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[www.globalinsight.com](http://www.globalinsight.com)

Global Insight SA (Pty) Ltd  
Reg. No 1994/007870/07  
Building No 6  
Highgrove Office Park  
Highveld Techopark  
Centurion 0157  
Tel. +27 12 665 5420

**EKURHULENI  
METROPOLITAN MUNICIPALITY  
ECONOMIC PROFILE OVERVIEW**

**FINAL DRAFT**

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## ► Contact Information

Building no. 6, Highgrove Office Park  
50 Tegel Ave., Highveld Technopark,  
Centurion 0046  
Tel: +27(0)12.665.5420  
Fax: +27(0)12.665.5421

### **Henk Gnade**

Business Development  
[henk.gnade@globalinsight.co.za](mailto:henk.gnade@globalinsight.co.za)

### **Gerhard Bijker**

Product Manager: ReX  
[gerhard.bijker@globalinsight.co.za](mailto:gerhard.bijker@globalinsight.co.za)

### **Charl Jooste**

Research Assistant  
[charl.jooste@globalinsight.co.za](mailto:charl.jooste@globalinsight.co.za)

## Foreword

Ekurhuleni Metropolitan Municipality has a vision of being a smart, creative and developmental city that places its people at the centre of its policies and strategies as guided by the principles of Batho Pele. With this in mind the Ekurhuleni Economic Development Portfolio is focussed on social, environmental and economic regeneration of the city and its community.

In the five years of inertia after the elections of 1994 the country's economy has undergone various structural changes that have positioned it for the growth in the following years up to 2007 albeit compounded by the strong global economic environment. Looking ahead we see global growth contracting and a higher local interest rate environment. These factors along with some other prevailing local and international risks pose substantial threats to the targets as set out by the Accelerated and Shared Growth Initiative of South Africa (ASGISA). Ekurhuleni does not function in isolation from South Africa and the world and now, more than ever, it is crucial to have reliable information on our local economy. Information is needed that will empower us to plan and implement policies that will encourage the social development and economic growth of the people and industries in Ekurhuleni respectively.

With the power of information in mind we envisage a research platform to provide a framework from where policy analysis and policy recommendations can be made. This platform should be intended as a starting point on the long road of development of Ekurhuleni. This road should ensure the alleviation of poverty, equitable distribution of income as well as generating economic opportunity for all. In this particular vein, it is foreseen that the research platform will quantify – among others - a) our current poverty rate, b) prevailing unemployment estimates, c) quality of life for those residing in Ekurhuleni, and d) our over-all economic achievements.

Measured from 1996, our poverty rate generally increased up to the turn of the century. Strong economic growth and a more representative participation of the population in the economy reversed that trend. Since 2001 we have seen a reduction in the percentage of people in poverty. The percentage of people in poverty in Ekurhuleni (24.2%) is slightly higher than that of Gauteng (22.9%). Poverty in both Ekurhuleni and Gauteng compare favourable to the poverty rate of South Africa which stands at 44.4%.

Unemployment is still of concern and poses one of the biggest challenges for municipalities when analysed within the ASGISA framework that advocates for the halving of unemployment by 2014. Unemployment stands at 34.3% in Ekurhuleni, slightly higher than that of Gauteng (30.0 %) although lower than that of South Africa (37.7 %). Generally, unemployment levels have decreased gradually in recent history and are likely to continue to do so in the near future.

Some inroads have been made with regards to human development (as measured by the Human Development Index (HDI)) in the past decade. On par people seem to have a higher quality of life when life expectancy, literacy as well as income measures are considered as indicators of development as a whole. The only concern is that income inequality has increased when measured by the Gini coefficient.

Economic growth averaged at 2.7% (year on year) in the last decade from 1996 to 2006, lower than the 3.4% and 4.1% achieved in South Africa and Gauteng respectively over the same period. When looking at the last five years of the decade (2001 to 2006) the growth levels are notably higher. Ekurhuleni's economic growth averaged 4.1%. Gauteng and South Africa achieved an average growth rate of 5.0% and 4.3% respectively over the same period.

All things considered, it does seem that there remains room for improvement by Ekurhuleni in ensuring it reaches its envisaged growth targets – both on the economic and socio-economic front. However, growth and development initiatives implemented to date have definitely not been in vain and the Municipality is well on its way towards ensuring a better life for all.

Patricia Kumalo  
Member of Mayoral Committee  
Economic Development Portfolio  
Ekurhuleni Metropolitan Municipality

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## Executive Summary

In order to go somewhere, you need to know where you are first. Local government has a need to be able to assess the demographic, economic, and socio-economic status quo; as well as measure growth and development on a sub-national level, and more specifically, on local metropolitan municipality levels. This type of information and estimates are needed for activities such as:

- policy and strategy decisions
- economic planning
- market development
- infrastructure planning, development, and delivery

This economic profile overview of Ekurhuleni Metropolitan Municipality serves to inform decision makers regarding the characteristics of the Ekurhuleni economy.

As a result of the lag in the statistical data reporting and collection process, it is currently only possible to provide estimates for economic variables up to the year 2006. National-level information from Statistics South Africa and the South African Reserve Bank for 2006 has also been used.

Ekurhuleni's key demographic and socio-economic characteristics are summarized in the following table and put in context to the Gauteng provincial and South African national picture. National boundaries have changed over the last decade, thus figures in the demographic context differs from the 2002 report. The region covers approximately 2000 square kilometres, which translates into 11.63% of Gauteng and 0.16% of the national areas, respectively. Evident is that the area is extremely densely populated when compared with both Gauteng and national population density. Ekurhuleni houses approximately 5.7% of the country's population and 27.32% of the Gauteng province's total population. Income levels in Ekurhuleni are above national average (which is to be expected for most urban areas in South Africa), but below that of the Gauteng province's average. Unemployment rates are similar to the national average, but higher than that of the Gauteng province on average; while the percentage of people in poverty is lower than the national average, but similar to Gauteng's average.

**Table 1: Ekurhuleni key comparative statistics, 2006**

	Ekurhuleni	Gauteng	South Africa
<b>Region area</b> (sq km)	1,928	16,579	1,221,246
<b>Population</b>	2,699,394	9,879,610	47,560,742
<b>Population density</b> (nr of people per sq km)	1400	596	39
<b>Economically active population</b> (as % of total pop.)	57.3%	57.0%	40.5%
<b>No of households</b>	868,976	3,155,402	12,883,990
<b>Average household income</b> (Rand, current prices)	107,349	142,905	94,090
<b>Annual per capita income</b> (Rand, current prices)	34,557	45,642	25,489
<b>Gini coefficient</b>	0.59	0.58	0.64
<b>Formal sector employment</b> (estimates)	696,204	3,670,360	9,896,088
<b>Informal sector employment</b> (estimates)	98,234	477,803	2,110,379
<b>Unemployment rate</b>	34.3%	30.0%	37.7%
<b>Percentage of persons in poverty</b>	24.2%	22.9%	44.4%
<b>Poverty gap</b> (R million)	1,172	3,903	37,897
<b>Human development index (HDI)</b>	0.68	0.71	0.62
<b>Index of Buying power (IBP)</b>	0.08	0.35	1.00
<b>Share of Economic output</b> (GVA % of SA 2006)	6.6%	33.7%	100.0%
<b>Economic growth 1996-2006</b> (GVA % growth pa) (Constant 2000 prices)	2.7%	4.1%	3.4%

Source: Global Insight Regional eXplorer (ReX) v.351

The Human Development Index (HDI) for Ekurhuleni indicates that the area fares better than the national average, whilst lagging slightly behind the Gauteng average. The HDI for Ekurhuleni is 0.68, which is indicative of a medium-developed municipality. The buying power in the area is based on Global Insight's Index of Buying Power (IBP), which indicates that only 8% of the country's spending power is located in Ekurhuleni compared to 35% in Gauteng as a whole.

However, Ekurhuleni is a large and significant local economy in the South African economic context. Some summary estimates (presented in Table 2) illustrate that Ekurhuleni has a resident population of approximately 2.7 million people; the area contributes approximately 7% to national production and has a share of approximately 6.6% of national employment. Over the period 1996 to 2006, Ekurhuleni's economy grew by an estimated average of 2.7% per annum. Ekurhuleni contributes approximately 19% to the total economic output of the Gauteng province. Evident from the table is that Ekurhuleni did not share in the same strong growth that Johannesburg exhibited over the same period.

**Table 2: Population, output, employment, and economic growth in South Africa's major cities**

Area	Population in 2006	Contribution to National Economic Output in 2006	Share of National Employment	Average Annual Economic Growth, 1996-2006
Ekurhuleni	<b>2,699,394</b>	<b>6.6%</b>	<b>7.0%</b>	<b>2.7%</b>
City of Cape Town	3,132,774	10.0%	11.2%	4.3%
eThekweni	3,300,906	7.9%	10.6%	4.0%
City of Johannesburg	3,460,916	17.9%	16.3%	4.9%
Nelson Mandela Bay	1,077,556	2.3%	3.5%	3.4%
City of Tshwane	2,129,866	9.2%	8.4%	4.8%
Gauteng	<b>9,879,610</b>	<b>37.1%</b>	<b>33.7%</b>	<b>4.1%</b>
South Africa	<b>47,560,742</b>	<b>100.0%</b>	<b>100.0%</b>	<b>3.4%</b>

Source: Global Insight Southern Africa – Regional eXplorer

Since information used to derive economic activity estimates are in most cases reported by company head offices, combined with the fact that many manufacturing operations have head offices in the Johannesburg and other metropolitan municipalities—while the production plants are located in Ekurhuleni—necessitates one to interpret the economic performance-estimates in such a context. This may imply that some of the estimates obtained for Ekurhuleni may be on the conservative side.

## Introduction

As stated in the executive summary: "In order to go somewhere, you need to know where you are first." We live in an era when constant decisions have to be taken in times of economic change and volatility. The economy of South Africa is focussed on economic growth, which will enable people to participate and add value in the economic environment. Constant evaluation is needed to make the best possible decisions with regards to a host of factors that contribute to the hub of the policy-making process. Global Insight provides the user with information that is vital to this decision-making process. Data presentation is of utmost importance to reflect what is happening in the economy and to reflect an accurate socio- economic status of the country,

There is a need for more sub-national and sub-provincial information to be collected, collated, and made available to decision makers. Global Insight's Regional Explorer (ReX) database addresses this need. The ReX is a system of integrated databases that provide accurate and up-to-date economic, socio-economic, and development information on a sub-national level within South Africa. Regular users of data in South Africa are aware that the process of collecting existing published data is time consuming; and that once collected, the data is often inconsistent or outdated.

The ReX draws together many different sources of sub-national economic information from Statistics South Africa (StatsSA), development agencies, Regional Services Councils (RSC), South African Revenue Services (SARS), Bureau for Market Research (BMR), SA Reserve Bank (SARB), National Treasury, Department of Mineral and Energy—Minerals Bureau, Eskom, Chamber of Mines, Cement and Concrete Institute, South African Council of Geosciences, the Independent Electoral Commission (IEC), Department of Provincial and Local Government, South African Weather Services, various other government departments and private research houses, and Global Insight's own data.

Data components are reworked to ensure internal consistency, whilst national and sub-national verification tests are applied. ReX indicators are updated to current periods using Global Insight's suite of forecasting models. These include a macroeconomic model, industry model, and income distribution-forecasting model. The ReX ensures reliable and consistent information across South Africa to assist planning and decision-making processes.

At the time of compiling this report, Statistics South Africa (StatsSA) has not released the detailed community survey 2007 statistics. This is an important data release that is needed to update the Global Insight estimates, and the last full population census was only conducted in 2001. The document is based on data available up to August 2007.

It is envisaged that this report is the first of four; with the subsequent four reports providing a more detailed analysis on each of the major aspects addressed in the overview profile.

