



Automotive Industry Development Centre

Your partner in becoming globally competitive



AIDC ECONOMIC IMPACT ASSESMENT

Annual Report 2014 – 2015 Financial Year

Abstract

This study evaluates the activities, and programmes of the AIDC, to determine the sustainable impact of the various AIDC interventions carried out over the 2014/2015 financial year.



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Celebrate **Development Diversity**.



Document Information

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2014-2015 Financial Year

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Glossary and Definitions

- **Black Economic Empowerment (BEE)**
 - BEE is an integrated and coherent socio-economic process that directly contributes to the economic transformation of South Africa and brings about significant increases in the number of black people that manage, own and control the country's economy, as well as significant decreases in income in-equalities.
- **Broad-Based Black Economic Empowerment (BBBEE)**
 - BBBEE is the economic empowerment of all black people, through diverse but integrated socio-economic strategies, that include, but are not limited to:
 - Increasing the number of black people that manage, own and control enterprises and productive assets
 - Facilitating ownership and management of enterprises and productive assets by communities, workers, co-operatives and other collective enterprises
 - Human resource and skills development
 - Achieving equitable representation in all occupational categories and levels in the workforce
 - Preferential procurement
 - Investment in enterprises that are owned or managed by black people
- **Consumer Goods and Services**
 - Goods and services purchased for personal, family or household use. Consumer goods and services are purchased for direct use or consumption in contrast to industrial goods and services that are purchased by manufacturers for producing other goods and services.
- **Economic Impact Assessment**
 - "Economic impact assessments provide a quantitative method to estimate the economic benefits that a particular project or industry brings to the economy and surrounding communities where the specific project or industry is located" (Plumstead, 2012)
- **Economic Model**
 - A simplified representation of how the economy works.
- **Goods and Services**
 - The products supplied by businesses to satisfy the demands of consumer and industrial markets.
- **Gross Domestic Product**
 - The total market value of all final goods and services produced in a national economy over a given period, usually one year.
- **Labour Force Participation Rate**
 - The proportion of the working age population, which is economically active (the employed and the unemployed).
- **Official Definition of Unemployment**
 - The unemployed are those people within the economically active population who: (a) did not work during the seven days prior to the day that unemployment was calculated, (b) want to work and were available to start work within a week of the day that unemployment was calculated, and (c) had taken active steps to look for work or to start some form of self-employment in the four weeks prior to the day that unemployment was calculated.
- **Production**
 - Production is defined as the process, in which labour and assets are used to transform inputs of goods and services into outputs of other goods and services
- **Social Accounting Matrix**

- An economy-wide database that contains information about the flow of resources associated with all transactions that take place between economic agents in an economy during a given period (usually one year).
- **Standard Industrial Classification**
 - The Standard Industrial Classification of All Economic Activities (SIC) consists of a coherent and consistent classification structure of economic activities based on a set of agreed concepts, definitions, principles and classification rules. It is derived from the International Standard Industrial Classification (ISIC) Rev 4.0 but adjusted for South African conditions. It provides a comprehensive framework within, which economic data can be collected and reported in a format that is designed for the purpose of economic analysis, decision-taking and policy-making. The classification structure represents a standard format to organise detailed information about the state of an economy according to economic principles and perceptions (Stats SA, 2012).

List of Abbreviations

AIDC	Automotive Industry Development Centre (Pty) Ltd
AIS	Automotive Investment Scheme
AMH	Associate Motor Holdings
APDP	Automotive Production and Development Programme
BBBEE	Broad-Based Black Economic Empowerment
BEE	Black Economic Empowerment
CAGR	Compounded Average Growth Rate
CAPEX	Capital Expenditure
CEO	Chief Executive Officer
DTI	Department of Trade and Industry
FMCSA	Ford Motor Company of South Africa
GDED	Gauteng Department of Economic Development
GDP	Gross Domestic Product
GEGDS	Gauteng Employment, Growth and Development Strategy
GGDA	Gauteng Growth and Development Agency
GPG	Gauteng Provincial Government
HCVs	Heavy Commercial Vehicles
HH	Household
LCVs	Light Commercial Vehicles
LPG	Liquid Petroleum Gas
MIDP	Motor Industry Development Programme
MTEF	Medium Term Expenditure Framework
NAACAM	Authority of the South African Automotive Components Industry
NAAMSA	National Association of Automobile Manufacturers of South Africa
NSA	Nissan South Africa
OEM	Original Equipment Manufacturers
OICA ¹	International Organization of Motor Vehicle Manufacturers
OPEX	Operating Expenditure
PI	Production Incentives ²
PSG	Product Specialist Group
Rm	Rand Million
SA	South Africa
SAM	Social Accounting Matrix
SACU	South African Customs Union
SCD	Supply Chain Development
SDD	Supplier Development Department
SDT	Skills Development and Training
SIC	Standard Industrial Classification
SMME	Small, Medium and Micro Enterprises
TP	Talent Pipeline
VAA	Vehicle Assembly Allowance

¹ Organisation Internationale des Constructeurs d'Automobiles (French)

² As applicable to and in context of this document

Executive Summary

The purpose of the Automotive Industry Development Centre's (AIDC), 2014/2015 economic impact assessment (EIA), was to evaluate and quantify the impact of its activities, upon the Gauteng province and the South African automotive industry. In order to contextualise the report and assess possible challenges to the South African automotive industry, the report has referenced the local socio-economic status-quo and the current macroeconomic trends. Moreover, in order to provide a complete picture of the AIDC's development influence, both the quantitative and qualitative socio-economic impact, of the AIDC activities, has been evaluated. The outcomes of the 2014/2015 AIDC EIA report align with the Performance Monitoring Process, (PMP) as prescribed by National Treasury.

Introduction

The automotive industry is a key employer and producer in South Africa, particularly within the Tshwane, eThekweni, Nelson Mandela Bay, and Buffalo City regions. When considering the automotive industry's contribution to; GDP, employment, manufacturing exports and skills development, it becomes easy to see why the industry is such an indispensable cog within South Africa's manufacturing sector. In this regard, the automotive sector plays a vital role in stimulating value-added production, and ultimately, an improved standard of living, for individuals within the local economy.

South African policy initiatives such as the Motor Industry Development Plan (MIDP) and the Automotive Production and Development Programme (APDP), have created incentives for the automotive industry to invest in further development and increase production on a national scale. Locally, the Gauteng Provincial Government (GPG) has established the AIDC, as a subsidiary of the Gauteng Growth and Development Agency (GGDA). The purpose of the AIDC is to grow the Gauteng automotive industry through;

- *Increasing the global competitiveness of the Gauteng automotive producers*
- *The promotion of SA and Gauteng as a value proposition, and an automotive investment destination of choice.*

The study will form part of National Treasury's Performance Monitoring Process (PMP). The EIA evaluated the activities, services and programmes of the AIDC, to determine the sustainable impact of the various interventions carried out by the AIDC. Duly, each AIDC intervention was analysed through the scope of the PMP framework. Moreover, a macro-economic framework was developed, in order to measure the economic expenditure impacts of the company, and its various interventions. Inputs to the framework consisted of appropriate data obtained from existing sources and key stakeholders.

Role and Function of the AIDC

The AIDC aims to catalyse industrial growth, skills transfer and employment within South Africa's automotive industry. In this regard, the AIDC will fulfil the need for an institution which can facilitate state resources toward to the ongoing development and progression of the national manufacturing sector, with a particular focus on the Gauteng automotive industry. The vision of the AIDC, is to become the central institution and preferred provider to government, on projects related automotive industry.

The AIDC aligns its programmes and objectives, along with national and provincial governments, long term growth and development strategies. The objectives set out by the AIDC are strategically aligned to give effect to the DTI's IPAP 6 and provide the required industrial development support services.

Moreover, the AIDC looks to address key challenges of the automotive industry through its key focus departments. These departments provide specifically focused programmes that look to aid the development of the automotive industry locally through skills development, training and investment facilitation. The core AIDC strategic objectives, and AIDC's key focus departments have been listed in Table A below.

Table A: AIDC Strategic Objectives and Key Focus Departments

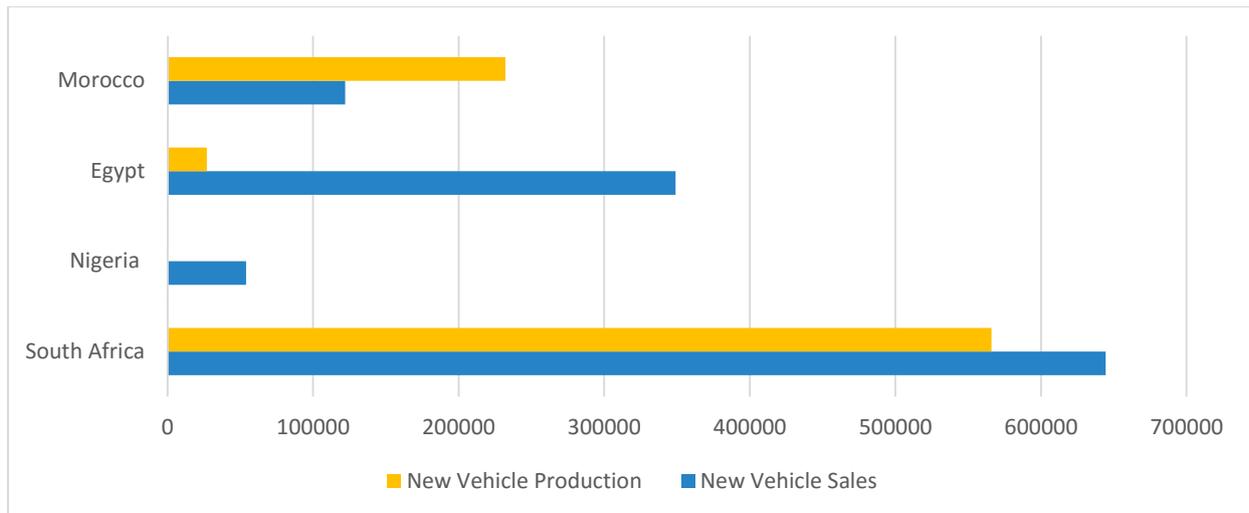
AIDC Strategic Objectives	AIDC Key Focus Departments
<ul style="list-style-type: none"> • Increasing the contribution of SMME's to the automotive industry. • Significantly progressing Broad-Based Black Economic Empowerment (BBBEE). • Increasing market access opportunities for South African goods and services. • Contributing towards building skills, technology and infrastructure platforms from which enterprises can benefit. • Enhancing the competitive capabilities of automotive suppliers. • Forging partnerships between the Government and the private sector in a combined vision for economic growth. 	<ul style="list-style-type: none"> • Enterprise Development Department (EDD) • Skills Development and Training (SDT) • Incubation Programmes Department (IPD) • Government Incentives Schemes Programme (GISP) • Special Programmes Department (SPD) • Business Development Department (BDD) • Automotive Supplier Park (ASP)

State of the South African Automotive Industry

The South African automotive industry is affected by both; global exogenous elements, and local endogenous factors such as labour productivity and consumer demand. These factors have a direct effect on the Gauteng automotive industry, and hence, have an indirect effect upon the operational effectiveness of the AIDC. To evaluate the impact of these factors upon the AIDC's strategic direction and long term goals, the EIA has included an analysis of prominent global macroeconomic trends (see annexure 1), and a brief analysis of South Africa's national, and provincial automotive industry. South Africa's automotive industry is a market leader within the African context, and have traditionally experience higher levels of production, and sales than their counterpart nations.

