

Poverty, development and migration patterns in the Free State province

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Background

- South African Labour and Development Research Unit (SALDRU) commissioned nine papers on provincial migration patterns and issues, some of which have appeared as SALDRU Working Papers
- This paper... part of the Free State study on (internal) migration, poverty and development

Objectives

- What is the role of the following sets of factors in explaining net migration rates observed in the Free State province...
 - Demography
 - Socio-demographic
 - Human capital (education)
 - Municipal service delivery
 - Growth and unemployment
 - Poverty

Data

- Using the 10% sample from the 2001 census, we calculated in-, out- and net migration rates for three types of migration moves in the Free State over the period 1996-2001:
 - Total migration
 - Labour migration
 - Temporary migration
- Measured characteristics in sending and receiving areas (councils) using secondary data available from the 1996 and 2001 censuses as well as other datasets (Quantec)

Method

- Dependent variable(s):
 - Total, labour and temporary net migration rates between each pairwise combination of local councils in Free State province
- Independent variables:

Table 1: Migration rates, by local and district council

	Temporary migration			Total migration			Labour migration		
	In	Out	Net	In	Out	Net	In	Out	Net
<i>Local councils:</i>									
Letsemeng	3.6	5.8	-2.3	42.0	46.2	-4.2	8.1	8.4	-0.3
Kopanong	3.3	2.1	1.2	35.8	45.6	-9.8	18.4	4.8	13.6
Mohale's	4.9	0.7	4.2	31.3	71.3	-40.0	5.3	2.5	2.8
Naledi	4.0	1.5	2.5	32.1	46.9	-14.8	1.0	4.0	-3.0
Mangungu	5.3	2.1	3.2	40.8	54.5	-13.7	2.4	10.8	-8.4
Matielana	4.0	4.9	-0.9	53.6	69.7	-16.1	4.0	15.1	-11.2
Masimohale	10.3	3.1	7.2	53.4	50.8	2.6	9.2	7.2	2.0
Tokologo	4.6	2.5	2.1	102.4	47.8	54.6	24.3	10.9	13.4
Tswelipele	2.6	0.5	2.1	70.1	40.2	29.9	4.4	7.0	-2.6
Matjhabeng	6.2	2.6	3.6	76.1	63.4	12.7	7.1	15.1	-8.0
Nala	3.3	1.2	2.1	43.2	40.2	3.0	4.4	7.3	-2.9
Sekake	8.0	2.1	5.9	50.9	51.8	-1.0	1.8	8.5	-4.7
Ditlabeng	6.7	1.6	5.1	61.8	68.4	-6.6	4.7	6.3	-1.6
Nkkelana	2.7	0.8	1.9	58.3	32.8	25.5	4.2	3.3	0.8
Matjui a Phofung	4.0	1.2	2.8	42.5	36.2	6.3	2.2	6.6	-4.3
Phumelela	5.8	3.4	2.4	83.8	52.9	30.8	16.6	4.7	11.9
Moghaka	6.9	2.7	4.2	58.5	61.2	-2.7	7.5	8.4	-0.9
Nqwalthe	6.0	4.7	1.3	67.8	52.7	15.1	10.5	10.1	0.4
Mesimahlolo	2.9	4.0	-1.1	46.8	144.3	-97.5	39.3	21.9	17.4
Matibe	2.4	0.7	1.7	80.8	62.2	18.6	4.8	6.9	-2.2
<i>District councils:</i>									
Fezile Dabi	5.1	3.3	1.8	64.1	81.1	-17.0	16.3	14.9	1.5
Free State	5.3	2.7	2.6	59.0	57.2	1.8	7.0	10.5	-3.5
Lejweletso	5.9	2.3	3.6	70.1	56.6	13.5	7.5	12.5	-5.0
Motho	5.2	2.3	2.9	41.4	55.3	-13.9	2.5	10.9	-8.4
Thabo Mofutsanyane	5.1	1.5	3.6	51.0	45.0	6.0	3.6	6.4	-2.8
Yxarisp	3.8	2.9	1.0	36.4	53.0	-16.6	11.5	5.2	6.3
Free State	5.3	2.7	2.6	59.0	57.2	1.8	7.0	10.5	-3.5