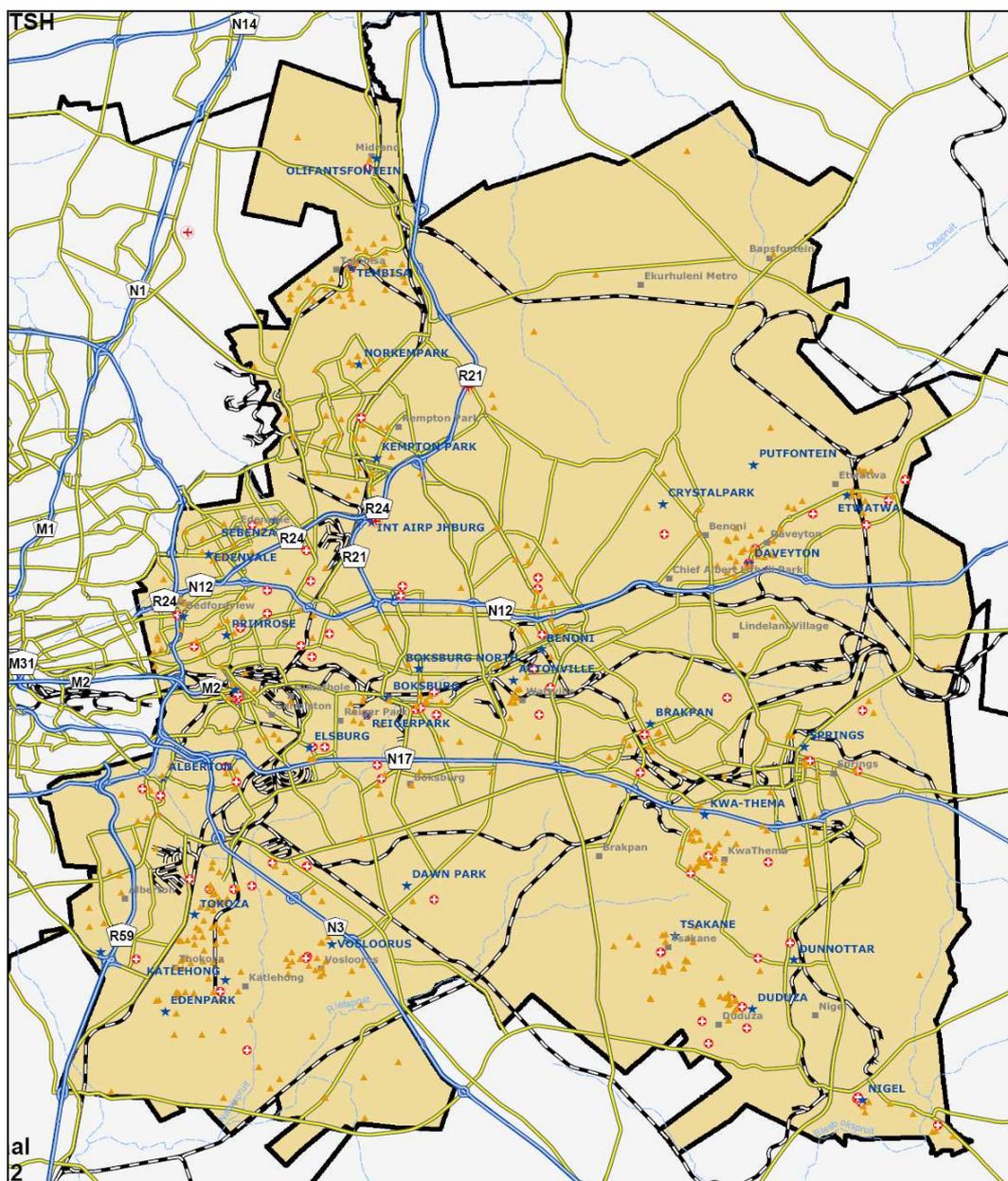
As a result of the lag in the statistical data reporting and collection process, it is currently only possible to provide estimates for economic variables up to the year 2006. For the purposes of planning, forward-looking estimates (or forecasts) will be provided where relevant in future more detailed reports.

The following profile of the economy of Ekurhuleni is divided into four main sections. The first three sections present an overview of economic production,

employment, unemployment, and international trade; while the fourth section provides a brief overview of the human capital characteristics of the area, particularly estimates of education, poverty, inequality, and human development in Ekurhuleni.

## Geographic Context

Appendix A at the end of this report eludes the how the Ekurhuleni Metropolitan Municipality was approximated in the previous report and warns on comparing this report and the previous report directly. The new municipal boundaries are outlined below:



The Ekurhuleni metropolitan municipality, formerly known as the East Rand, consists of the following towns: Alberton, Edenvale, Springs, Nigel, Boksburg, Kempton Park Tembisa, Brakpan, Benoni and Germiston. This metropolitan area is one of the busiest business hubs in South Africa, and accumulates a lot of wealth for the nation.

The Ekurhuleni metropolitan municipality with respect to its economic performance will be compared to the other major metropolitan municipalities and to South Africa as a whole. A detailed analysis follow.

## Overview of Key Demographic and Socio-economic Characteristics

Ekurhuleni's key demographic and socio-economic characteristics are summarized and put in context to the Gauteng provincial and South African national picture. The region covers approximately 2000 km<sup>2</sup>, forming 11.63% and 0.16% of the Gauteng and national areas, respectively.

**Table 3: Ekurhuleni key comparative statistics, 2006**

	Ekurhuleni	Gauteng	South Africa
<b>Region area</b> (sq km)	1,928	16,579	1,221,246
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<b>Economic growth 1996-2006</b> (GVA % growth pa) (Constant 2000 prices)	2.7%	4.1%	3.4%

Source: Global Insight Regional eXplorer (ReX) v.0351

Evident is that the area is extremely densely populated when compared with both Gauteng and national population density. Ekurhuleni houses approximately 5.7% of the country's population and 27.32% of the Gauteng province's total population. Income levels in Ekurhuleni are above national average (which is to be expected for most urban areas in South Africa), but below that of the Gauteng province's average. Unemployment rates are synonymous to that of the national average, but higher than that of the Gauteng province on average, while the

percentage of people in poverty is lower than the national average, but approximately the same as Gauteng's average.

The Human Development Index (HDI) for Ekurhuleni indicates that the area fares better than the national average, while lagging slightly behind the Gauteng average. The buying power in the area based on Global Insight's Index of Buying Power (IBP) indicates that only 8% percent of the country's spending power is located in Ekurhuleni compared with 35% in Gauteng as a whole.

However, Ekurhuleni is a large and significant local economy in the South African economic context. Some summary estimates (presented in table 4) illustrate that Ekurhuleni has a resident population of approximately 2.7 million people; the area contributes approximately 6.6% to national production which is marginally lower than the 2003 report (this can be ascribed to the changes in the demarcation borders) and has a share of approximately 7% of national employment.

**Table 4: Population, output, employment, and economic growth in South Africa's metropolitan areas**

Area	Population in 2006	Contribution to National Economic Output in 2006	Share of National Employment	Average Annual Economic Growth, 1996-2006
<b>Ekurhuleni</b>	<b>2,699,394</b>	<b>6.6%</b>	<b>7.0%</b>	<b>2.7%</b>
City of Cape Town	3,132,774	10.0%	11.2%	4.3%
eThekweni	3,300,906	7.9%	10.6%	4.0%
City of Johannesburg	3,460,916	17.9%	16.3%	4.9%
Nelson Mandela Bay	1,077,556	2.3%	3.5%	3.4%
City of Tshwane	2,129,866	9.2%	8.4%	4.8%
<b>Gauteng</b>	<b>9,879,610</b>	<b>37.1%</b>	<b>33.7%</b>	<b>4.1%</b>
<b>South Africa</b>	<b>47,560,742</b>	<b>100.0%</b>	<b>100.0%</b>	<b>3.4%</b>

Source: Global Insight Regional eXplorer (ReX) v.0351

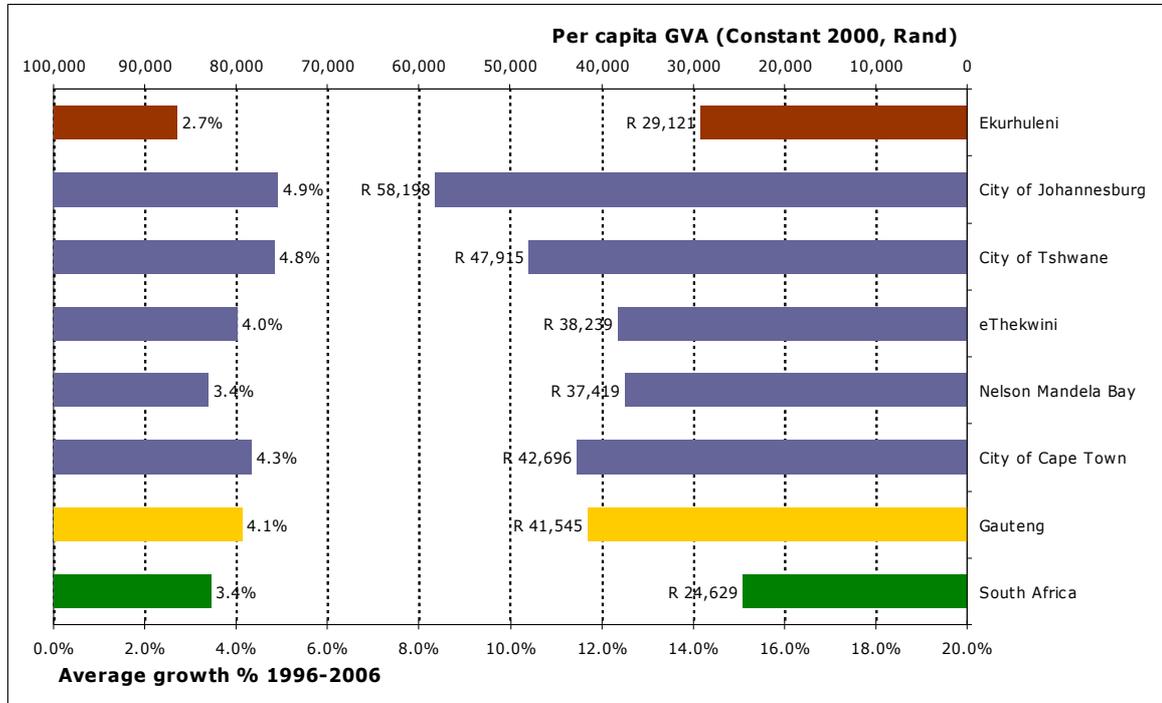
Over the period 1996 to 2006, Ekurhuleni's economy grew by an estimated average of 2.7% per annum. Evident is that Ekurhuleni did not share in the same strong growth that the other regions exhibited during this time frame.

Since information used to derive economic activity estimates are in most cases reported by company head offices, combined with the fact that many manufacturing operations have head offices in the Johannesburg and other metropolitan areas—while the production plants are located in Ekurhuleni—necessitates one to interpret the economic performance-estimates in such a context. This may imply that some of the estimates obtained for Ekurhuleni may be on the conservative side.

## Production

At sub-national or local level, production is measured in terms of Gross Value Added by Region (GVA-R). In 2006, economic output in Ekurhuleni came to R29.12 billion (in constant 2000 values).

**Figure 1: Relative size and growth of metropolitan municipalities**



Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

Figure 1 shows the sizes of the economies of South Africa's metropolitan areas in terms of GVA-R per capita in 2006, along with the average growth rate in GVA-R over the period 1996 to 2006.

South Africa grew 3.4% on average during 1996 to 2006 compared to the 2.7% growth that Ekurhuleni experienced during that same period, which is also the slowest compared to the other metropolitan municipalities. Take note that from 2001, the average growth rate for Ekurhuleni was 4.1% over this period.

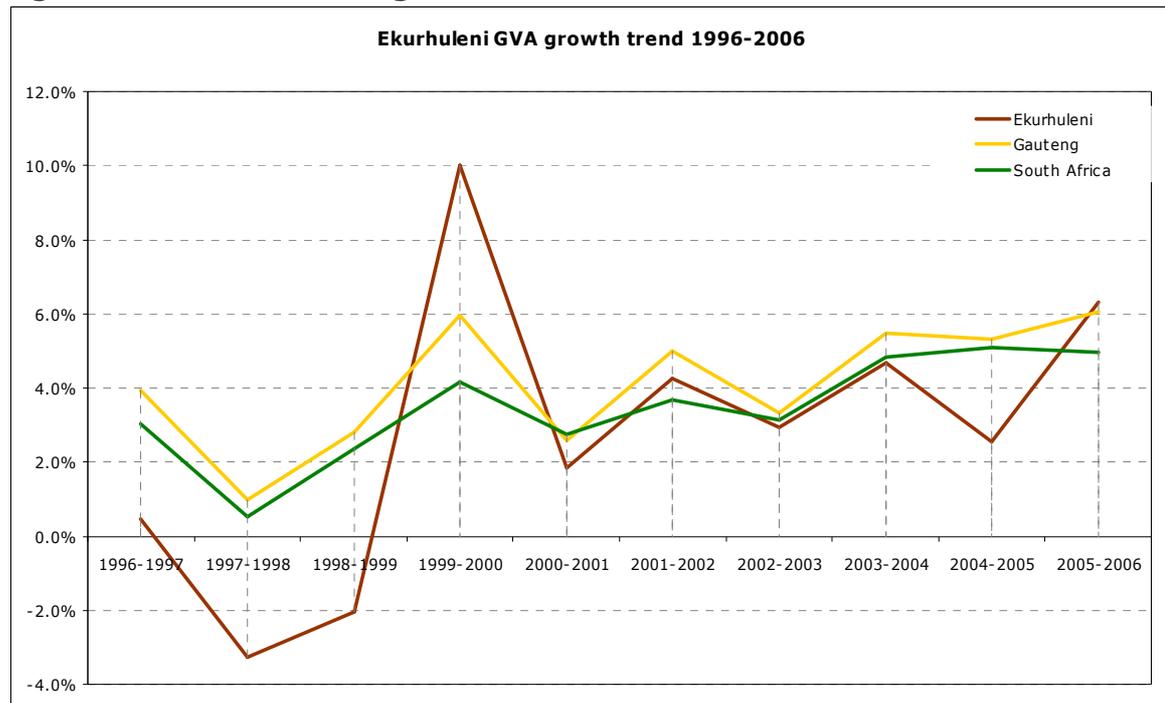
**Table 5: Economic size and growth**

Area	Contribution to National Economic Output in 2006	Rank	Average Annual Economic Growth, 1996-2006	Rank	Per capita GVA (constant 2000 Rand)	Rank
Ekurhuleni	6.6%	5	2.7%	6	29,121	6
City of Cape Town	11.2%	2	4.3%	3	42,696	3
eThekwini	10.6%	3	4.0%	4	38,239	4
City of Johannesburg	16.3%	1	4.9%	1	58,198	1
Nelson Mandela Bay	3.5%	6	3.4%	5	37,419	5
City of Tshwane	8.4%	4	4.8%	2	47,915	2
Gauteng	33.7%		4.1%		41,545	
South Africa	100.0%		3.4%		24,629	

Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

Out of the six metropolitan municipalities, Ekurhuleni makes the second-smallest contribution to the South African economy measured by GVA. When population size is accounted for, the per capita GVA is the smallest in the country (Figure 1). The above-average growth in the City of Johannesburg is probably influenced by the renovation of Newtown, the active filming industry, as well as the fact that the financial hub of the country, as well as the African continent, is located in the city of Johannesburg. Similarly, Tshwane's above-average growth can possibly be attributed to the automotive concentration in Rosslyn, and the fact that both central government and centres of innovation are located in the Tshwane area.