Figure A below, gives the 2014 new vehicle sales and production, for Morocco, Egypt, Nigeria and South Africa.

Figure A: Domestic Sales and Production, Morocco, Egypt, Nigeria & South Africa, (2014)

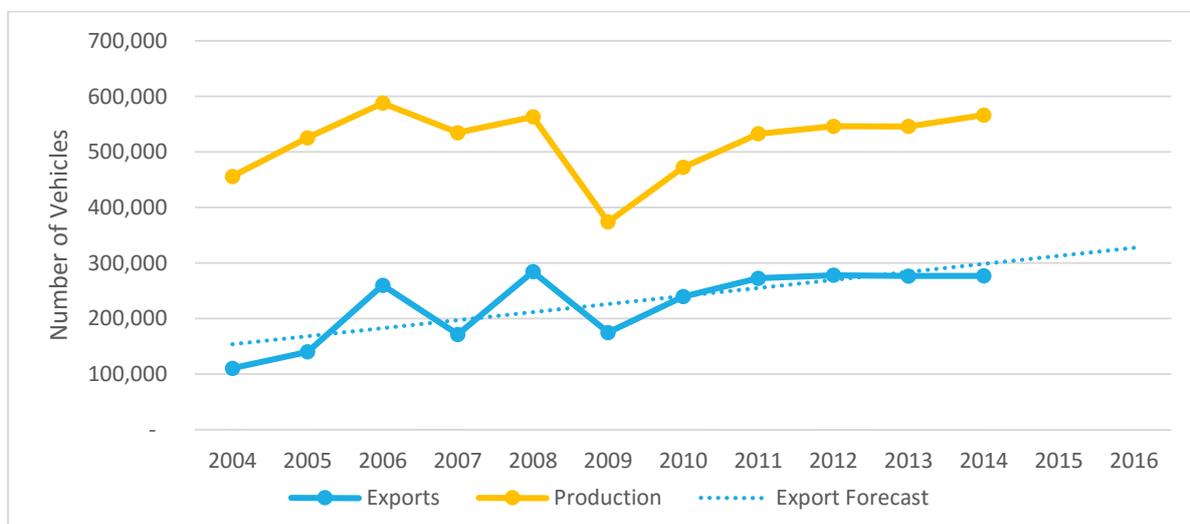


Source: (International Organization of Motor Vehicle Manufacturers, 2014)

As per Figure A, Nigeria has very low sales and production volumes, however given its 178.5 million population and its rising economic wealth, these figures are likely to change dramatically in the coming decades (World Bank, 2015). Egypt has the second largest new car vehicle sales market in Africa, but they have not been able to capitalize on this advantage and comparatively only produce vehicles equal to 7.7% of their new vehicle sales market. Morocco has fared better and is currently the only country in Africa that is a net exporter of vehicles. Although growth nodes such as Nigeria have been earmarked as prime locations for future new vehicle sales and production, it is also assumed that South Africa will, in the short to medium term, retain its pole position in new vehicle sales and production, within Africa. Indeed, Morocco is likely the only nation that would be able to displace South Africa's position in the short-medium term.

South Africa has historically produced and bought far more vehicles than the rest of its African competitors. In fact, during 2014, South Africa produced more new vehicles than the rest of Africa combined. However, both South Africa's new vehicle production and sales markets, were been hit by the 2007 subprime mortgage crisis and the low economic growth rates that accompanied the crisis. Figure B below, displays South Africa's new vehicle production and exports, over the 2004 to 2014 period.

Figure B: New Vehicle Production and Exports, South Africa, (2004-2014)



Source: (NAACAM, 2015), (International Organization of Motor Manufacturers, 2004 - 2014)

As can be seen above, South Africa's new vehicle production and new vehicle exports, expectantly, follow a very similar trend line. The reason for this is twofold. Firstly, exports have maintained a strong percentage of total vehicle production³, over the analysis period, varying between 24% and 51% of total production. This high percentage means that any changes felt in new vehicle export demand, will inevitably have a meaningful impact upon new vehicle orders. Secondly, the South African economy is vulnerable to international macro-economic shocks. The small size of South Africa's economy relative to some of its larger trading and investment partners, in addition to its open trade policy, have left South Africa highly dependent on the health of the global economy. Thus, when international growth slows, both domestic and international new vehicle demand experiences a concomitant decrease.

Baseline Profile

A baseline profile was established in order to quantify the pure economic and the socio-economic aspects of the delineated areas. The pure economic and socio-economic sections, have each included a summary of key findings, relating to the delineated areas of City of Tshwane.

The key socio-economic findings are listed below:

- *The KwaZulu-Natal and Gauteng provinces have the largest populations, with 11,256,555 and 11,952,577 individuals respectively. However, the Western Cape and Gauteng area have the strongest population growth in South Africa, at 1.81% and 1.77% respectively. The strong growth rates experienced in Gauteng and the Western Cape, may be due to their strong absorption rates of 54.27% and 53.35%, respectively. The City of Tshwane saw their average annual population growth fall from 2.27% in 2007 to 1.31% in 2012, however this figure seemed to stabilise, holding around 1.30% to 2014.*
- *The City of Tshwane had an average household disposable income of R 200,165 per household during 2014. Gauteng had the highest average household disposable income with R 295,433 while South Africa had the lowest with R 156,404. Tshwane households spent relatively more than Gauteng and South Africa, in both personal transport equipment and motor car tyres and other accessories, with 4.30% and 1.46%, respectively. Gauteng spent, relatively, the second most in both personal transport equipment and motor car tyres and other accessories, with 4.05% and 1.40%, respectively*
- *South Africa has a labour unemployment rate of 24.74%, which is slightly better than Gauteng's and slightly worse than City of Tshwane labour unemployment rate at 25.49% and 22.58%, respectively. South Africa's labour absorption rate is just 44.82%, while both Gauteng and City of Tshwane perform admirably, with labour absorption rates of 54.27% and 58.15% respectively. Tshwane's labour employment in the personal transport*

The key pure economic findings are listed below:

- *The South African economy has shown modest growth at 3.11% per annum, over the 2004 to 2014 period. The Gauteng and Tshwane economies have both managed to outstrip the national economy, and have grown at 3.50% and 3.92% per annum, respectively. However, despite a fairly admirable national growth*

³ Exports during a particular calendar year could've been produced during the previous year. This may lead to slight discrepancies in exact figures, however these discrepancies would not be considered material, and as such can be ignored for the analysis above.

rate, South Africa's future growth rate is expected to be around 1% - 2% over the next two years, as the country struggles with inadequate power supply, and other structural constraints.

- *Gauteng, with a location quotient of 1.1, has a nominal competitive advantage in the manufacturing of 'transport equipment'. While, KwaZulu-Natal has a slightly lower location quotient with 0.9, the Eastern Cape has a much higher 'transport equipment' location quotient of 2.3. Despite Gauteng's lack of a significant location quotient, Tshwane has an impressive 'transport equipment' location quotient of 2.7. Thus, Tshwane has a competitive advantage in the manufacturing of 'transport equipment'.*
- *Based on the shift share analysis performed, Tshwane's 'manufacturing' industry has outperformed the national 'manufacturing' industry, over the 2003 to 2015 period. The following industries were the top three lagging the national economy: 'Radio, TV, instruments, watches and clocks', 'Electrical machinery and apparatus' and 'Textiles, clothing and leather goods'. In addition, the following industries were the top three leading the national economy: 'Metals, metal products, machinery and equipment', 'Transport Equipment' and 'Food, beverages and tobacco'.*
- *The automotive industry has strong backward and forward linkages with other industries economic sectors throughout the entire economy. The two strongest backward linkages are the 'Basic Metal Products' and 'Electrical Machinery and Apparatus' with linkages of 7.71% and 7.23%, respectively. While the two strongest forward linkages are the 'Transport Equipment Sector' and 'Consumption by Households', with 30.68% and 27.92%, respectively.*

Socio-Economic Impact Assessment

The socio-economic impact analysis focused on economic aspects such as; production and GDP, and socio-economic aspects such as employed individuals and employment income. Each project was evaluated on its 2014/2015 impact and its previous impact performance. Differences in between annual impacts were in the most part, due to differences in absolute economic expenditure. The impact of the ASP and AIDC projects which will be discussed below, in Table B.