Figure 1a: Migration rates, by council

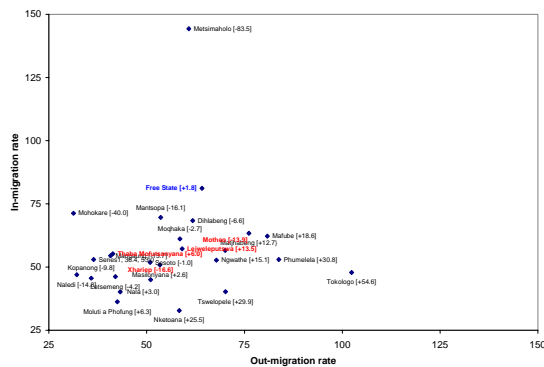


Figure 1b: Labour migration rates, by council

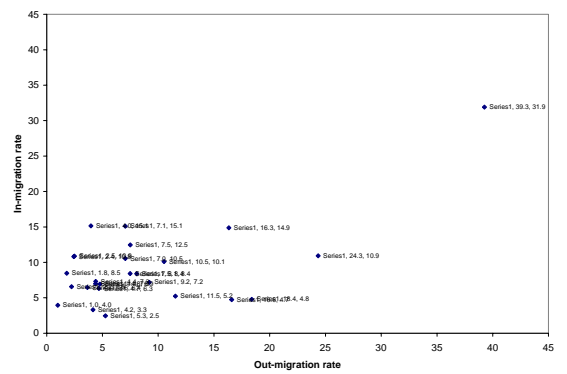


Figure 1c: Temporary migration rates, by council

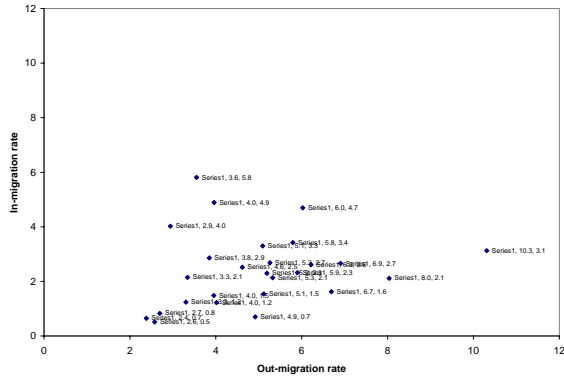


Table 2a: Correlation between municipal service delivery and net migration rates

	Origin		Destination	
	Levels (1996)	Changes (1996-2001)	Levels (1996)	Changes (1996-2001)
Electricity as main energy source				
Formal dwelling		0.136 ***	0.106 **	-0.166 ***
Local refuse removal			0.141 ***	-0.154 ***
Flush/chemical toilet	-0.126 **		0.125 **	
Telephone in dwelling or cellphone	-0.166 ***		0.248 ***	0.093 *
Water in house or dwelling	-0.093 *			
Municipal service delivery index	-0.098 *		0.128 **	

Table 2b: Correlation between net migration rates and population composition and economic development

	Origin		Destination	
	Levels (1996)	Changes (1996-2001)	Levels (1996)	Changes (1996-2001)
Age composition (%):				
Children	0.148 ***		-0.180 ***	
Youth			0.175 ***	
Adult	-0.151 ***		0.129 **	
Elderly	0.137 ***		-0.195 ***	
Female population (%)	0.113 **			
Racial composition (%):				
African	0.124 **	-0.137 ***	-0.140 ***	0.231 ***
Coloured				
Asian			0.123 **	-0.126 **
White	-0.183 ***	0.126 **	0.247 ***	-0.213 ***
Education (%):				
None	0.115 **	-0.101 *	-0.246 ***	0.172 ***
Tertiary	-0.196 ***		0.302 ***	
GDP per capita ('000)	-0.202 ***		0.280 ***	
Change in GDP per capita (ZAR)				
Percentage change in GDP per capita		0.085 *		0.094 **
Average annual GDP growth rates				-0.102 **
Variation between highest/lowest GDP growth rates		0.175 ***		-0.254 ***

Table 3a: Determinants of net migration rates

	Model 6	
	Origin	Destination
(a) Levels (1996)		
Age composition (%):		
Children	-0.866	0.910 **
Youth		
Adult	0.328	-0.721 ***
Elderly	0.580 **	-0.789 ***
Female population (%)	-0.210	0.689 ***
Racial composition (%):		
African	0.237	-0.297 ***
Coloured		
Asian		
White	0.402	-0.290 *
Education (%):		
None	0.524	-0.966 ***
Tertiary		
Municipal service delivery		
GDP per capita ('000)	0.000	0.403 ***
Unemployment rate (%)	0.325 *	-0.281 **

Table 3b: Determinants of net migration rates

	Model 6	
	Origin	Destination
<i>(b) Changes (1996-2001)</i>		
Age composition (% point change):		
Children		
Youth	-0.869 **	0.869 ***
Adult		
Elderly		
Gender composition (% point change):		
Male		
Female	-0.077	0.025
Racial composition (% point change):		
African	0.109	0.121
Coloured		
Asian		
White		
Education (% point change):		
None	0.677	-0.728 **
Tertiary	1.122 *	1.726 **
Municipal service delivery index (% point change)	-0.179	0.167 ***
Average annual GDP growth rate		
Variation between highest/lowest GDP growth rates	-0.048	0.225 ***
Change in GDP per capita (ZAR)	0.002	-0.004 ***
Percentage change in GDP per capita	-0.218	0.387 ***
Change in unemployment rate (% points)	-0.237	0.181 **
Sample (n)	380	
F statistic (p-value)	1.97 (<0.001)	
R ²	0.337	

Summary: regression results

Origin:

Destination:

Limitations

- *Endogeneity issues:* demographic, economic and developmental changes observed between 1996 and 2001 are also impacted by migration patterns... instrumental variables (IV) analysis?
- *Complexity and/or simultaneity:* how do we isolate the effect of race and its interaction with other drivers of migration patterns?

Conclusion

- Economic performance, in particular unemployment rates, as well as municipal service delivery matters for migration
 - Destination more important than origin characteristics in explaining migration patterns?
- ... are this information factored into long-term development planning?

Way forward...

- Complete descriptive analysis of local and district level migration rates and association with poverty and development levels
- Revisit linear regression models for net migration and estimate comparable models for temporary and labour net migration rates
- Individual-level analysis of correlates of choices to migrate, including effects of regional level characteristics [nested probit/logistic models]
- Investigate role of migration patterns in explaining post-2001 economic and development performance AND/OR revisit above analysis using 2011 census data [effect of economic recession and global financial crisis?]