**Figure 2: Ekurhuleni GVA growth trend 1996 to 2006**



Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

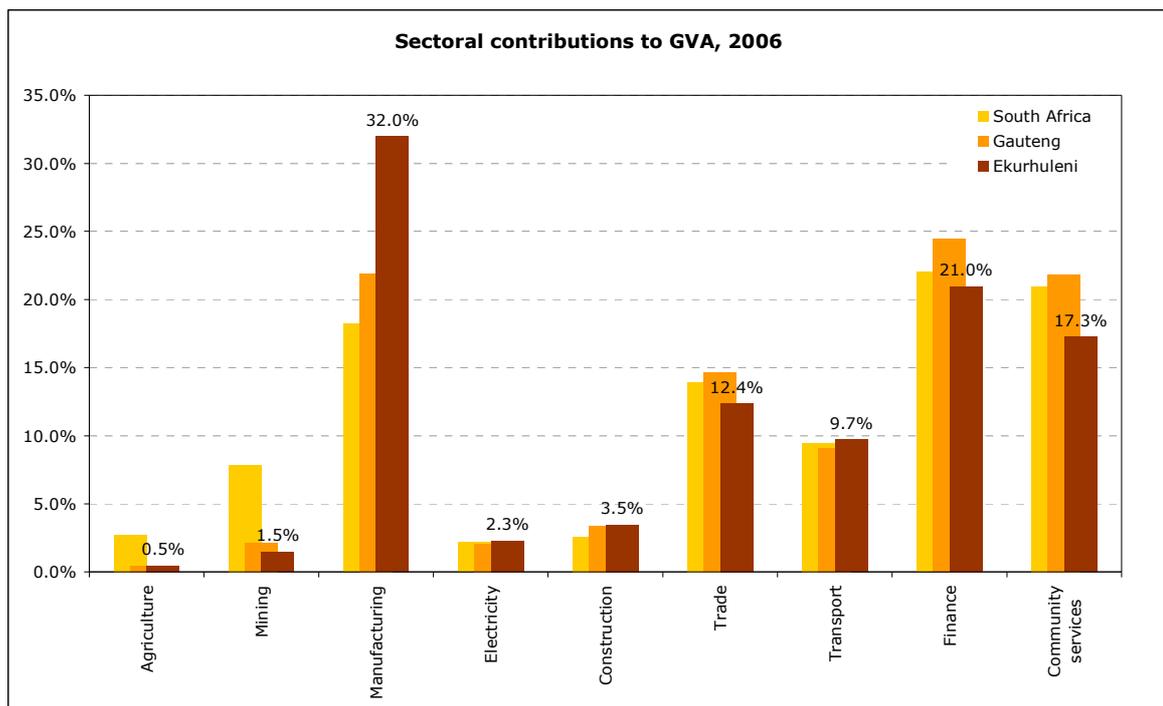
Over the period 1996 to 2006, the economy of Ekurhuleni did register the slowest growth amongst the metropolitan municipalities, averaging 2.7% per annum. However, this annualized growth is misleading. As is evident from Figure 2, this growth trend over this period was quite volatile, reaching both lows of -3.2% and highs of +10.6% over the ten-year window. The high growth in 2001 and 2002 was mainly due to the exchange rate movements of the South African rand and its effect on the mining and related industries. Construction, transport, trade, and financial services also benefited from the depreciation of the rand and contributed to the exceptional growth over this period. This serves to illustrate that the economy of Ekurhuleni is relatively sensitive to exchange rate movements. From 2000 onwards, Ekurhuleni, Gauteng, and South Africa as a whole progressed on similar trends; whereas in 2006, the Ekurhuleni metropolitan outperformed the two counterparts (Gauteng and South Africa), averaging a growth rate of 6.3% compared to 6.1% in Gauteng and 5% in South Africa.

## Regional and Broad Sectoral Profile

The size and growth of Ekurhuleni's economy can be explained in terms of the fate of the towns and sectors that form the Ekurhuleni economy.

It is also possible to obtain a sectoral breakdown of the local economy. The structure refers to the contributions of different sectors to the economy of Ekurhuleni. The structure of Ekurhuleni's economy shows a healthy mix of contributions from a number of sectors. Figure 3 shows the output shares of the various sectors in the Ekurhuleni economy in comparison to the South African (national) situation.

**Figure 3: Sectoral contributions to GVA in Ekurhuleni (2006 estimates)**



Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

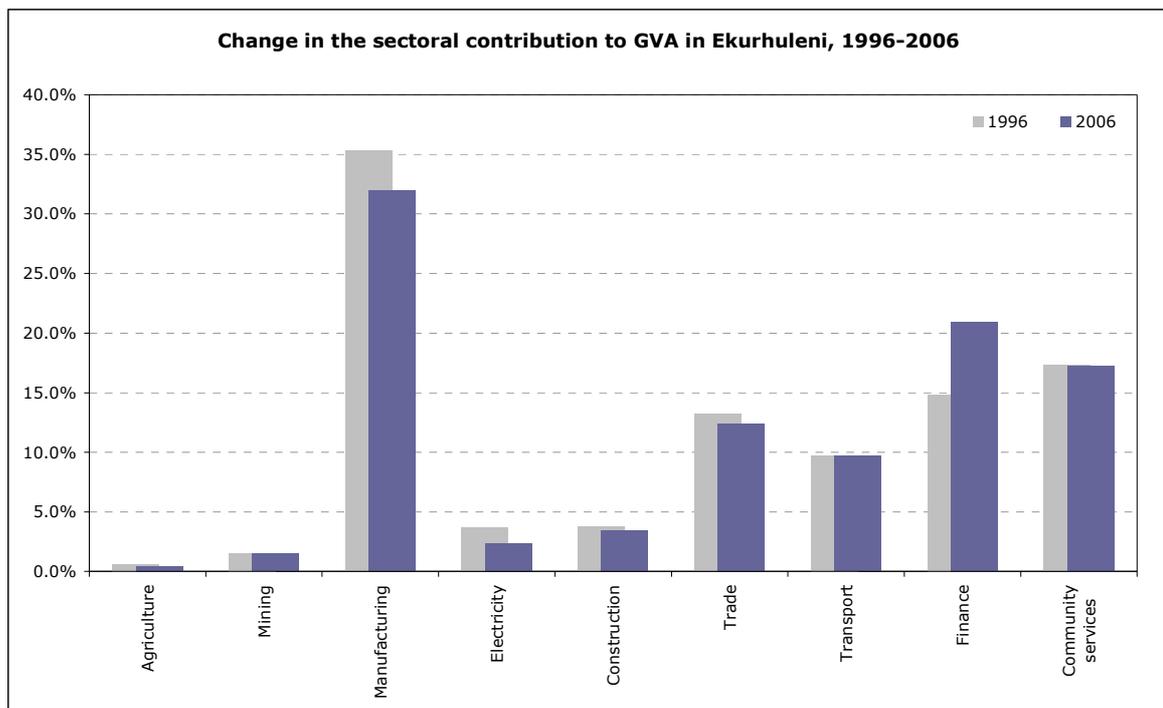
Based on current 2006 estimates of sectoral output in Ekurhuleni, it is evident that the manufacturing sector makes the largest contribution of 32% of Gross Value Added (GVA). This is significantly higher than in the national and Gauteng economy, where manufacturing only has an 18.2% and 21.9% share of GVA.

When comparing GVA contributions of the mining and agricultural sectors of Ekurhuleni to that of the national and provincial level, one notices that the contributions made are small in comparison to the two counterparts (Gauteng and National). This is also the case in the other metropolitan areas and can easily be explained by the urban nature of these areas. When comparing the other industries of Ekurhuleni, the sectoral contributions were almost similar to that of South Africa with marginal differences. The finance and community service sectors contributed the most to the GVA after the manufacturing sectors with 21% and 17.3%, respectively.

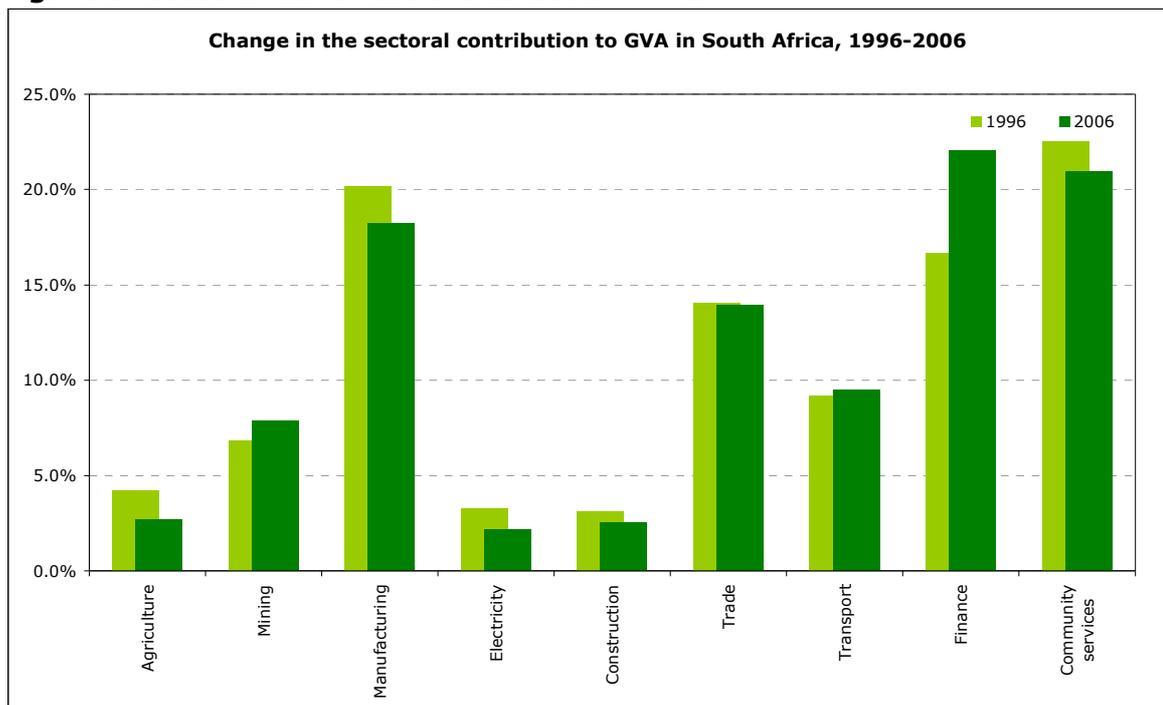
## Structural Changes

It is also possible to examine the changes in the structure of the economy over the last decade. Figure 5 shows the changes in the structure of the Ekurhuleni economy between 1996 and 2006.

**Figure 4: Sectoral contributions to Ekurhuleni**



**Figure 5: Sectoral contributions to South Africa**



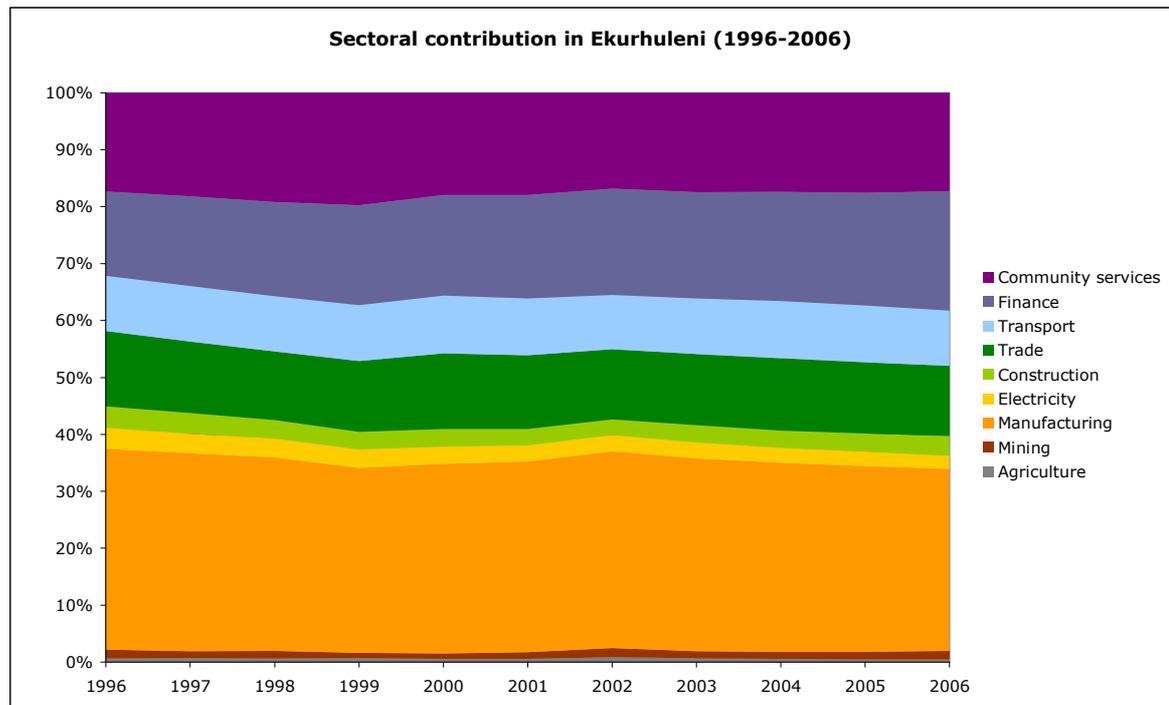
Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

It can be concluded from the figures that there were few significant changes to the structure of the economy of Ekurhuleni between 1996 and 2006. The most pronounced changes were the decline of the manufacturing sector and increase in the share of the financial services sector.