Table B: Economic Impact, AIDC Projects & ASP, (2014/2015)

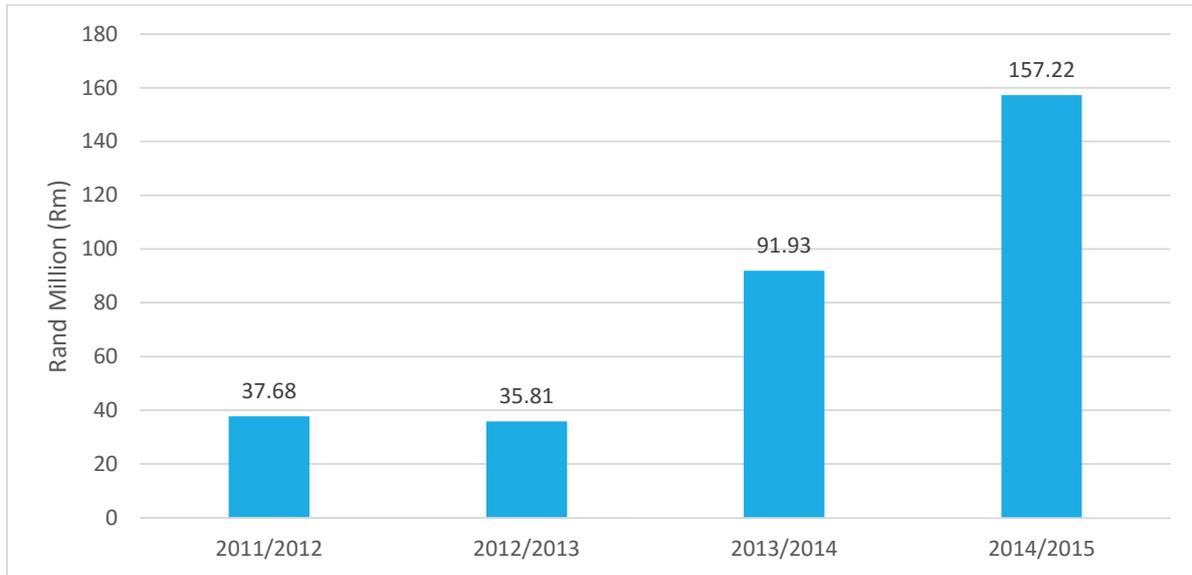
	Variable	AIDC Projects	ASP	Total
Production	Rand Million (Rm)	203.36	215.59	418.95
GDP		65.85	91.37	157.22
Income		30.49	41.20	71.69
Employment	Number	406	483	890

Source: Urban-Econ Calculations (2015)

Table B above details the total impact of both the AIDC projects and the ASP, upon production, GDP, income and employment. The combined AIDC projects experienced a production impact of Rm 203.36, a GDP impact of Rm 65.85 and an income impact of Rm 30.49, while the ASP experienced a production impact of Rm 215.59, a GDP impact of Rm 91.37 and an income impact of Rm 41.20. Moreover, both the combined AIDC projects and the ASP created over 400 employment opportunities during the period under review. In order to put the performance of the AIDC in context it is important to analyse the total impact of the AIDC, in comparison to the previous 3 financial years.

Figure D below represents the total economic impact on GDP as a result of AIDC expenditure, over the 2011/2012 to 2014/2015 period.

Figure D: Total GDP Impact, AIDC, (2011/2012 - 2014/2015)

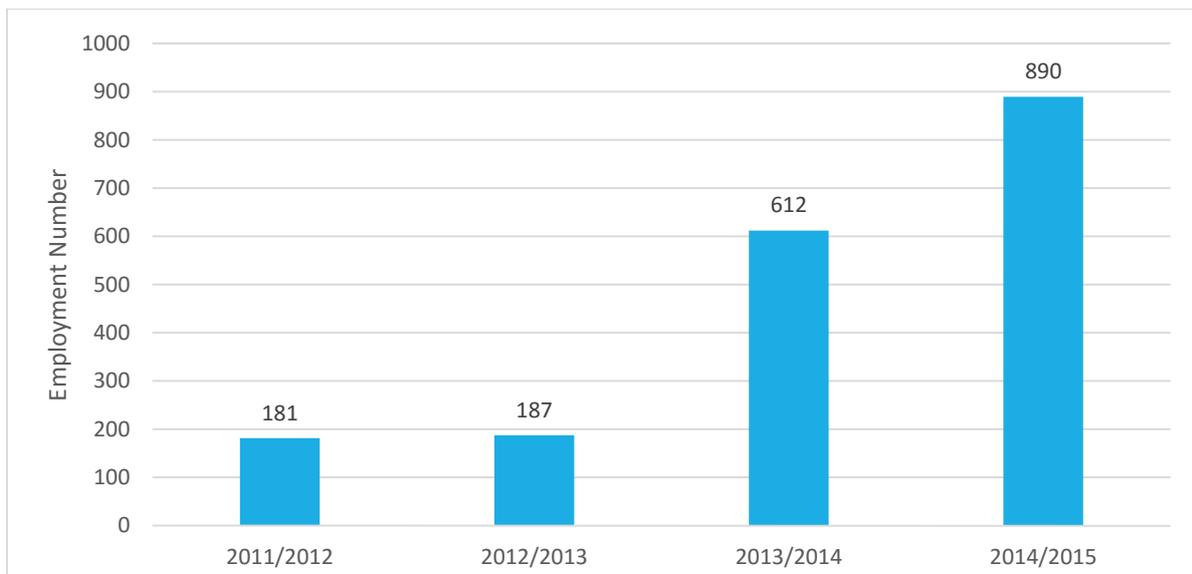


Source: Urban-Econ Calculations (2015)

As per Figure D, the AIDC's total impact on GDP remained relatively consistent over the 2011/2012 and 2012/2013 financial years. However, the 2013/2014 and then the 2014/2015 financial years both experienced a much larger increase in total GDP impact, with impacts of Rm 91.93 and Rm 157.22, respectively. Whereby, over the 2013/2014 to the 2014/2015 financial year the AIDC's total impact upon GDP increased around 71%.

Figure E below, illustrates the total impact on the number of employment opportunities created over the three-year period.

Figure E: Total Employment Impact, AIDC, (2011/2012 - 2014/2015)



Source: Urban-Econ Calculations (2015)

As can be seen above, the 2013/2014 and the 2014/2015 financial years experienced a much larger contribution to total employment opportunities, than was experienced during the preceding years. While this trend is in line with previous years, the scale of the increase is much greater on a percentage level. Although the employment

increased by just 45% over the last financial year, the 187 employment opportunities created in the preceding 2012/2013 financial year are approximately 21% of the 890 employment opportunities created during the 2014/2015 financial year. This indicates that the AIDC's larger expenditure portfolio and composition of project interventions are proving to more proficient at providing employment within the Gauteng region.

Qualitative Impacts

The EIA analysis further assessed the various AIDC interventions with regard to their qualitative impacts, and the contribution to BEE SMME business support and development. Qualitative impacts of the projects, and their contribution to the GPG's 10 pillar objectives, as outlined by Premier David Makhura, were evaluated and recorded. It was found that the qualitative impacts indicate that the AIDC contributes to achieving sustainable socio-economic growth at national, provincial, and local levels. Additionally, specific reference must be made to the number of AIDC interventions focussed on the development of industrial, such as advanced manufacturing, and development. This focus does not only benefit the automotive industry, but has a leverage effect on the broader economy and contributes to employment, and skills development.

The AIDC is mandated to foster BBBEE employment and training, and SMME development. The following projects significantly contributed to BEE and SMME development, over the 2014/2015 financial year:

- Nissan South Africa Investment Support Programme
- Automotive Incubation Programme
- Supplier Efficiency Programme
- Auto-Sector Skills Development in Dubai
- Mentorship Programme for body repair shops and auto mechanics
- Winterveld Enterprise Hub

The outcomes from the AIDC interventions listed above suggest that the AIDC has made a considerable effort to promote the establishment and ongoing sustainability of BEE SMMEs. As such, the AIDC has been a strong driver for equality in economic opportunity within South Africa.

Conclusion

Through its various interventions the AIDC has managed to have a substantial qualitative and quantitative effect upon the Gauteng automotive industry. Duly, the AIDC has successfully achieved its strategic objectives, for the 2014/2015 financial year. The AIDC's combined qualitative and quantitative impacts, according to project closeout reports and the SAM impact evaluation are given below:

- | | |
|------------------------------------|--------|
| • BBBEE Employment: | 87 |
| • BBBEE Training: | 684 |
| • BBBEE Companies Impacted: | 29 |
| • Expenditure Employment Creation: | 890 |
| • Expenditure Production Creation: | Rm 419 |
| • Expenditure Income Creation: | Rm 72 |
| • Expenditure GDP Creation: | Rm 157 |

1. Project Orientation

AIDC Development Centre (SOC) Ltd (hereon referred to as the 'AIDC') appointed Urban Econ, to conduct an Economic Impact Assessment (EIA) on the various interventions carried out by the AIDC for the financial year of 2014/15.

The study details the project specific expenditure by the AIDC and the effect the expenditure had on both the social and economic dynamics within the delineated study areas. The 2014/2015 Annual Economic Impact Assessment will comprise the second EIA completed for the AIDC since the merger between the AIDC and the Supplier Park Development Company (SPDC) in 2013.

1.1. Background

Since its modest beginnings in the late 19th century, the automotive industry has grown into a global manufacturing giant, producing approximately 89,747,430 new vehicles in 2014 and employing circa 8,397,451 direct jobs worldwide (International Organization of Motor Manufacturers, 2015). Due to its strong industry linkages, and ability to create value, the automotive sector has played a significant role in the development of numerous economies.

The automotive production process involves a diverse range of organisations, which together contribute to the design, manufacturing, logistics, distribution, financing and marketing of automobiles and/or related products. The automotive industry can be described as a central cog in a global hub of dynamic economic activity, which involves both upstream, and downstream industries. Duly, a variety of different industries benefit from the production and sale of automobiles, including; the extraction and processing of minerals (i.e. primarily steel and platinum mining), vehicle finance and petroleum related industries. Therefore, a development strategy that focuses on developing the automotive sector, will inevitably lead to the development of other related industries, which may in time lead to the formation of a strong vertically integrated value-chain within the economy.

As it stands the automotive industry is a key employer and producer in South Africa. Particularly in the Tshwane, eThekweni, Nelson Mandela Bay, and Buffalo City regions. Indeed, based on its contribution to GDP, employment, exports and skills development, the automotive industry in South Africa is of critical strategic importance to South Africa's economic development. Moreover, the integral role played by the automotive sector in creating value-added production and ultimately, an improved standard of living, have provided just cause for the government support received by the automotive sector. Initiatives such as the Motor Industry Development Plan (MIDP) that was replaced by the Automotive Production and Development Programme (APDP), have created incentives for the automotive industry to invest in further development and increase production on a national scale.

