically significant in explaining the changes in unemployment. Basing on diagnostic test, the overall model was seen to be robust.

7. Policy Recommendations

Results from the study show evidence in favour of the contention of the adverse impact of immigration on unemployment in South Africa. The findings suggest that South African policy makers should be cautious when issuing work related permits. They should continuously review the work permit issuing process and also the categorisation of scarce and exceptional skills. The South African policy makers must also ensure that companies do not lower wages and salaries because of an increase in the supply of labour. Immigrants increase the supply of labour and resultantly there will be an increase in the people who would be willing to supply their labour in the host country's labour market. This can depress wages and discourage local people from working creating voluntary unemployment in the process.

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