Compared to changes in the sectoral contributions to GVA at the national level, the changes in Ekurhuleni are in-line with broader national trends.

In Ekurhuleni, manufacturing's contribution of GVA in the metropolitan decreased from 35.3% to 32% over the 1996 to 2006 period. Nationally, manufacturing's share decreased from 20.2% to 18.2%. On national level, the percentage change decreased 1.02% in the manufacturing sector for the decade, compared to a 0.985% (year-on-year) decrease in Ekurhuleni. It is almost similar when comparing the percentage change in Ekurhuleni and South Africa. It is also not surprising that the finance sector was the only sector in Ekurhuleni whose share of GVA to the metropolitan exhibited positive results during the period 1996 to 2006 (year-on-year). The sector with the largest decline in its share of GVA was the electricity sector.

**Figure 6: Sectoral contributions by area (1996 to 2006)**



Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

The preceding figure confirms the inferences drawn previously. The primary sectors make limited contributions to the economy of Ekurhuleni.

## Economic Concentration and Diversification

A further indicator of the importance of the different sectors within the different areas of Ekurhuleni is the so-called Tress index. The Tress index is used to measure the extent to which an economy is concentrated or diversified. The index is also used as an indication of structural risk of an area. The more dependent the economic activity in an area is on a single (or few) sector(s), the more risk exists that the area can experience economic hardships as a result of the single (few) sector(s) declining. The index ranges between 0.0 and 100.0, where an index

value greater than 50.0 indicates that the economy is relatively concentrated and an index value of less than 50.0 indicates that the economy is diversified. In the context of risk, the closer the index is to 100.0, the more the structural risk that exists for the area. The following table shows the Tress index of the different metropolitan municipalities, as well as that of the different towns in Ekurhuleni, calculated for 1996 and 2006.

**Table 6: Tress index of diversity or concentration of places, 1996 & 2006**

Area	1996	2006
<b>Ekurhuleni</b>	<b>54.42</b>	<b>55.84</b>
City of Cape Town	53.33	57.22
eThekweni	47.48	49.51
City of Johannesburg	50.00	52.73
Nelson Mandela Bay	54.69	56.73
City of Tshwane	57.90	55.60
<b>Gauteng</b>	<b>50.98</b>	<b>51.50</b>
<b>South Africa</b>	<b>40.08</b>	<b>42.91</b>

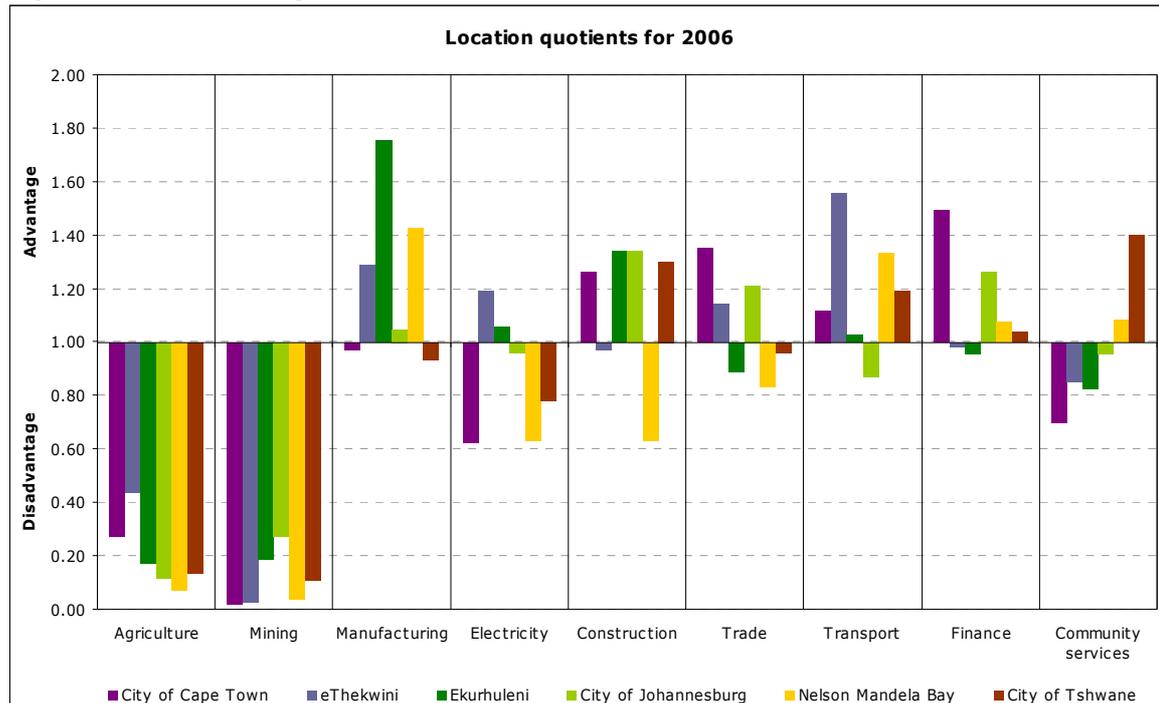
Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

The Tress index shows that all the metropolitan municipalities are more specialised than the national economy. This is, however, easily explained by the arguments that it is exactly the agglomeration forces that mark cities, which also are the drivers of growth. As is, the metropolitan municipalities are not marked by a particularly high concentration. Tshwane was the most highly concentrated economy in 1996 compared to the City of Cape Town who had the highest Tress index in 2006. Ekurhuleni’s position has remained virtually unchanged. Overall, the trend of the Tress index is increasing, meaning that the different metropolitan municipalities are moving away from diversification and that the structural risk for the various metropolitan municipalities are increasing.

## **Sectoral Comparative Advantages of Areas in Ekurhuleni**

The comparative advantages of sectors within areas are measured by the index called a location quotient. This index illustrates whether a specific area has a comparative advantage (or disadvantage) for a specific sector when comparing the contribution of the sector to the economic output of the area relative to that of the national picture.

**Figure 7: Location quotients for Ekurhuleni areas for 2006**



Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

From figure 7, it can be concluded that, similar to Ekurhuleni overall, all the different metropolitan municipalities have a comparative disadvantage in the primary sectors when compared to the national picture. This is as expected in urban areas, with very little agriculture land and mining activities. Manufacturing shows a comparative advantage for all metropolitan municipalities except for the cities of Tshwane and Cape Town. Ekurhuleni outperformed the other sectors in its comparative advantage in the manufacturing sector. The eThekweni and Ekurhuleni metropolitan municipalities have a comparative advantage, the electricity sector. One should have cognisance of the fact that electricity's share in the metropolitan is on the decline, as mentioned in the previous section. In the transport and community service sectors, Ekurhuleni displays a disadvantage.

Next, having a look not only at production, but also at employment, will provide a more detailed picture of Ekurhuleni's economy.

The significance of a sector or region in Ekurhuleni's economy depends not only on its share of output, or the growth thereof, but also on its contribution to employment and share of unemployment. The following table provides a summary of employment and compares the unemployment figures in South Africa and the different metropolitan municipalities.

**Table 7: Employment and unemployment in 2006**

Area	Economically active population (% of total population)	Total employment	Informal employment	Unemployment rate (%) (expanded definition)		
				Male	Female	Total
<b>Ekurhuleni</b>	<b>57.3%</b>	<b>794,438</b>	<b>98,234</b>	<b>27.4%</b>	<b>42.3%</b>	<b>34.3%</b>
City of Cape Town	46.8%	1,139,027	146,777	16.5%	23.5%	19.7%
eThekweni	42.9%	1,015,239	238,008	32.7%	47.1%	39.3%
City of Johannesburg	59.7%	1,978,631	209,649	26.3%	38.8%	32.2%
Nelson Mandela Bay	42.7%	269,209	41,811	37.6%	56.1%	46.3%
City of Tshwane	54.4%	1,032,005	117,318	23.4%	34.4%	28.7%
<b>Gauteng</b>	<b>57.0%</b>	<b>4,148,163</b>	<b>477,803</b>	<b>24.7%</b>	<b>39.3%</b>	<b>31.5%</b>
<b>South Africa</b>	<b>40.5%</b>	<b>12,006,468</b>	<b>2,110,379</b>	<b>28.8%</b>	<b>48.5%</b>	<b>37.7%</b>

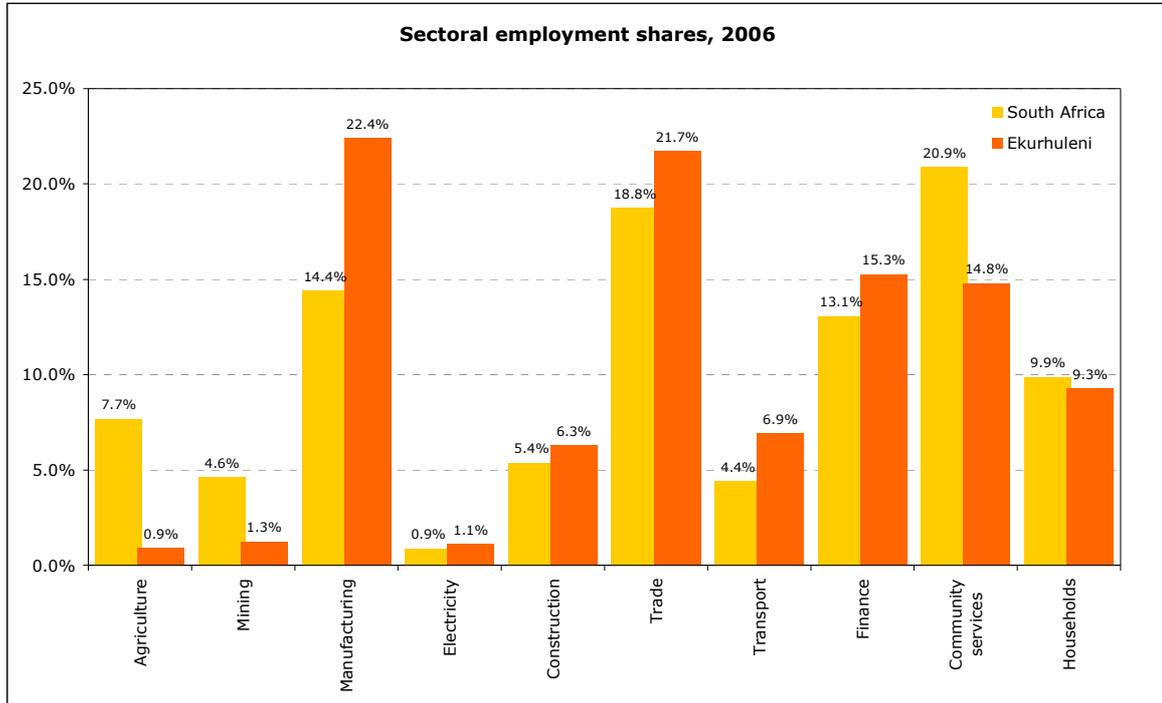
Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

South Africa's immense employment problems are clearly reflected in sub-national statistics as well. Immense efforts have been conjured to rectify this defect in South Africa's armour. The economically active people in South Africa have increased marginally with an expanded definition of employment reaching almost 38%. On the other hand, if you look at Ekurhuleni, close to 60% of the population is economically active with an unemployment rate of just above the 34% level. An estimated 98,234 people are employed in the informal sector, making up 12.37% of all the employment available in the area.

In Ekurhuleni, a relatively large share of the population is economically active (57.3%). A total of 794,438 people are employed in the metropolitan area, with 98,234 of those in the informal sector (approximately 12.37%). The unemployment rate is 34.3%. Thus, compared to the national totals and the other metropolitan municipalities, Ekurhuleni's large share of economically active population stands out. The rate of unemployment also has improved when compared to 2004 document which showed that the unemployment rate for 2003 was 41% in Ekurhuleni.

## Regional and Broad Sectoral Profile

Figure 8: Sectoral employment shares



Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

Sectoral employment shares show the formal employment in the sectors that produce the output discussed. The figure displays the sectors that are the major employers in Ekurhuleni.

These employment shares give some added information about the sectors that are important for Ekurhuleni's economy. Agriculture, mining, and electricity have provided small contributions to production, and it is evident that they also made relatively small contributions to employment: 0.9%, 1.3%, and 1.1%, respectively. Manufacturing, on the other hand, makes an above national average contribution to output and employment in Ekurhuleni. It contributes a 22.4% share of employment in the metropolitan, compared to the 14.4% national average. In the trade, transport, and finance sector, Ekurhuleni also has significantly greater-than-national average shares of employment. Finally, the figure shows that the household sector is an important source of employment (9.3%) in Ekurhuleni. Moreover, as this sector is providing employment to predominantly low and unskilled female labour, it is an important sector for alleviating poverty.