While on a provincial level the Gauteng Provincial Government (GPG) has established the AIDC, as a subsidiary of the Gauteng Growth and Development Agency (GGDA), to drive development of the automotive sector based within the province. The AIDC uses effective project delivery as a tool to implement strategic initiatives within the Gauteng automotive sector. Some of which include:

- *The promotion of SA and Gauteng as a value proposition and an automotive investment destination of choice.*
- *Increasing the global competitiveness of the Gauteng automotive producers*

1.2. Purpose and Scope

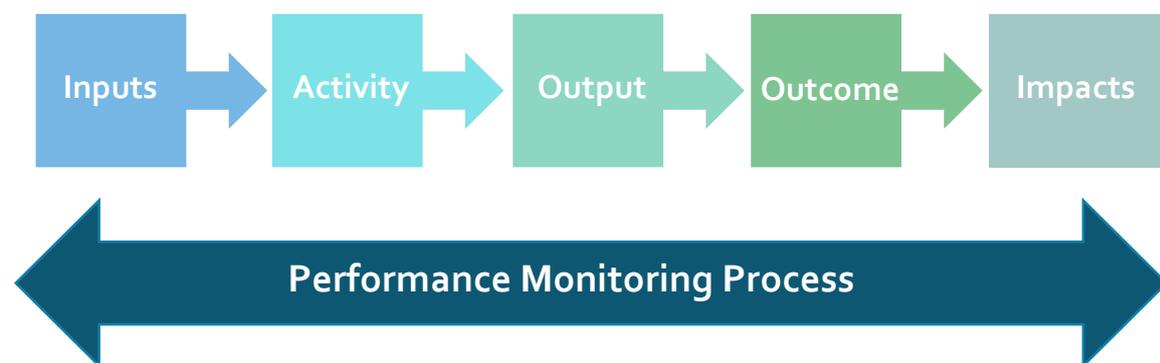
The purpose of this study is to determine the impact of the AIDC interventions, upon the socio-economic conditions of the delineated study areas, only. The report will provide information on both the current socio-economic landscape of the delineated study areas and the relative macroeconomic trends in the automotive sector.

Moreover, a comparative analysis regarding ongoing AIDC projects is undertaken, whereby the difference in current⁴, and historical intervention impacts are recorded and assessed. The total socio-economic impact will be measured in terms of the AIDC's net contribution towards; sustainable increases in total production, GDP, employment figures, and skills development.

1.3. Interpretation

This study will form part of the Performance Monitoring Process (PMP), as prescribed by National Treasury. In particular, the study will attempt to provide clarity on outcomes and impacts of the AIDC activities during the 2014/2015 financial year. In this manner the Economic Impact Assessment will evaluate the activities, services and programmes of the AIDC, to determine the sustainable impact of the various interventions carried out by the AIDC. Figure 1-1, below indicates the PMP, as it pertains to the AIDC.

Figure 1-1: Performance Monitoring Process



The PMP displays the effects of the value-adding process across inputs, activities, outputs, outcomes and impacts for the various interventions conducted by the AIDC, over the 2014-2015 financial year. Whereby:

- Inputs refer to the factors of production that are used in the production of outputs, these would include factors such as; finance, human resources, land and equipment. Inputs answer the question, "What we use to do the work?"
- Activities refer to the process whereby an input is transformed into an outcome. Activities respond to the question, "What we do?"

⁴ The word, 'Current' is used throughout the report, to refer to the prevailing conditions valid in the 2014/2015 financial year.

- Outputs refer to the final product of a good or service produced. Outputs should answer the question, "what do we produce or deliver?"
- Outcomes refer specifically to the medium term results that are a direct consequence of the inputs, activities and outputs process. Outcomes should answer the question, "What do we wish to achieve?"
- Impacts refer to the effects of changing specific outcomes, these would include reducing poverty, increasing transformation and/or creating sustainable employment opportunities. Impacts seek to answer the question of, "What we aim to change?"

Each AIDC intervention will be analysed through the scope of the above PMP framework. In order to measure the impacts of the company and its various interventions, a macro-economic framework was developed. The framework will be populated with appropriate data obtained from existing sources and key stakeholders and will contain elements such as:

- A review of the main services, programmes, and activities of the AIDC.
- A review of achievements and implementation performances.
- An assessment of programmes and services in terms of policy and strategy targets and delivery standards.

Thereafter, the model will determine the quantitative and qualitative effect of the various AIDC interventions and will thus establish the total economic impact of the AIDC over the 2014/2015 financial year.

1.4. Methodological Approach

Figure 1-2 below, illustrates the methodological approach taken by Urban-Econ in pursuit of the primary study goal of the project.

Figure 1-2: Methodological Approach



STEP 1: PROJECT ORIENTATION

The project was initiated with an orientation process. Project orientation entails developing an in-depth understanding of the project and all that it encompasses. The orientation phase is arguably one of the most important phases of any project, as it ensures a common understanding between the client and service provider. In addition, it enables the project team to develop a roadmap that will provide direction to the successful completion of the project. For the purpose of this report, the most critical tasks to be completed during this phase include:

- Identifying the study area
- Obtaining required primary and secondary socio-economic data
- Acquiring project-specific data for the construction and operational phases
- Understanding the details and progress of the AIDC's programmes.

STEP 2: AIDC & THE DEVELOPMENT CONTEXT

This step provides details on the background and key forces areas of the AIDC in addition the current macro-economic and legislative environment, within which the automotive industry is currently operating.

The AIDC's vision, mission and economic focus areas, as well as various project dynamics for all projects undertaken in the 2014/2015 financial year. Financial capital, human capital, as well as physical factors are examined.

STEP 3: BASELINE PROFILE

In addition, this step serves to develop a baseline profile of the delineated study area. The aim is to identify and examine the variables that are directly or indirectly influenced by the development in the automotive industry facilitated by the AIDC. This information will then be used in later stages to assist in assessing the quantitative impacts of the AIDC. The profile will be developed by assessing the following factors:

- Population and Household Dynamics
- Economic Profile
- Labour Market
- Income and Expenditure.

The baseline profile will emphasise the current socio-economic dynamics of the study area.

STEP 4: SOCIO-ECONOMIC IMPACT ASSESSMENT

Step 4 entails the socio-economic assessment based on the Social Accounting Matrix (SAM) that quantifies the impacts of development in the automotive industry. The socio-economic impact assessment assesses the direct, indirect, and induced effects on the GDP, production, employment, and worker income and expenditure.

STEP 5: IMPACT EVALUATION

Step 5 is based on the baseline profile information to relate the impacts of the project to the economies in which they were experienced. Impacts thereby actually identify the broader economic significance of the project. Impacts considered the geographic extent, duration, and magnitude of the impact. Once the evaluation exercise has been completed, the positive and negative implications of the potential macroeconomic impacts are identified.

STEP 6: CONCLUSION AND RECOMMENDATIONS

Step 6 provides a synopsis of the study findings and concludes with the quantitative and qualitative impacts that arose from the AIDC's influence on the development of the automotive industry in the primary, secondary, and tertiary study areas.

1.5. Delineated Study Areas

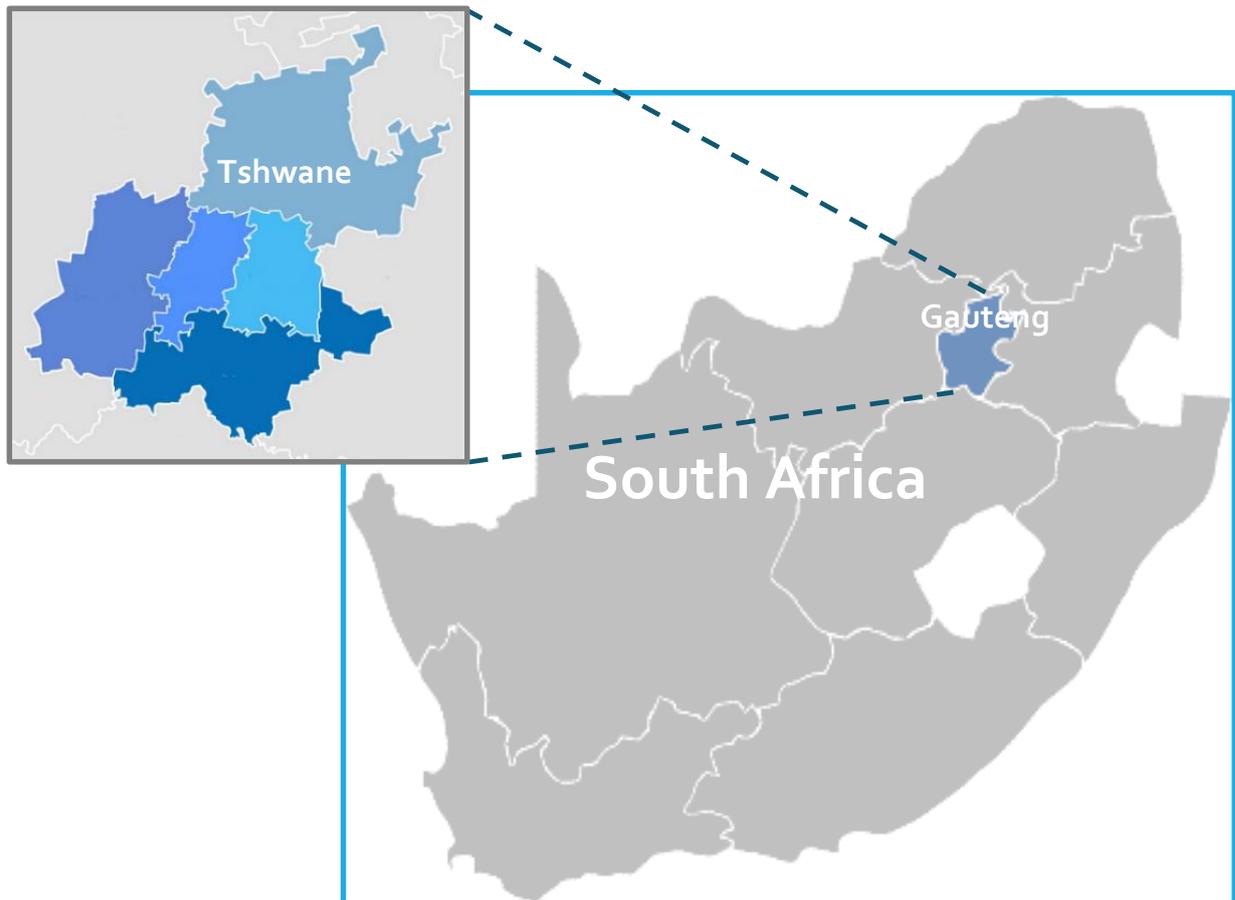
The primary study area, delineated as the City of Tshwane Metropolitan Municipality (herewith referred to as Tshwane – an integral part of the Province' Northern Corridor development strategy) is the locality where the immediate economic effects of the proposed activity will be observed. The primary study area involves the areas that will be affected directly by the activities of the AIDC. Among others, negative impacts could result in the lack of local economic growth, increasing unemployment and poverty, while positive impacts could mean job creation, investment in the primary study area, and improved infrastructure provision.