**Table 8: Contrasting population, employment, unemployment, and income levels by area**

Area	Population (number)	Employment (number)	Unemployment		Per capita income (Rand, current prices)
			Number	Rate	
<b>Ekurhuleni</b>	<b>2,699,394</b>	<b>794,438</b>	<b>538,908</b>	<b>34.3%</b>	<b>34,557</b>
City of Cape Town	3,132,774	1,139,027	289,615	19.7%	45,530
eThekweni	3,300,906	1,015,239	555,562	39.3%	34,375
City of Johannesburg	3,460,916	1,978,631	665,474	32.2%	53,927
Nelson Mandela Bay	1,077,556	269,209	213,285	46.3%	32,761
City of Tshwane	2,129,866	1,032,005	332,576	28.7%	61,017
<b>Gauteng</b>	<b>9,879,610</b>	<b>4,148,163</b>	<b>1,771,332</b>	<b>31.5%</b>	<b>45,642</b>
<b>South Africa</b>	<b>47,560,742</b>	<b>12,006,468</b>	<b>7,271,446</b>	<b>37.7%</b>	<b>25,489</b>

Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

Table 8 gives a summary of estimated population, employment, and per capita income numbers. As mentioned in the summary, Ekurhuleni has the fourth smallest population of the different metropolitan municipalities and third smallest unemployment figures. All the listed metropolitan municipalities host 27.54% of South Africa’s population. Of this population percentage, 45.26% of all employment present in South Africa is situated in the metropolitan areas. Gauteng’s unemployment rate (expanded definition) is 28%, which is considerably less than South Africa’s unemployment rate as a whole.

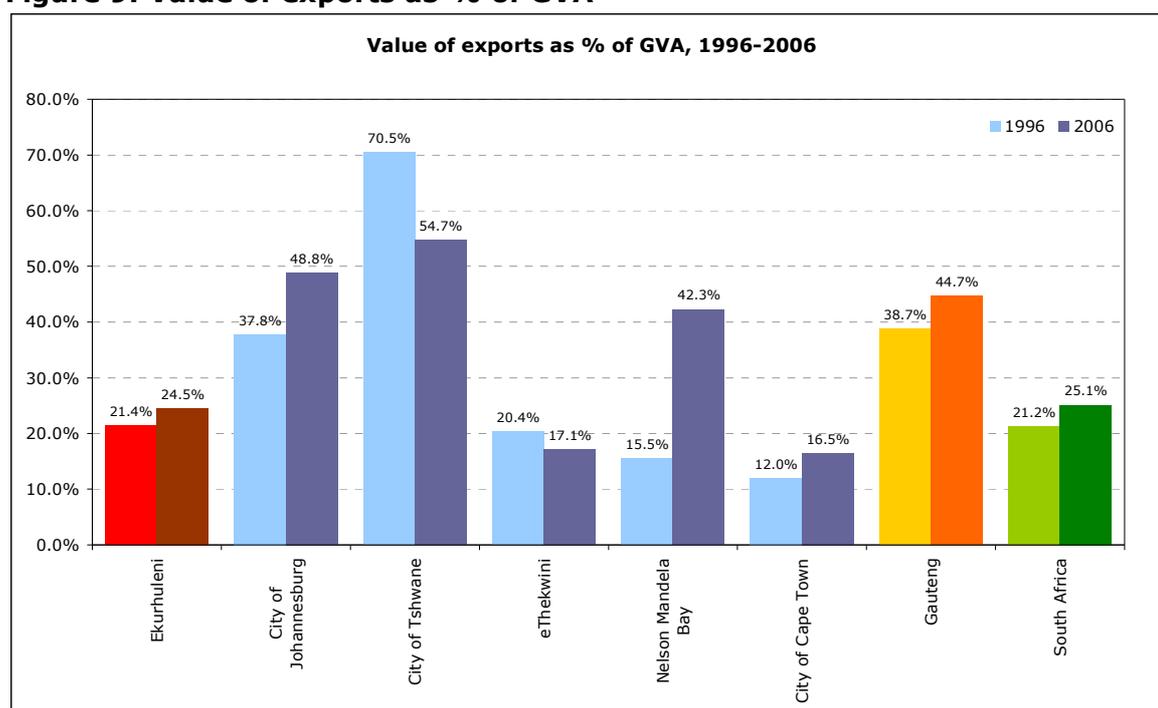
Per capita income in the region increased since 2003 where it was R27,338 compared to R34,557 in 2006.

Next we shift the focus to the international side of Ekurhuleni’s economy: its exports.

## International Trade—Focus on Exports

The previous two sections outlined the supply (or production) side of Ekurhuleni's economy. On the demand (or market) side, it is possible to distinguish between local and international demand. A detailed examination of domestic demand falls outside the scope of this report. One can deduce, however, that a large informal sector, high levels of unemployment, poverty, and inequality would be factors that dampen domestic demand; particularly demand for the products of the high-skilled, high-value-added sectors that current policies seek to promote. This undermines the significance of international demand for Ekurhuleni's economy and leads us to examine its exports.

**Figure 9: Value of exports as % of GVA**

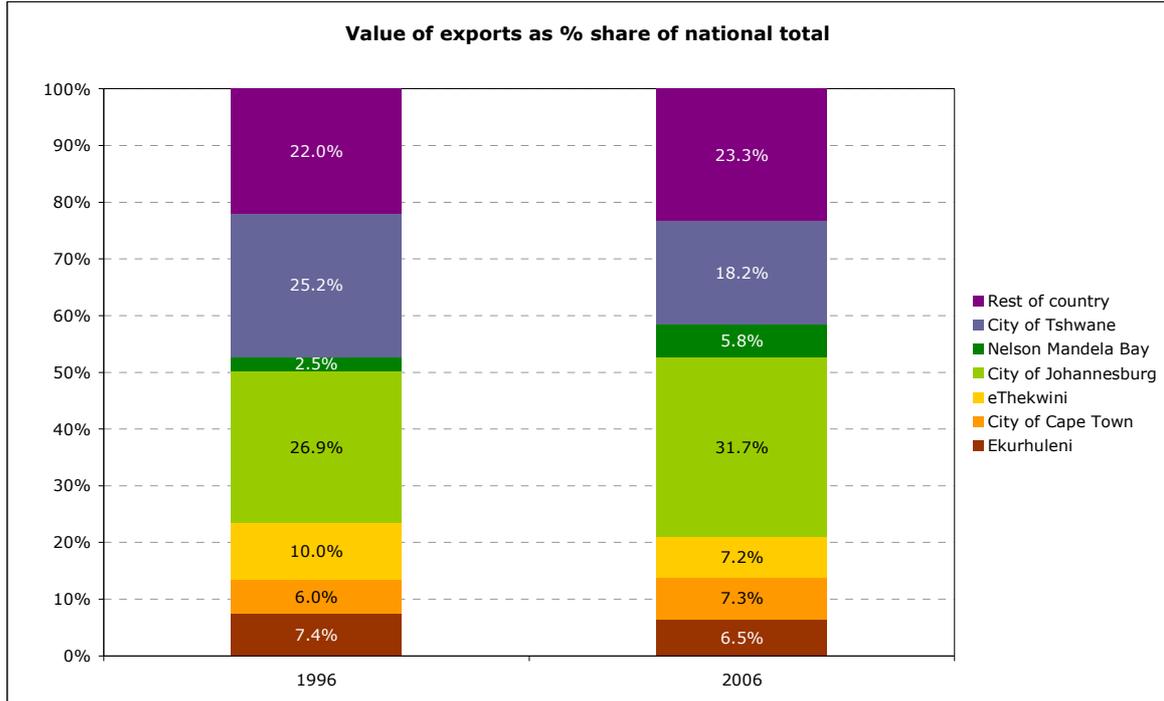


Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

It is clear that export activities make up a significant share of GVA in all the metropolitan municipalities. The World Bank puts special emphasis on developing countries to become more export orientated. In 1996, exports made up 21.2% of GVA in the national economy and even greater shares in the economies of the City of Johannesburg (37.8%), eThekweni (20.48%), and Ekurhuleni (21.4%) when taking the new 2005 boundaries into consideration.

By 2006, the export share of GVA constituted 25.1% in the national economy. For the City of Johannesburg, Nelson Mandela, and Tshwane, a greater than national average share of exports to GVA prevails. For the city of Tshwane, which has the highest percentage of exports over GVA, the decrease was quite significant. Note that most gold exports are recorded in Tshwane, as this is handled by the South African Reserve Bank which is located in the Tshwane Metropolitan Municipality. Ekurhuleni's exports as a percentage of GVA, increased by 1.4% (year-on-year) during the period 1996-2006.

**Figure 10: Value of exports as % share of national total**



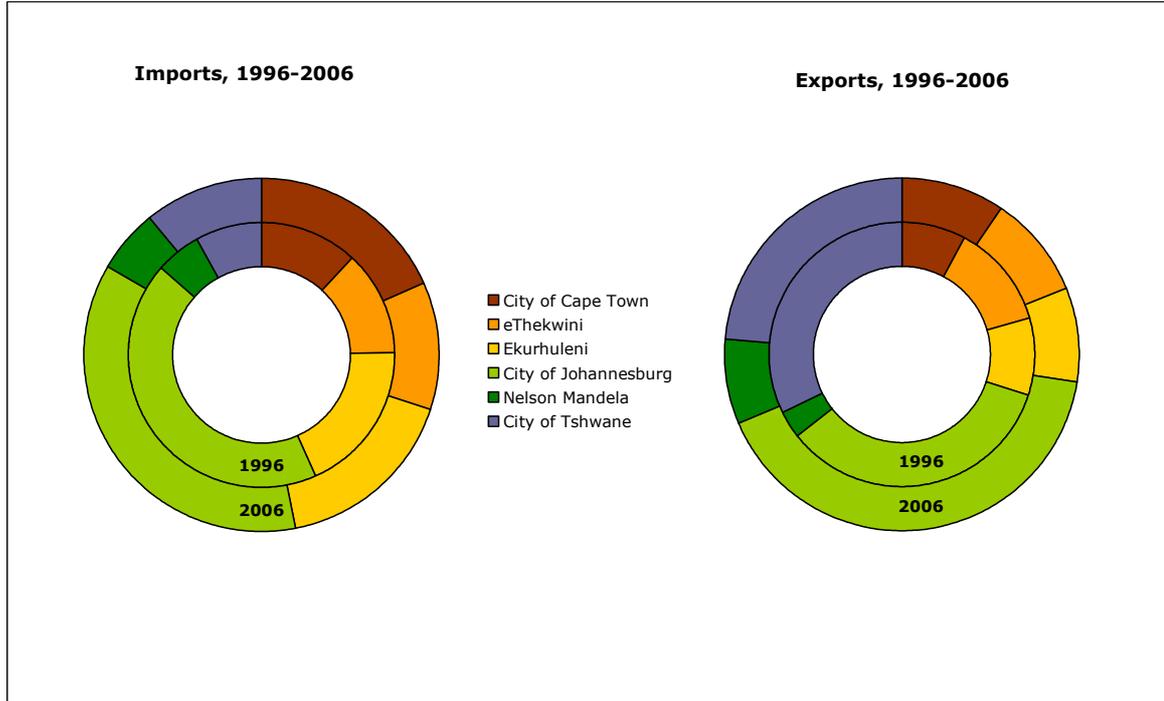
Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

Figure 10 clearly shows the gains in exports made by the City of Johannesburg and Nelson Mandela Bay as their national contributions increased. The contribution that Ekurhuleni made has decreased for this period

## Regional Profile

Figure 11 compares imports and exports of the various metropolitan municipalities against each other. Ekurhuleni is the third-largest importer compared to the other sectors and is the fifth-largest exporter of the six metropolitan municipalities. The cause for this can be ascribed to the relative size of the industrial sectors (Tshwane and Johannesburg) where most trade takes place. The trade balance (which is the difference between exports and imports) also gives a general direction as to how trade moves in the different areas. In 1996, the trade deficit for Ekurhuleni was R-9 billion, this was even more pronounced in 2006, where it equalled R-41 billion. This implies that the area is expanding economically and saving less. We know that interest rates are in the rise to curb the increase of the inflation rate; this in turn will strengthen the county's currency, which will lead to a decline in trade and will force people to save more.

**Figure 11: Relative imports and exports for the metropolitan areas**



Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

## Human Capital

Human capital has been shown to be a highly significant determinant of economic growth, particularly at the local level. The following section provides a brief overview of education, poverty, inequality, and human development in Ekurhuleni.

## Regional Population Profile

Ekurhuleni has a population of approximately 2.7 million people. The table shows that it is the fourth largest of the metropolitan municipalities following eThekweni and the Cities of Cape Town and Johannesburg.

**Table 9: Population statistics, 2006 estimates**

Area	Population 2006	Population growth (%) 1996-2006	Urbanisation 2006 (%)	Population density (pop. per km <sup>2</sup> )
Ekurhuleni	2,699,394	2.2%	96%	1,400
City of Cape Town	3,132,774	1.9%	99%	1,282
eThekweni	3,300,906	1.5%	91%	1,452
City of Johannesburg	3,460,916	2.2%	97%	2,100
Nelson Mandela Bay	1,077,556	1.0%	94%	555
City of Tshwane	2,129,866	1.6%	88%	978
Gauteng	9,879,610	2.0%	92%	596
South Africa	47,560,742	1.3%	57%	39

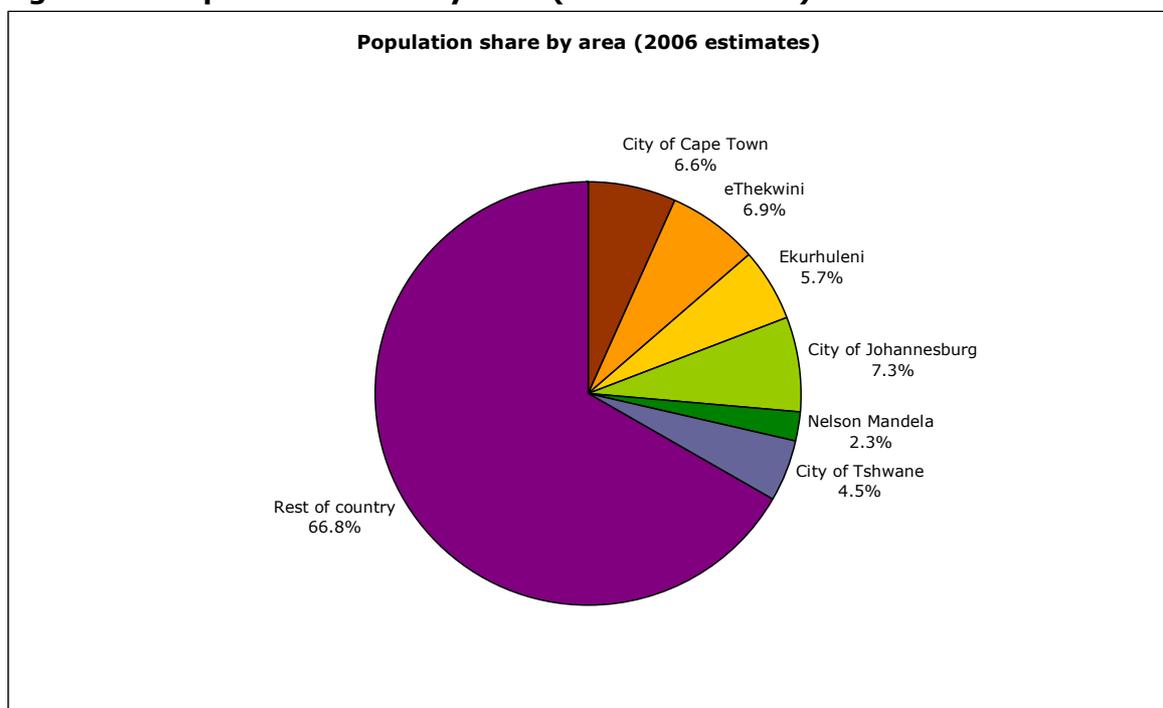
Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

The population in Ekurhuleni is growing at 2.2% (year-on-year) per year. The population growth rate is the highest when compared to the other metropolitan

municipalities. The population will continue to grow due to the hidden momentum of population growth, unless curbed by high-mortality-rate levels. The population growth rate is higher than what it was in 2003 (2%), a possible explanations might be the influx of immigrants of neighbouring countries or the inclusion of new areas into the borders of Ekurhuleni.

Ekurhuleni—as well as the other metropolitan areas—is a highly urbanized area (96%). These areas are the economic hub centres in South Africa, where rapid industrialization is taking place and an inflow of workers outside the borders come to seek employment. The problem with urbanization (the migration movement to a specific urban area) is that space becomes limited. The area is quite densely populated, with the population density being 1,400 people per km<sup>2</sup>. One should also bear in mind that almost half of the country’s population reside in rural areas. These people are generally poverty stricken; metropolitan expenditures aimed at alleviating this problem can bring about positive changes.

**Figure 12: Population share by area (2006 estimates)**



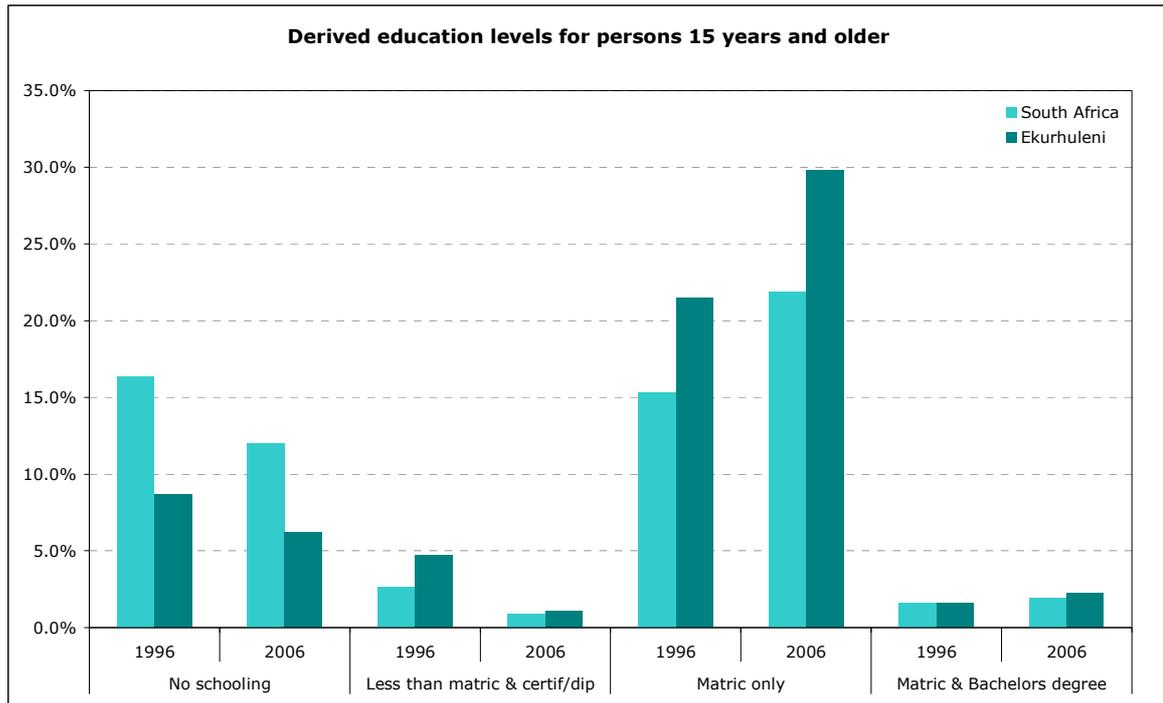
Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

The metropolitan areas consist of a relatively small portion of the population in South Africa. Ekurhuleni contains approximately 5.7% of the countries population, which is the fourth largest of the metropolitan municipalities discussed.

## Regional Educational Profile

For the economy, it is not only the number of people in an area that is important, but it is also the ability to receive employment and to contribute to production. This can be gauged by looking at the derived levels of education for people of age 15 years and older in Ekurhuleni. The following figure shows the percentage of the population with relevant qualifications in South Africa and Ekurhuleni in 1996 and 2006.

**Figure 13: Derived education levels for persons 15 years and older**



Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

The figure illustrates that Ekurhuleni has improved its human capital. Since 1996, the number of people with no schooling as a percentage of the population has decreased from 8.7% to 6.2%. Those with matric have increased from 21.5% to 29.8%. This trend is also noticeable throughout the whole country, but with regards to formal education, the changes were less pronounced than the country as a whole. These changes are the result of increased government expenditure that accrues to the education sector. When conducting a proper cost-benefit analysis, it is measurable whether these social benefits outweigh the social costs. Also bear in mind how the “brain drain” effect bares additional costs on society.

## Regional Poverty and Inequality Profile

Improved human capital does play a significant role in the economic society, but what is more important, is the ability for an economy to absorb these members and to ensure that spill-over effects accrue to the whole society, thus improving welfare status of those who desperately need a change.

As with unemployment, sub-national statistics gives an indication of the immense problems of poverty and inequality. Generally speaking, almost half of the population lives in poverty. In the case of the African population, the figure is even more pronounced.

**Table 10: Poverty, inequality, human development, 2006**

Area	Poverty gap estimates (Rand '000 current prices)	Poverty (% of people in poverty) 2006		Inequality (Gini coefficient) 2006	Human Development Index 2006	
		Africans	Total		Africans	Total
<b>Ekurhuleni</b>	<b>1,172</b>	<b>30.5%</b>	<b>24%</b>	<b>0.59</b>	<b>0.61</b>	<b>0.68</b>
City of Cape Town	951	34.6%	17%	0.54	0.65	0.74
eThekweni	1,517	37.4%	27%	0.60	0.61	0.68
City of Johannesburg	1,239	26.8%	21%	0.56	0.66	0.73
Nelson Mandela Bay	664	52.0%	36%	0.59	0.62	0.69
City of Tshwane	645	24.4%	18%	0.52	0.65	0.73
<b>Gauteng</b>	<b>3,903</b>	<b>29.2%</b>	<b>23%</b>	<b>0.58</b>	<b>0.63</b>	<b>0.71</b>
<b>South Africa</b>	<b>37,897</b>	<b>53.6%</b>	<b>44%</b>	<b>0.64</b>	<b>0.55</b>	<b>0.62</b>

Source: Global Insight Southern Africa – Regional eXplorer (ReX) v.0351

The Gini-coefficient measures equality in the distribution of income. A coefficient of 1 means that income is perfectly unequal distributed, a coefficient of 0 implies that income is equally distributed. South Africa as a whole is characterized as a country where income is highly unequally distributed (coefficient is 0.64). Ekurhuleni's income—as with all the other metropolitan municipalities—is also unequally distributed (0.59). Since 2003 (0.57) the Gini coefficient did increase marginally, the population groups which exhibited the largest income inequalities were the African and Coloured groups with coefficients of 0.58 and 0.56 respectively.

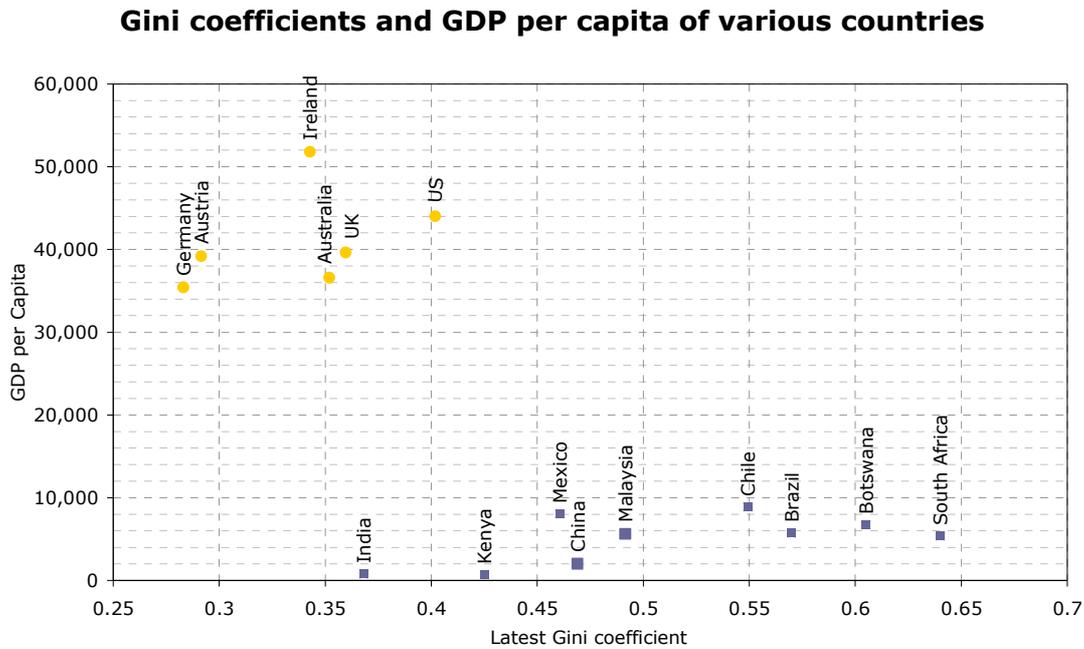
In the case of Ekurhuleni, the table shows that 24% of the people live in poverty compared to 26.6% in 2003. This is well below that national average of 44%. The estimated amount of funds needed to bridge the poverty gap for one year is estimated to be approximately 1,172 million rand for the Ekurhuleni area. The Human Development Index measures development within certain sectors with regards to education, longevity, and living levels. For Gauteng as a whole, the HDI index is relatively high with 0.71. The closer the HDI is to 1 implies that the region is becoming more developed. Ekurhuleni's HDI is also relatively high with an HDI of 0.68. This implies that the region is medium developed and that there is still a scope for improvement.

## Some International Comparisons

In conclusion, to place some international emphasis on economic output, population, and income levels, we can compare South Africa with various countries in terms of the latest income-inequality estimates measured by Gini coefficients of the World Bank. The following figure illustrates where South Africa is positioned relative to more developed countries such as Australia, the United States, United Kingdom, and other lesser-developed countries such as Mexico, India, China, and Brazil to name a few. As one would expect, South Africa does not group together with the more developed economies with regards to per capita GDP and Gini coefficients. However, it is interesting to note that some lesser-developed economies such as India, China, and Kenya have lower per capita economic output, but also lower inequality in their income distribution compared to South Africa. From Figure 14, it is also observable that the developed countries

are grouped together and that the developing countries are relatively closely grouped together.