The Gauteng province, was delineated as a secondary study area. For the delineation of the secondary study area, certain indirect impacts of the automotive industry development were considered. The secondary study area is far greater than the primary study area. As the automotive industry only contributes partially (i.e.% of the GDP-R) to Gauteng's relatively diversified economy, the greater economic impact of automotive industrial development on Gauteng's economy must be accurately quantified to determine its value to the province as a whole.

The third tier study area is the tertiary study area at national level, delineated as South Africa. From an economic impact perspective, it includes all impacts that have an influence on national level with regard to national GDP, employment and population, and household dynamics such as income and expenditure.

Figure 1-3 below indicates the delineated study areas, of Tshwane, Gauteng and South Africa.

Figure 1-3: Delineated Study Areas, Tshwane, Gauteng & South Africa, (2015)



Source: Urban-Econ, 2015

1.6. Report Outline and Sources of Information

1.6.1. Report Outline

The report is structured in chapters:

- The introductory chapter provides the background to the study, the study areas, and the project itself.
- The second chapter delivers examination goals and objectives of the AIDC, the context of the automotive industry in which the AIDC finds itself, relevant national policy frameworks, and the key economic and socio-economic characteristics of the study area that assist in interpreting and evaluating macroeconomic impacts.
- The third chapter provides insight to the establishment and activities of the AIDC projects, and the economic impact analysis of how the projects influence key indicators and the automotive industry in South Africa.

- The fourth chapter gives an account of the qualitative impacts of the AIDC projects, and how the projects comply with provincial development initiatives.
- The fifth chapter consists of a conclusion to the entire economic impact assessment given in this report.

1.6.2. Main Sources of Information

The sources of information used in the compilation of this report include the following:

- AIDC Audited Annual Financial Statement
- Project Close-Out Reports
- AIDC Strategic Plan, 2015 to 2019
- AIDC Quarterly Reports, July 2014 to April 2015
- AIDC Management Accounts
- Quantec Easy-Data
- Stats SA
- Social Accounting Matrix (SAM)
- AIDC and SPDC Annual Economic Impact Assessments 2011/2012, 2012/2013, 2013/2014
- International Organization of Motor Manufacturers, 2004 - 2015

2. The AIDC and the Development Context

2.1. Background and Establishment of the AIDC

The AIDC was initially established by Government as a support organisation to facilitate the upliftment, improvement, and promotion of the South African automotive industry. The organisation now operates as a subsidiary of the GGDA, which is an entity owned by the Gauteng Provincial Government's Department of Economic Development. The AIDC works in partnership with the City of Tshwane, AIDC Eastern Cape, South African Automotive Weekly (SAAW), Transnet, NAAMSA, the DBSA, MerSETA, Ford SA, Nissan SA, the DTI and NAACAM, as well as Siemens (a client of ESKOM). These partnerships allow the AIDC to provide world-class technical and developmental services across assemblers and all tiers of suppliers in the automotive industry.

The organisation also coordinates and manages the Automotive Supplier Park (ASP) after the merger between the AIDC and the SPDC on the 1st April 2013. The merger originated in 2009 as part of the DED's strategy to consolidate its agencies to support its development and growth objectives. This was required to improve service delivery in the province. It was decided to retain the AIDC brand for the Supplier Park Development Company SOC Ltd to take over the AIDC as a running business concern. The SPDC was thus trading as "AIDC" from the 1st of April 2013. The geographic brand of the ASP was also retained to represent an automotive industrial hub based in Rosslyn which houses a number of automotive component manufacturers, suppliers and service providers to OEMs including BMW, Nissan, Ford and Tata. As a project-driven organisation with a focus on technical excellence and delivery, the AIDC provides accessible and affordable world-class services in the areas of enterprise development, supplier development, and skills development and training. These three points form part of the AIDC's Key Focus Areas.

Vision

The AIDC supplies the need for an institution that can drive state support towards industrial growth and development from which the automotive sector can facilitate the absorption of labour. The AIDC's vision concentrates on becoming the preferred provider of strategic solutions and Government projects to the South African automotive industry.

Mission

AIDC's mission will be to "act as the Gauteng Provincial Government's Industrial Policy Support Agency", by facilitating Government and industry strategic initiatives and implementing various projects. In order to achieve this, the AIDC must have the following:

- A dedicated and professional team
- Government, industry, and union support
- Access to local and international partnering networks

Strategic Objectives

Through the collaboration of both the industry and government, along with the consultation of stakeholders, the AIDC aligns its programmes and initiatives with the Governments national priorities and Provincial Growth and Development strategies. The AIDC looks to address key challenges of the automotive industry through its key focus departments. The objectives set out by the AIDC are well aligned to give effect to the DTI's IPAP 6 and provide the required industrial development support services required by the Gauteng Province to

implement its Employment, Growth and Development Strategy (GEGDS), as well as industrial, automotive, and green strategies. The AIDC has set itself a number of specific institutional objectives:

- Increasing the contribution of small enterprises to the automotive industry.
- Significantly progressing Broad-Based Black Economic Empowerment (BBBEE).
- Increasing market access opportunities for South African goods and services and the export thereof.
- Contributing towards building skills, technology and infrastructure platforms from which enterprises can benefit.
- Enhancing the competitive capabilities of automotive suppliers.
- Forging partnerships between the Government and the private sector in a combined vision for economic growth.

2.2. AIDC Key Focus Departments for Industrial Development

The Key Focus Departments provide the facilitation of specifically focused programmes that look to aid the development of the automotive industry locally through skills development and training and industrial support.

2.2.1. Enterprise Development Department (EDD)

The AIDC established the Enterprise Development Department (EDD) to support the development of component manufacturers within the supply chain to conform to the international standards prescribed by the automotive manufacturing industry. The department is in charge of providing various services that range from a combination of efficiency improvement projects related to productivity, quality assurance in accordance with ISO 9001 standards including the implementation of ISO 14001 (Environmental) & OSHAS 18001 (Occupational Health & Safety) Management Systems at the five Automotive Incubation Centre (IC) BEE Companies and the AIDC IC Management Office, lean and clean production, to manufacturing concepts, logistics, clustering, and SMME development initiatives. The EDD facilitated the multilayer Supplier Efficiency programme, during the 2014/2015 financial year.

2.2.2. Skills Development and Training (SD&T)

The SD&T Department was established by the AIDC to identify skills deficiencies and gaps in the auto sector. Moreover, the SD&T was tasked with the creation of development programmes that would nurture and upskill individuals, in order to rectify skills deficiencies and drive economic growth. In this regard, it is imperative that the automotive industry has access to a skilled workforce base, therefore, the SD&T Department's objectives are to:

- Address scarce and critical skills.
- Enhance trade and artisan development initiatives and thus improving global competitiveness and improving local manufacturing.
- Support talent pipeline strategies as a feeder to this sector.
- Providing mentoring and coaching, project management training, and developing learning material.
- Securing funding to support its training objectives.
- Attract students to pursue technical careers such as engineers, technicians, mechanics and artisans.

The SD&T Department has engaged with merSETA to ensure quality training and development of scarce skills through recognised training centres and has cemented relationships with established Higher Education

Institutions. The SD&T Department strives to ensure that training and development programmes are effected through its key training sites and programmes including the:

- Gauteng Automotive Learning Centre
- BBBEE Automotive Incubation Centre
- Ford T6 simulator
- Winterveld Enterprise Hub

2.2.3. Incubation Programmes Department (IPD)

The AIDC Incubation Programmes Department is responsible for the launch of South Africa's first Automotive Incubation Centre at Ford Motor Company of Southern Africa's Silverton plant in 2011, as well as the Automotive Winterveld Enterprise Hub in 2014. The AIDC initiated the incubation concept within the local automotive industry in order to provide support to Black-owned enterprises by aiding the initial setup and facilitation of these enterprises, with the end goal of establishing new manufacturing entrants in the automotive sector.

These start-up businesses benefit from the AIDC's programme because they operate within the incubation facility, receive subsidised rental, are mentored and trained by professionals in production, business management and quality control, while receiving business development and financial support, among others. The idea also supports the AIDC's mandate to create jobs and develop sustainable SMMEs.

The AIDC provides shared services such as human resources, finance, payroll, and ICT, at a nominal fee to the incubatees. The incubation programmes facilitated in the 2014/2015 financial year include:

- Ford Automotive Incubation Centre
- Nissan Automotive Incubation Centre, which is at a start-up phase with the first part being attended to the Gauteng Automotive Learning Centre and the Nissan simulator facility. (The Incubation Centre will only be completed in 2016 with production commencing in 2017.)

2.2.4. Government Incentives Schemes Programme (GISP)

The AIDC's Government Incentive Schemes Department initiates the administration and support of government and automotive industry incentives that are designed to grow and develop the automotive sector. The AIDC is indirectly involved with the APDP's Automotive Investment Scheme, (AIS) process, which was awarded to ASCCI (Automotive Supply Chain Competitiveness Initiative).

2.2.5. Special Programmes Department (SPD)

The SPD focuses primarily on supply chain development and logistics to develop specified tailored solutions which can address the needs of the South African automotive industry. The secondary focus is on strategic infrastructure that looks to support infrastructure that may enhance the supply chain and enhance operational efficiency of existing infrastructure. Projects/programmes supported by the SPD over the 2014/2015 financial year included:

- The Call Centre

- The Tshwane Auto City (TAC)
- The LPG Minibus Taxi Conversion project
- Managing the Jobs Fund interactions with National Treasury (initially with DBSA)

2.2.6. Business Development Department (BDD)

The AIDC's Business Development Department (BDD) offers strategic input and support to various Key Focus Departments and Infrastructure Programmes. The aim of the BDD is to enhance, expand, increase, and deepen the AIDC's services offerings to both Government and automotive industry clients. The BDD supports the AIDC with project acquisition and assists to source funding for future projects.