**Figure 14: Gini coefficient relative to economic output per capita—South Africa and international**

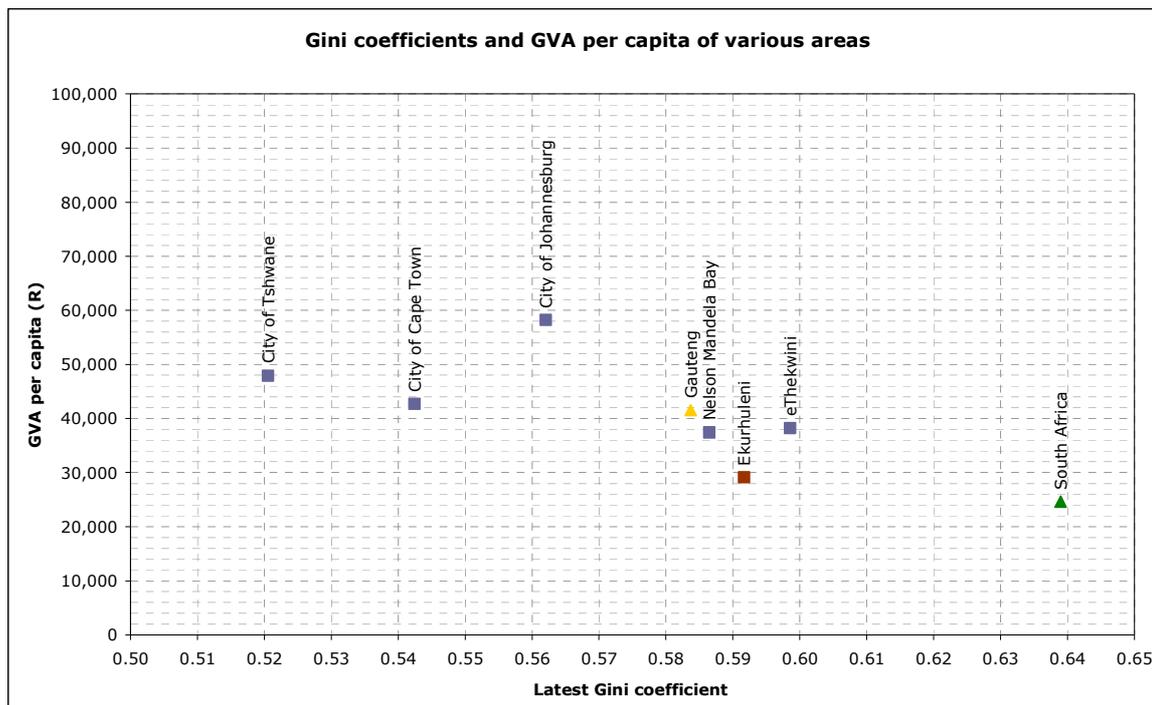


Source: World Bank estimates

South Africa compares relatively well with developing countries, but has to work on its income distribution. Developing countries are still behind developed countries in this two-variable analysis. Improvements have been made, but more aggressive progression is needed.

Figure 15 compares the different metropolitan areas and South Africa with regards to the same analysis as in Figure 14. The results follow:

**Figure 15: Gini coefficient relative to economic output per capita—Metropolitan Municipalities**



Source: Global Insight Southern Africa – Regional eXplorer

These illustrations emphasize that South Africa and the sub-national areas making up the economy of South Africa still have a long way to go both in terms of economic output and income distributions to be on par with the more developed economies. From this analysis, it is evident that the Ekurhuleni metropolitan area is one of the areas where these two aspects do perform worse than the other metropolitan municipalities; and with the right policies and strategies in place, the economy, wealth, and welfare of the Ekurhuleni metropolitan area can be improved.

City of Johannesburg stands out as the area with the highest per capita output (higher than all the other metropolitan municipalities shown in Table 15) and income is relatively less unequally distributed in the South African domestic context of the metropolitan municipalities listed.

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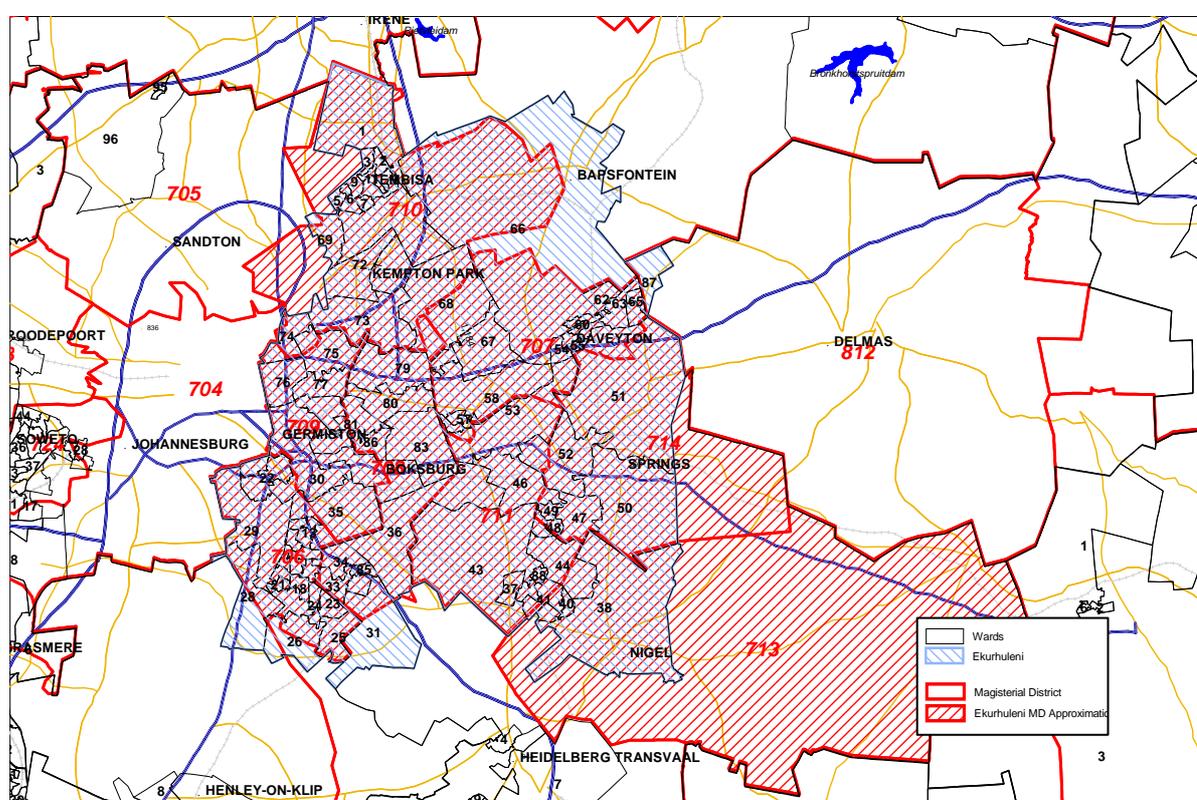
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## ► Appendices

### Appendix A: Magisterial District Approach used in Constructing the 2003 Ekurhuleni Metropolitan Municipality Approximated Figures

Previously, Global Insight had to rely on using magisterial districts to derive figures for metropolitan and district municipalities. The magisterial and municipal boundaries do not align completely. The process involved aggregating the magisterial districts in and around a specific metropolitan and/or district municipality to best approximate variables for the area. As a result, there were land areas that were not included within the municipal boundary, as well as areas that were supposed to be included, but were excluded as a result.



The area in the map that is shaded blue represents the municipal boundary for Ekurhuleni (used in this report). In previous reports, Global Insight used the red area to approximate Ekurhuleni Metropolitan Municipality. Areas that have been missed (not represented) in previous reports would be where there is a blue area only. Areas where there is only red visible would indicate areas that had been included previously but should not have been. This was, however, the best possible way to gauge the demographic, economic, and socioeconomic status quo of Ekurhuleni at that point in time.

Comparisons between the previous report and this report are not recommended since different sets of boundaries have been used. Thus, comparing this set of data with the previous report may produce distortions as a result of the boundary differences.

## Appendix B: Comparison of Global Insight and StatsSA Population Estimates

### Community Survey 2007

The last population census was conducted in 2001. After Census 2001, the cabinet decided to reduce the frequency of the regular five-year population censuses to every ten years, by postponing what would have been the 2006 Population Census to 2011. In order to fill the information gap, the Community Survey (CS) was born. This large-scale survey was designed to provide demographic and socio-economic data up to municipal levels.

The Community Survey was scheduled to be released by 10 October 2007. The release was postponed at the last minute to address quality problems with the survey. The first release, containing only the national and some provincial data, took place on the 24 October.

The following table highlights the data released from the CS-2007 and compares this with the Global Insight's Population Model results. Global Insight is still in the process of evaluating and scrutinising the quality of this dataset, and establishing how to incorporate this into the ReX product. The preliminary findings are, however, not very positive, and there is still a long list of issues that needs to be sorted out with StatsSA.

Provinces	StatsSA Census 2001	Global Insight 2001	StatsSA CS 2007	Global Insight 2007
Eastern Cape	6,278,651	6,361,027	6,527,747	6,393,259
Free State	2,706,775	2,833,336	2,773,059	2,855,673
Gauteng	9,178,873	9,053,033	10,451,713	10,025,589
KwaZulu-Natal	9,584,129	9,652,645	10,259,230	10,052,455
Limpopo	4,995,534	5,016,919	5,238,286	5,302,194
Mpumalanga	3,365,885	3,501,532	3,643,435	3,675,997
Northern Cape	991,919	1,018,921	1,058,060	1,060,434
North West	3,193,676	3,378,831	3,271,948	3,475,098
Western Cape	4,524,335	4,498,809	5,278,585	5,023,560
<b>South Africa</b>	<b>44,819,777</b>	<b>45,315,052</b>	<b>48,502,063</b>	<b>47,864,260</b>

## Appendix C: Technical Notes and Definitions

### Growth rate calculations

All growth rates shown, unless otherwise stated, have been computed using the least squares method. The least squares growth rate,  $r$ , is estimated by fitting a least squares linear regression trend line to the logarithmic annual values of the variable in the relevant period. More specifically, the regression equation takes the form  $\log X_t = a + bt + e_t$  where this is equivalent to the logarithmic transformation of the compound growth equation  $X_t = X_0(1+r)^t$ . In this equation,  $X$  is the variable,  $t$  is time,  $a = \log X_0$  and  $b = \log (1+r)$  are the parameters to be estimated, and  $e$  is the error term. If  $b^*$  is the least squares estimate of  $b$ , then the average annual percentage growth rate  $r$  is obtained as  $[\text{antilog}(b^*)] - 1$  and multiplied by 100 to express it as a percentage.

### Rate of unemployment

The ReX uses the expanded definition of unemployment in that it includes persons who are unemployed and looking for work, as well as persons who are unemployed and are not looking for work but would accept work if it was offered to them. Unemployment is measured at place of residence.

### Human Development Index

The Human Development Index (HDI) is a composite, relative index that attempts to quantify the extent of human development of a community. It is based on measures of life expectancy, literacy, and income. It is seen as a measure of people's ability to live a long and healthy life, to communicate, to participate in the life of the community, and to have sufficient resources to obtain a decent living. The HDI can assume a maximum level of 1, indicating a high level of human development, and a minimum value of 0.

The HDI is calculated as the average of indices of life expectancy at birth, adult literacy, and per capita income. These indices were calculated according to the general formula:

$$\text{Index} = \frac{\text{Actual } x_i \text{ value} - \text{minimum } x_i \text{ value}}{\text{Maximum } x_i \text{ value} - \text{minimum } x_i \text{ value}}$$

Fixed minimum and maximum values have been established for life expectancy and adult literacy. They were:

- life expectancy at birth: 25 years and 85 years
- adult literacy: 0% and 100%.

Since no regional estimates of life expectancy are available, it was necessary to make the crude assumption that life expectancy was equal across the country within each race group. National level life expectancy estimates from the Bureau of Market Research were used (BMR Report no. 276, The South African provinces: population and economic welfare levels, 2000).

The estimates of adult literacy rates derived for the ReX were used, as were the estimates of per capita income. Minimum and maximum values for per capita income were estimated from the ReX data.

### Gross Value Added By Region (GVA-R)

Global Insight estimates Geographic Value Added by Region (GVA) figures for each municipality. The difference between GVA-R and GGP is set out in the following:

We start with the difference between national GDP = South Africa (Gross DOMESTIC Product) and regional Gross Geographic Product (GGP), which is the same as GDP—only for a specific geographic area (Gross GEOGRAPHIC Product) within South Africa.

### At a national level

$$\begin{aligned}
 \text{GDP (market prices)} &= \text{GVA (basic prices) (RB6645J)} \\
 &\quad + \text{Taxes on products (RB6603J)} \\
 &\quad - \text{Subsidies on products (RB6604J)} \\
 \text{GVA (basic prices) (RB6645J)} &= \text{GVA (factor cost) (RB6003J)} \\
 &\quad + \text{Other Taxes on production (RB6600J)} \\
 &\quad - \text{Other Subsidies on production (RB6601J)} \\
 \text{GVA (factor cost) (RB6003J)} &= \text{Compensation of employees (RB6000J)} \\
 &\quad + \text{Gross operating Surplus} \\
 \text{Gross operating Surplus} &= \text{Net Operating Surplus (RB6001J)} \\
 &\quad + \text{Consumption of fixed capital ((RB6002J)}
 \end{aligned}$$

So Gross Value Added by Region (GVA-R) refers to GVA for a geographic area. RBXXXXJ—refers to Reserve Bank series (for example see page S-106 National Income & Production Accounts of South Africa June 2002).