BDD provides nurturing to current relationships with clients as well as deliver the opportunity to acquire new business projects and then maintaining these relationships. In doing so, it aims to increase the AIDC's independency ratio and drive the organisation to become self-sustainable. The BDD currently links projects to the AIDC that broaden the socio-economic impact within the automotive industry. It is in particular focusing on developing value propositions for the expansion of the Automotive Supplier Park (AS) in Rosslyn.

2.2.7. Automotive Supplier Park (ASP)

The Automotive Supplier Park (ASP), is an automotive manufacturing cluster within the City of Tshwane managed by the AIDC. The AIDC develops factories to a tenant's specifications for leasing on a long-term basis, with the additional offering of shared mini factories for smaller operations and offices for automotive service providers. It has the highest concentration of the automotive and component manufacturers in the area as well as in the country and is founded in Rosslyn, in the north-western corner of Tshwane (i.e. part of the Gauteng Government's Northern Corridor development focus). The ASP was essentially developed to create an environment that benefited automotive component manufacturers and suppliers by providing synergies and cost benefits through its strategic location, shared infrastructure, services and facilities, state of the art ICT infrastructure, a central logistics warehouse and services optimised for automotive supply chain services.

The ASP is within 3km of Nissan SA and BMW SA and 30km from Ford SA, owing to its strategic location with various suppliers servicing multiple OEMs. Supplier parks allow the potential to improve the production environment and services, lower costs and exploit the latest advances in machinery or technology and practices in the automotive manufacturing chain (Nieuwoudt, 2012). The idea of a supplier park is closely linked to the introduction of linking suppliers within the industry. Linking suppliers and various component manufacturers has enabled OEMs to:

- Reduced inventories due to 'just-in-time' (JIT) deliveries
- Reduce complexity in the final assembly
- Increase the speed for product innovation
- Cope with escalating product variety
- Reduce costs

Among the ASP's offerings are:

- Customised turnkey production buildings and full services package for component manufacturers and assemblers to the automotive industry
- A common logistics centre and optimised logistics infrastructure. Core to the development is an integrated logistics concept with experienced logistics service providers as development partners

- A Central Hub incorporating offices and facilities such as 4star conference venues and video conferencing, a restaurant/canteen, retail centre and other facilities for use of tenants and external parties
- The availability of advanced information and communication technology infrastructure and services.

Figure 2-1 below, is a site map of the Automotive Supplier Park. The site map represents a variety of tenants and some of the facilities the ASP has to offer.

Figure 2-1: Automotive Supplier Park Site Map, (2014)



Source: AIDC (2014)

The ASP is managed as a separate commercial entity which contributes to the uniqueness of the ASP in comparison to international applications of the concept. This may in theory allow suppliers within the park to balance reduced demand volumes from one manufacturer with the increased demand of another, due to their relational contracts not binding them to one particular manufacturer. Therefore tenants are not restricted and are able to perform activities across the value chain.

The underlying theoretical principles behind the establishment of supplier parks are the following (Capitulo, 2010):

➤ **Lean Production**

In terms of ASPs, lean production is a logistic system driven by demand, and not production. The idea behind lean production is to match production with specific demand through managing elements such as Just-In-Time (JIT) deliveries and Just-In-Sequence (JIS) components to OEMs, and to keep a low inventory, except for emergencies. With lean production, designers work hand-in-hand with production workers and suppliers. There is a continuous two-way interchange. Snags can immediately be ironed out and machine tools adapted when the need therefore arises.

➤ **Clustering**

Clustering is seen as the geographical concentration of related economic activities, in order to create economies of scale that provide benefits such as access to shared resources, larger customer bases and other suppliers, which might result in higher productivity and efficiency of business activities.

➤ **Modularisation**

Modularisation is the development in supplier companies where suppliers do not only manufacture simple separate parts, but now sub-assembled modules, which can be fitted in a vehicle without any further assembly of parts needed. The benefits of modularisation include the ability of OEMs to meet more customer demands, speeding up the assembly time of output units and cost reduction.

➤ **Outsourcing**

OEMs outsource the manufacturing of components to suppliers in ASPs, in order to increase production in shorter periods of time to supply in the increasing demand for automotive goods. In theory, supplier parks can have different definitions that depend on the specific characteristics of the park and, which services are delivered at the park. The following characteristics are taken in account when defining ASPs (Capitulo, 2010):

➤ **Number of Suppliers in the ASP**

The number of suppliers in ASPs tend to differ depending on the type, size and design of the park. The principle behind the number of suppliers in an ASP lies in the fact that a supplier park is where two or more suppliers are clustered together closely located to automotive OEMs.

➤ **Proximity to OEMs**

A key aspect in defining the ASP is the proximity between the supplier activities in the ASP and the final assembly plant where the components manufactured by the supplier park are needed. It is generally accepted that ASPs are in close proximity, or adjacent to assembly plants.

➤ **Planning of an ASP**

What distinguishes ASP's from other industrial parks or clusters is the initiative of the deliberate planning for establishment of an ASP. Each ASP is planned with a specific objective in mind to supply in the needs of OEMs. OEMs or government initiatives usually take care of the planning and development of ASPs.

➤ **Physical Layout of the ASP**

There are three different approaches to the physical layout of the ASP. The first approach sees the component supplier and the OEM located on the same site under one roof. The second approach is where component suppliers are located on a site adjacent to the OEM with the final approach being where component suppliers are located at a separate site in close proximity to the OEM, and the two facilities are connected through ground or aerial conveyors that transport goods between the facilities.

➤ **The Provision of Logistic Services**

The transport of goods can be handled by the ASP, the OEM or an outsourced service provider. The outsourced service provider can work for specific suppliers or be the service provider that handles all logistic services of tenants in the park.

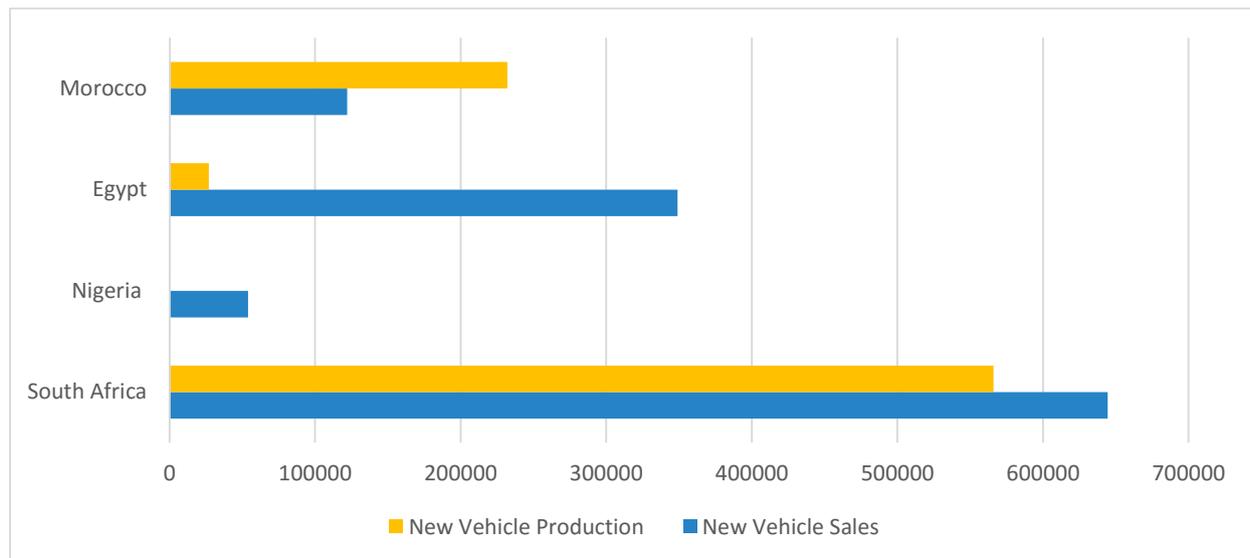
➤ **Flow of information**

The effective management of an ASP relies heavily on the proper functioning of information and communication systems. OEMs and suppliers use integrated systems such as inter- and intranet, servers, and backup systems to store and facilitate the flow of information between them.

2.3. State of the South African Automotive Industry

The relative size of South Africa's economy has enabled a comparatively strong new vehicle sales market to develop. Moreover, the strength of the new vehicle sales market, has underpinned the development of South Africa's vehicle manufacturing industry. Figure 2-2 below, gives the 2014 new vehicle sales and production, for Morocco, Egypt, Nigeria and South Africa.

Figure 2-2: Domestic Sales and Production, Morocco, Egypt, Nigeria & South Africa, (2014)



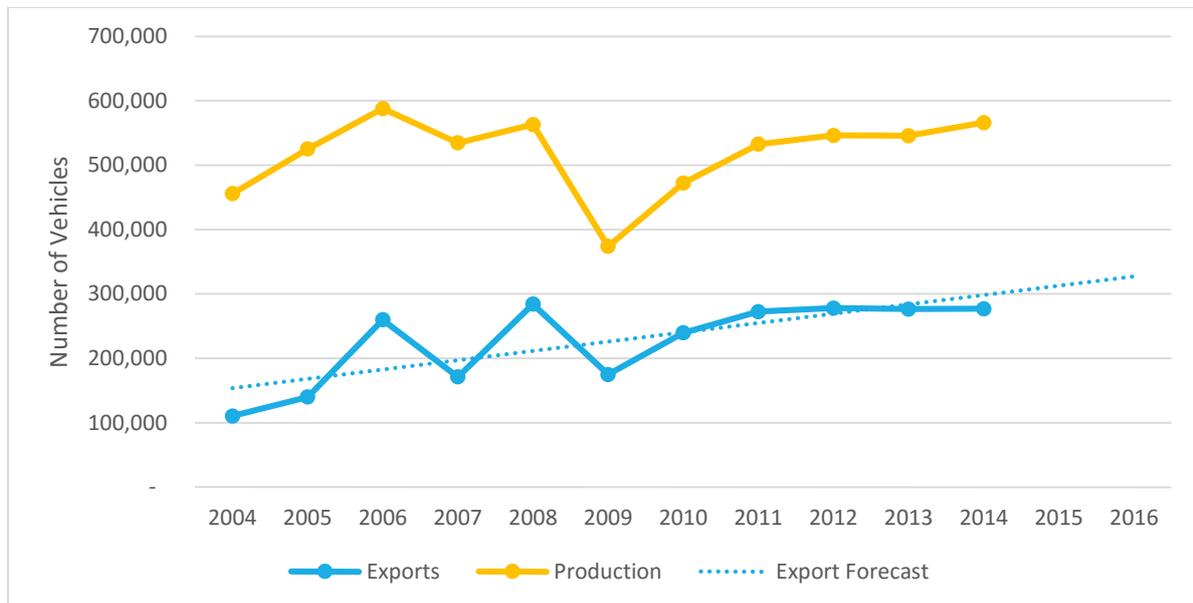
Source: (*International Organization of Motor Vehicle Manufacturers, 2014*)

As per Figure 2-2, Nigeria has very low sales and production volumes, however given its 178.5 million population and its rising economic wealth, these figures are likely to change dramatically in the coming decades (World Bank, 2015). Egypt has the second largest new car vehicle sales market in Africa, but they have not been able to capitalize on this advantage and comparatively only produce vehicles equal to 7.7% of their new vehicle sales market. Morocco has fared better and is currently the only country in Africa that is a net exporter of vehicles. Although growth nodes such as Nigeria have been earmarked as prime locations for future new vehicle sales and production, it is also assumed that South Africa will, in the short to medium term, retain its pole position in new vehicle sales and production, within Africa. Indeed, Morocco is likely the only nation that would be able to displace South Africa's position in the short-medium term.

South Africa has historically produced and bought far more vehicles than the rest of its African competitors. In fact, during 2014, South Africa produced more new vehicles than the rest of Africa combined. However, both South Africa's new vehicle production and sales markets, were been hit by the 2007 subprime mortgage crisis and the low economic growth rates that accompanied the crisis.

Figure 2-3 below, displays South Africa's new vehicle production and exports, over the 2004 to 2014 period.

Figure 2-3: New Vehicle Production and Exports, South Africa, (2004-2014)



Source: (NAACAM, 2015), (International Organization of Motor Manufacturers, 2004 - 2014)

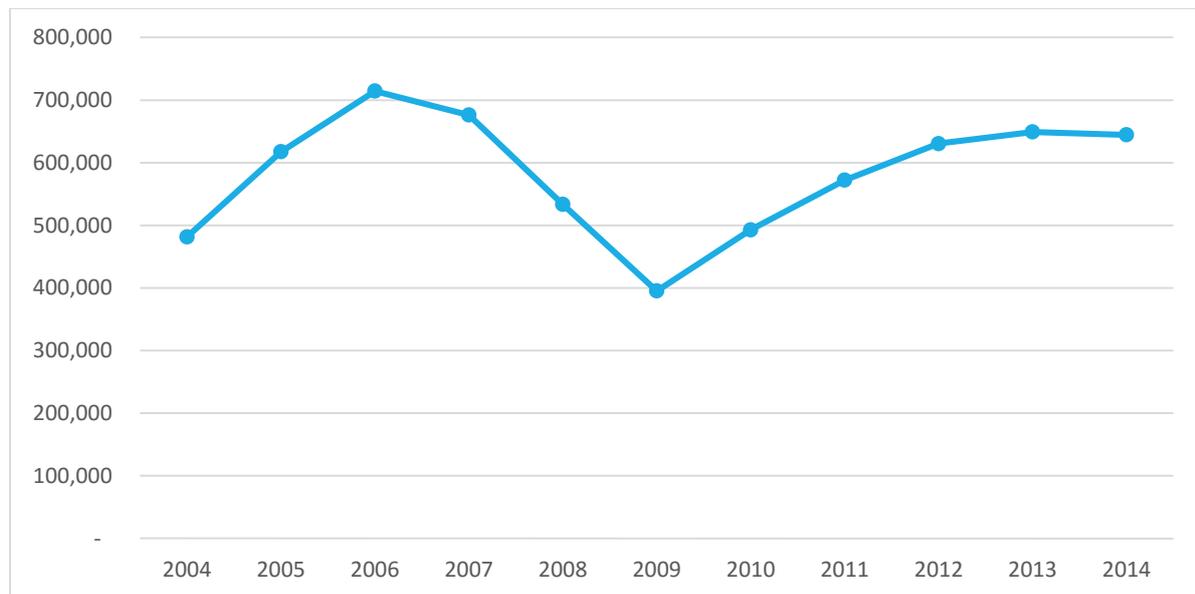
As can be seen above, South Africa's new vehicle production and new vehicle exports, expectantly, follow a very similar trend line. The reason for this is twofold. Firstly, exports have maintained a strong percentage of total vehicle production⁵, over the analysis period, varying between 24% and 51% of total production. This high percentage means that any changes felt in new vehicle export demand, will inevitably have a meaningful impact upon new vehicle orders. Secondly, the South African economy is vulnerable to international macro-economic shocks. The small size of South Africa's economy relative to some of its larger trading and investment partners, in addition to its open trade policy, have left South Africa highly dependent on the health of the global economy. Thus, when international growth slows, both domestic and international new vehicle demand experiences a concomitant decrease.

New vehicle production and exports have grown over the 2004 to 2014 period, with new vehicle production and exports increasing by 34% and 151%, respectively. However, both new vehicle production and exports experienced a marked decrease in 2009, due to the after effects of the 2007 subprime crisis. The crisis caused a marked decrease in international growth rates and as such led to a decrease in international new vehicle demand. The market has since shown good signs of recovery since 2009, with exports expected to increase past their 2008 high, within the next two years.

Figure 2-4 below, gives South African new vehicle sales, over the 2004 to 2014 period.

⁵ Exports during a particular calendar year could've been produced during the previous year. This may lead to slight discrepancies in exact figures, however these discrepancies would not be considered material, and as such can be ignored for the analysis above.

Figure 2-4: New Vehicle Sales, South Africa, (2004-2014)



Source: (NAACAM, 2015), (International Organization of Motor Manufacturers, 2004 - 2014)

Although the effects of the 2007 Subprime crisis only began to manifest over the 2008 to 2009 period, Figure 2-4 indicates that South Africa's new vehicles sales were already trending downwards by 2007. This trend continued into 2008, and by 2009 the full effects of the 2007 Subprime crisis had taken root. South Africa's new vehicles sales, have gradually recovered, but have yet to reach the 2006 high of 714,315 sold vehicles. Moreover, from 2013 to 2014 new vehicle sales showed a decreased of around 0.7%. Table 2-1, indicates South Africa's new vehicle production per class, over the 2004 to 2014 period.

Table 2-1: Vehicle Production per Class, South Africa, (2004 – 2014)

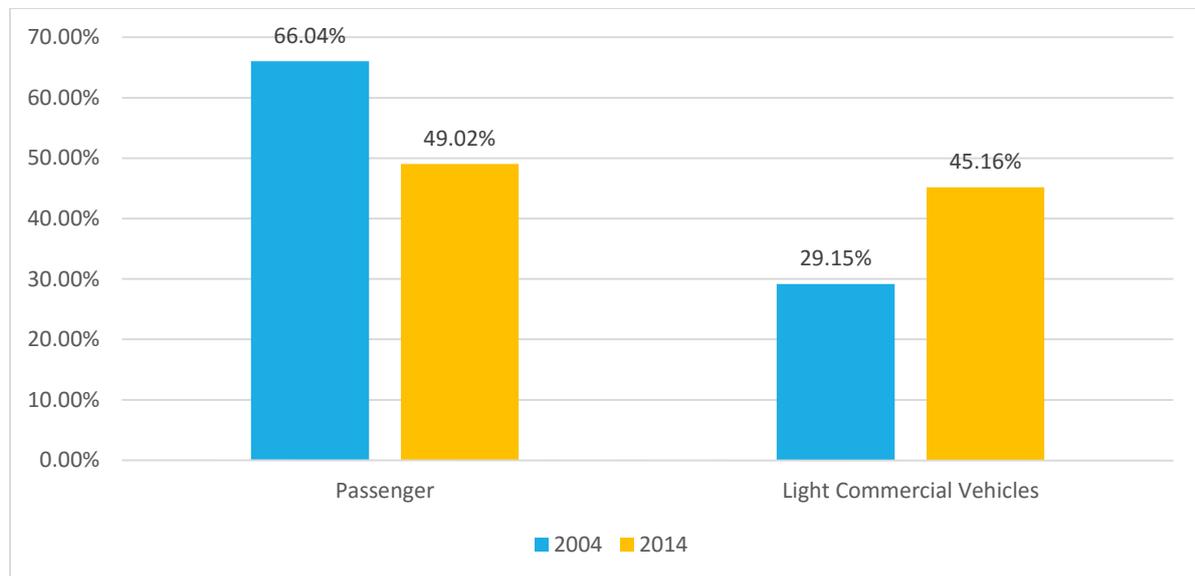
	2004	2014	CAGR 2004 - 2014
Passenger	300,963	277,491	-0.81%
Light Commercial Vehicles	132,827	255,629	6.77%
Heavy Commercial Vehicles	20,807	31,503	4.24%
Busses	1,105	1,460	2.83%
Total	455,702	566,083	2.19%

Source: (NAACAM, 2015), (International Organization of Motor Manufacturers, 2004 - 2014)

Table 2-1 above displays the South African vehicle production per vehicle class, in 2004 and again in 2014. Over the 2004 to 2014 period, South African vehicle production has experienced an annual growth rate of 2.19%. The main contributors to the growth in South African vehicle production, are the light and heavy vehicle classes, which have experienced strong annual growth rates of 6.77% and 4.24%, respectively. While conversely the production of the passenger vehicle class has experience a negative annual growth of 0.81%.

Figure 2-5 below, indicates how this difference in annual growth rates has altered the composition of vehicle production in South Africa, specifically over the light commercial vehicle and passenger vehicle classes.