In previous versions of the ReX data set we referred to GGP, while according to the strict definition it actually referred to GVA-R. We do not have information on "Other Taxes on products" and "Other subsidies on products" on a regional basis, while we DO have compensation of employees on a regional level and GVA by sector (StatsSA P4141). Therefore, we can derive GVA on a regional and sectoral level.

### Index of buying power

The Index of Buying Power (IBP) is a measure of a region's general capacity to absorb products and services. This general capacity depends on three factors: the number of consumer units, which is measured by the size of the population; their ability to spend, which is measured by total income; and their willingness to spend, which is measured by total retail sales.

The IBP is calculated for each region as the weighted average of these three measures. The following weights apply:

population	1
income	6
retail sales	3

The index values range between 0 and 1 (with national equal to 1) and can be interpreted as the percentage of national buying power attributable to a specific area.

### Tress index

The Tress index indicates the level of concentration or diversification in an economy. Ranking the nine sectors according to their contributions to GVA or employment, adding the values cumulatively, and indexing them results in an estimate of economic concentration or diversification. A Tress index of zero represents a totally diversified economy, while a number closer to 100 indicates a high level of concentration.

### **Location quotient**

The location quotient is an indication of the comparative advantage of an economy. A provincial or municipal economy has a location quotient larger (smaller) than one, or a comparative advantage (disadvantage) in a particular sector when the share of that sector in the provincial economy is greater (less) than the share of the same sector in the national economy.

### **Informal employment**

No information is available about employment in the informal sector at municipal level and, thus, it needs to be imputed. The 1996 population census measured total employment (i.e. both formal and informal sector together) in each municipality and a number of assumptions needed to be made to divide that employment into formal and informal. The ReX assumes that income level is the divider in that the lowest income earners in each sector are in the informal sector and the highest earners in the formal sector. Informal employment is measured at place of employment.

### **International trade**

South African international imports and exports statistics are collected by the South African Revenue Services (SARS), Department of Customs and Excise. The data (value, volume and partner country) are captured at the detailed 8-digit level Harmonised System (HS - 2-, 4-, and 8-digit refers to level of detail with 2 less and 8 most detail) nomenclature and are released on a monthly and annual basis for South Africa (since 1998) and for the other members of the Southern African Customs Union (SACU), i.e. Botswana, Lesotho, Namibia and Swaziland. From this detailed level of product classification (more than 9,000 product lines at the most disaggregated level), it is possible to "map" the international trade statistics to other more aggregated product classifications; e.g. the 21 sections used by the Department of Customs and Excise, or the Standard Industrial Classification of all Economic Activities (SIC), which at the aggregated SIC2 digit level distinguishes between 19 trade sectors of the economy.

Trade—in the context of this study—refers to imports as well as exports derived from South African Revenue Services (SARS) Dept. of Customs and Excise audited imports and export statistics. Audited annual data are used. It is important to note that no official SARS trade data are made available for chapter 93 of the Harmonised System (HS) of product classification (arms and ammunition - HS4 product categories 9301, 9302, 9303, 9304, 9305, 9306, 9307, 9318, 9326, and 9381). Trade in these product categories are regarded as "sensitive" and the data pertaining to these lines are therefore included under the so-called "unclassified" item. No official SARS data are available for product category 7110 (platinum group of metals). However, we know that platinum exports are significant and we have, therefore, included Chamber of Mines export data for HS4 category 7110 for each of the years.

**Table 11: Trade product classifications**

Classifications				
HS2	HS4	HS5	HS8	Description
06				Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage
	0601			Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant, in growth or in flower; chicory plants and roots (excluding roots of heading no. 12.12.)
		06011		Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant
			06011010	Bulbs and tubers
			06011090	Other
		06012		Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower: chicory plants and roots
			06012010	Bulbs and tubers
			06012090	Other
			06019999	Unallocatable

In addition to national trade analysis, GLOBAL INSIGHT Southern Africa is also in a position to undertake detailed "regional" analysis. This is made possible by the fact that the postal code of the registered post office or street address of the South African importer or exporter is also captured by SARS as part of the documentation of a particular transaction. GLOBAL INSIGHT compiled a geo-coding for each postal code. It either reflects the centroid of the suburbs where the postal services do have street-delivery, or the physical coordinates where the postal boxes are located. Using a "geographical smoothing" technique, we assumed that most of the activity for each post code location is located in a 5-km radius from the physical post box or centroid location. Using this technique, we obtained a mapping between postal codes and municipalities and applied this mapping to calculate imports and exports by municipality. These municipal allocations are then benchmarked and adjusted back to national totals as contained in the national level of audited data obtained from SARS.

It is important to note that although trade data provides a useful tool for analysis and a valid point of departure for strategic market research, trade data are never complete. Smuggling and non-reporting represent a serious problem in many countries. In addition, recorded trade data between partner countries are very often inconsistent, due to i.e. different classifications between countries, time lags between the shipment of an export consignment and receipt of imports, inconsistent valuations of trade (due to e.g. inconsistent currency conversions, evasions etc), and processing errors. Another important consideration is the fact that the trade statistics made available by SARS reflects the paper flow of foreign trade transactions and not the actual flow of physical goods—the limitations becomes more evident at the regional or metropolitan area level.

It is within these constraints that the analyses contained in this report were based and as such GLOBAL INSIGHT can accept no responsibility for the accuracy of the data as supplied by the Department of Customs and Excise.

### Poverty rate

The poverty rate is the percentage of people living in households with an income less than the poverty income. The poverty income is defined as the minimum monthly income needed to sustain a household and varies according to household size, the larger the household the larger the income required to keep its members out of poverty. The poverty income used in the ReX is based on the Bureau of Market Research's Minimum Living Level (BMR report no. 235, Minimum and Supplemented Living Levels in the main and other selected urban areas of the RSA)

### Poverty gap

A shortcoming of the poverty rate as an indicator of poverty is that it does not give any indication of the depth of poverty; i.e. how far the poor households are below the poverty income level. Here, the poverty gap proves useful in that it measures the difference between each poor household's income and the poverty line. It measures the depth of poverty of each poor household. The aggregate poverty gap is calculated by summing the poverty gaps of each poor household. It is thus equivalent to the total amount by which the incomes of poor households need to be raised each year to bring all households up to the poverty line and hence out of poverty.

A method similar to that used to calculate the poverty rate is used to calculate the poverty gap in that data from the census and Income and Expenditure Survey are combined.

### Gini coefficient

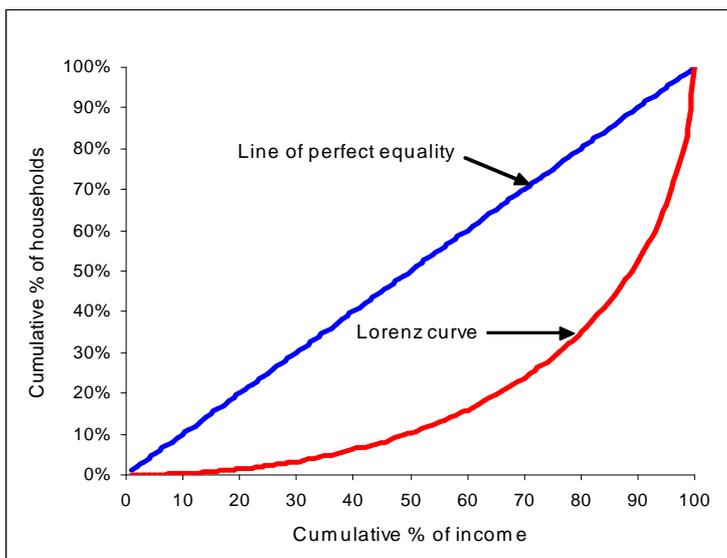
The Gini coefficient is a summary statistic of income inequality, which varies from 0 (in the case of perfect equality where all households earn equal income) to 1 (in the case where one household earns all the income and other households earn nothing). In practice the coefficient is likely to vary from approximately 0,25 to 0,70.

Mathematically the Gini coefficient is defined as follows:

$$\frac{1}{n \bar{y}} \sum_i \sum_j |y_i - y_j|$$

where  $n$  = population size  
 $\bar{y}$  = mean income  
 $y_i$  = income of unit  $i$ ,  $i = 1, \dots, n$   
 $\sum_i$  = sum over units  $i$ ,  $i = 1, \dots, n$

**Figure 16: The Lorenz curve**



The Gini coefficient can also be calculated from the Lorenz curve, which plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest household. Figure 1 shows a hypothetical

Lorenz curve. The Gini measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. In geometric terms, the Gini coefficient is measured as:

$$G = \frac{\text{area between Lorenz curve and line of perfect equality}}{\text{total area below line of perfect equality}}$$

In a situation of perfect equality the Lorenz curve would overlap the line of perfect equality and the Gini coefficient would equal zero. In the theoretical situation of one household earning all the income, the Lorenz curve would coincide with the axes and the Gini coefficient would equal one.

## Appendix D: Sector Classifications according to SIC

To avoid confusion, the sectors analysed in this document are defined and described according to the Standard Industrial Classification of all Economic Activities (SIC), Fifth Edition, published by Statistics South Africa (StatsSA), January 1993.

The abbreviated broad sector definitions are listed below.

### **MAJOR DIVISION 1: AGRICULTURE, HUNTING, FORESTRY AND FISHING**

- Agriculture, hunting, and related services
- Growing of crops; market gardening; horticulture
- Farming of animals
- Growing of crops combined with farming of animals (mixed farming)
- Agricultural and animal husbandry services, except veterinary activities
- Hunting; trapping, and game propagation, including related services
- Production of organic fertilizer
- Forestry, logging, and related services
- Forestry and related services
- Logging and related services
- Fishing, operation of fish hatcheries and fish farms
- Ocean and coastal fishing
- Fish hatcheries and fish farms

### **MAJOR DIVISION 2: MINING AND QUARRYING**

- Mining of coal and lignite
- Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
- Mining of gold and uranium ore
- Mining of metal ores, except gold and uranium
- Mining of iron ore
- Mining of non-ferrous metal ores, except gold and uranium
- Other mining and quarrying
- Stone quarrying, clay and sand-pits
- Mining of diamonds (including alluvial diamonds)
- Mining and quarrying not elsewhere classified
- Services activities incidental to mining of minerals

### **MAJOR DIVISION 3: MANUFACTURING**

- Manufacture of food products, beverages, and tobacco products
- Manufacture of textiles, clothing, and leather goods
- Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials; manufacture of paper and paper products; publishing, printing, and reproduction of recorded media
- Manufacture of coke, refined petroleum products and nuclear fuel; manufacture of chemicals and chemical products; manufacture of rubber and plastic products
- Manufacture of other non-metallic mineral products
- Manufacture of basic metals, fabricated metal products, machinery and equipment and of office, accounting, and computing machinery
- Manufacture of electrical machinery and apparatus not elsewhere classified
- Manufacture of radio, television and communication equipment and apparatus and of medical, precision and optical instruments, watches and clocks
- Manufacture of transport equipment
- Manufacture of furniture; manufacturing not elsewhere classified; recycling

**MAJOR DIVISION 4: ELECTRICITY, GAS, AND WATER SUPPLY**

Electricity, gas, steam, and hot water supply  
Production, collection, and distribution of electricity  
Manufacture of gas; distribution of gaseous fuels through mains  
Steam and hot water supply  
Collection, purification and distribution of water

**MAJOR DIVISION 5: CONSTRUCTION**

Construction  
Site preparation  
Building of complete constructions or parts thereof; civil engineering  
Building installation  
Building completion  
Renting of construction or demolition equipment with operators

**MAJOR DIVISION 6: WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES, MOTOR CYCLES AND PERSONAL AND HOUSEHOLD GOODS; HOTELS AND RESTAURANTS**

Wholesale and commission trade, except of motor vehicles and motor cycles  
Retail trade, except of motor vehicles and motor cycles; repair of personal household goods  
Sale, maintenance and repair of motor vehicles and motor cycles; retail trade in automotive fuel  
Hotels and restaurants

**MAJOR DIVISION 7: TRANSPORT, STORAGE AND COMMUNICATION**

Land transport; transport via pipelines  
Water transport  
Air transport  
Supporting and auxiliary transport activities; activities of travel agencies  
Post and telecommunications

**MAJOR DIVISION 8: FINANCIAL INTERMEDIATION, INSURANCE, REAL ESTATE AND BUSINESS SERVICES**

Financial intermediation, except insurance and pension funding  
Insurance and pension funding, except compulsory social security  
Activities auxiliary to financial intermediation  
Real estate activities  
Renting of machinery and equipment, without operator, and of personal and household goods  
Computer and related activities  
Research and development  
Other business activities

**MAJOR DIVISION 9: COMMUNITY, SOCIAL AND PERSONAL SERVICES**

Public administration and defence activities  
Education  
Health and social work  
Other community, social and personal service activities  
Activities of membership organisations not elsewhere classified  
Recreational, cultural and sporting activities  
Other service activities

**MAJOR DIVISION 0: PRIVATE HOUSEHOLDS, EXTERRITORIAL ORGANISATIONS, REPRESENTATIVES OF FOREIGN GOVERNMENTS AND OTHER ACTIVITIES NOT ADEQUATELY DEFINED**

Private households with employed persons

Exterritorial organisations

Representatives of foreign governments

Other activities not adequately defined