Figure 2-5: New Vehicle Production Composition, Passenger & Light Commercial Vehicles, South Africa, (2004 – 2014)



Source: (International Organization of Motor Manufacturers, 2004 - 2014)

As can be seen above, passenger vehicle contribution to total vehicle production has decreased from 66.04% in 2004 to 49.02% in 2014. However, light commercial vehicle contribution to total vehicle production has increased from 29.15% in 2004 to 45.16% in 2014. The decrease in passenger vehicle production composition may be indicative of a lower demand for personal transport induced by; a relative decrease in disposable income, slower economic growth both local and international, change of consumer taste towards used cars, or an increased level of public transport. While the increase in light commercial vehicle production composition is indicative of a local or international increase in demand for light commercial vehicles, which may have been driven by higher levels of business activity both within the country and abroad.

2.3.1. Automotive Imports & Exports

Exports are incredibly important to South Africa's vehicle production. As previously seen in Figure 2-3 there is an understandably a strong correlation between exports and production. Arguably the success of the South African automotive industry will be determined by its ability to service the automotive requirements of its trade partners. Indeed, automotive exports increased from 24% of all new vehicle production in 2004 to 51% of new vehicle production by 2014, (NAACAM, 2015). Table 2-2 below, lists South Africa's top 20 automotive export destinations by value for the year 2013.

Table 2-2: South Africa's Top 20 Export Partners, (2013), Rand Million

South Africa's Export Partners	Total (Rm)	Top 20 %	Total %
Germany	19,138.70	22.50%	18.64%
United States	18,660.90	21.93%	18.17%
Namibia	6,622.70	7.78%	6.45%
Japan	5,160.00	6.07%	5.02%
United Kingdom	4,616.50	5.43%	4.50%
Botswana	3,632.40	4.27%	3.54%
Algeria	3,109.30	3.65%	3.03%

<i>Belgium</i>	3,004.70	3.53%	2.93%
<i>Australia</i>	2,555.80	3.00%	2.49%
<i>Zambia</i>	2,224.30	2.61%	2.17%
<i>Mozambique</i>	2,083.50	2.45%	2.03%
<i>Nigeria</i>	2,046.70	2.41%	1.99%
<i>Zimbabwe</i>	1,849.50	2.17%	1.80%
<i>Spain</i>	1,847.50	2.17%	1.80%
<i>France</i>	1,796.60	2.11%	1.75%
<i>China</i>	1,719.90	2.02%	1.67%
<i>Argentina</i>	1,527.00	1.79%	1.49%
<i>Swaziland</i>	1,308.10	1.54%	1.27%
<i>Thailand</i>	1,087.90	1.28%	1.06%
<i>Democratic Republic of Congo</i>	1,085.40	1.28%	1.06%

Source: (The Automotive Industry Export Council, 2014)

As seen in Table 2-2 above, Germany and the United States are still extremely important to the South African automotive industry. Considering the combined 36.81% of total exports that service the United States and Germany, it is safe to assume that these two nations will largely determine the success of the South African automotive industry. In the long run Africa is also expected to be an important export destination to South Africa.

To date South Africa has already taken advantage of its position by developing strong trade ties with numerous countries within Africa. The Southern African Customs Union (SACU) and the Southern African Development Community (SADC) region in particular can be used to establish a strong automotive export base for South Africa. SADC is an extremely strategic region for South Africa in that it operates as a free trade area and consists of 15 countries with a total population of about 280 million people. The importance of the SADC region for exports is amplified by the data. Of the 9 African countries inside the top 20, only Nigeria and Algeria fall outside the SADC region. Table 2-4 below, displays South Africa's top SADC export partners for 2014, as well as their 2013 GDP per capita.

Table 2-3: South Africa's Top 5 SADC Export Partners & their GDP per Capita, (2013), Rand Million

South Africa's Export Partners	Total (Rm)	Top 5 %	GDP Per Capita Current USD (2013)
<i>Namibia</i>	6,623	40.35%	\$5,693
<i>Botswana</i>	3,632	22.13%	\$7,315
<i>Zambia</i>	2,224	13.55%	\$1,844
<i>Mozambique</i>	2,084	12.69%	\$605
<i>Zimbabwe</i>	1,850	11.27%	\$953

Source: (The Automotive Industry Export Council, 2014), (The World Bank, 2015)

Table 2-3 highlights, South Africa's top 5 SADC automotive export destinations. Namibia records the greatest volume of exports by capturing Rm 6,623, which corresponds to 40.35% of the SADC top 5 export total. Botswana records second place in the top 5 with exports of Rm 3,632. Interestingly the trend followed South Africa's top 5 SADC nation's exports generally falls in line with their GDP per capita, with Namibia and Botswana recording a GDP per capita of \$5,693 and \$7,315, respectfully. This trend is important to the South African automotive industry, as it highlights the link between SSA's economic growth prospects and the South African automotive industry. The SADC region is and will continue to be an important export destination for the South African automotive industry. South Africa has taken advantage of its economic position and become the

foremost automotive producer on the continent. However, it is imperative that the South African automotive industry strategically positions itself, in a way that will enable the industry to take advantage of Africa's growth potential. While, South Africa already has several automotive hubs nationwide, there is still room to expand these capacities and develop favourable policies that support the expansion of South African automotive exports into SADC and other regions.

Beyond South Africa's geographical position, it has several core competencies that have given it a competitive advantage. South Africa has one of the world's greatest natural resource endowments and is home to some of the world's largest resource processing facilities. These include the largest deposit of platinum group metal, the massive Columbus stainless steel facility and the Alusaf aluminium-smelting facility at Richards Bay. In addition, South Africa leads the world in the mining of Chromium, Manganese and Platinum all of which are essential elements required for automobile production (U.S. Geological Survey, 2013). South Africa's competitive advantage in platinum extraction and processing, has directly impacted South Africa's automotive component sector, where the platinum intensive catalytic converter comprises 41.8% of South Africa's total exported components, (The Automotive Industry Export Council, 2014).

Thus, based on its strategic international position and unique endowment of essential resources, South Africa is still an attractive automotive producer in the medium to long term.

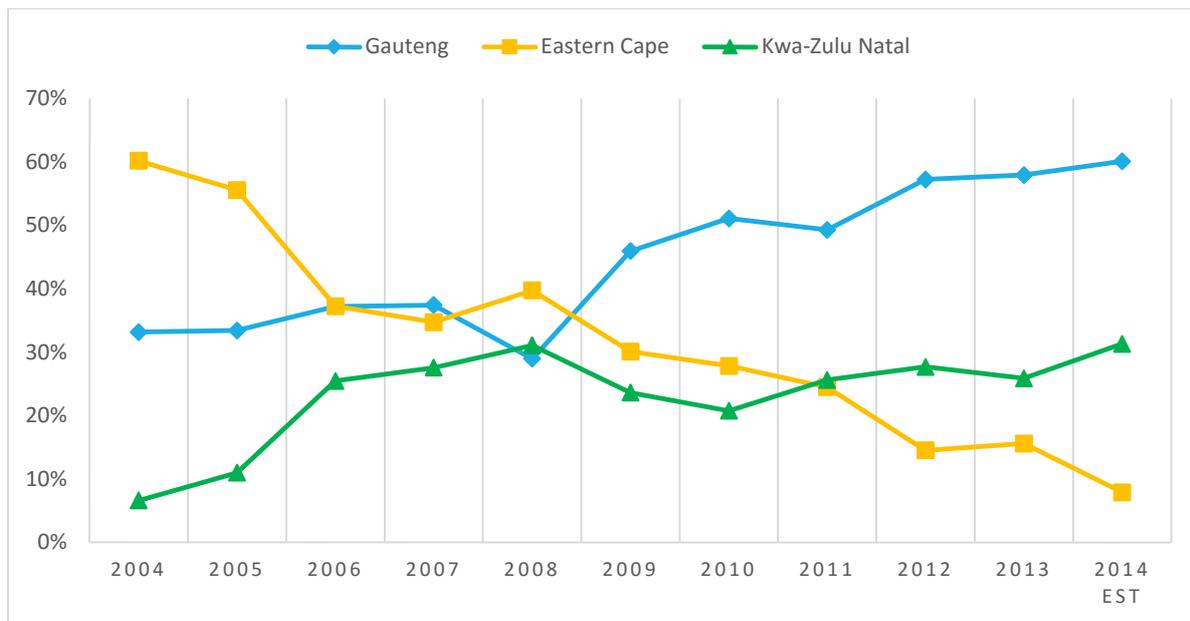
2.3.2. Provincial Comparison

South Africa is blessed with an abundance of automotive clusters. Each demonstrating its own unique competitive advantage. Analysing the export potential of a cluster gives an indication not only its productivity but it also gives an indication of the competitive advantage held by the region. Exports can generally indicate the ability of a nation's industries to compete with the global competitors.

The onset of Globalisation not only gifted firms with an expanded consumer market but it also dramatically increased the competitive environment for firms. Of particular importance in the South African context is the massive effect the lifting of trade embargos had upon South African firms in the post-apartheid era. Indeed, the increased number of global competitors have significantly affected the South African manufacturing industries, which have been required to increase both their productivity and technological wherewithal. Thus, exports can be a good indicator of the South African automotive industry's ability to compete. This understanding is amplified when the economies of scale and the technological advantages of global automotive producers are recognized. Figure 2-6 below, is a depiction of South Africa's total vehicle⁶ exports split over the Gauteng, Eastern Cape and Kwa-Zulu Natal provinces.

⁶ Vehicles in this sense, include all passenger, goods transport and public transport vehicle classes.

Figure 2-6: Vehicle Exports per Province as a Percentage of South Africa's Total Value, (2014), Rand Millions



Source: Quantec, Urban-Econ

As can be seen above, Figure 2-6 only displays the Gauteng, Eastern Cape and Kwa-Zulu Natal provinces, However, with over 98% of South Africa's total exported vehicles originating from one of these three provinces, their importance cannot be understated. The degree of regional concentration displayed in the automotive industry indicates strong underlying competitive advantages in these regions and/or the existence of strong barriers to entry in the industry.

Nonetheless, while the export market share has remained firmly within the three provinces, the export distribution between the provinces has been subject to change. In analysing Figure 2-6, it becomes clear that South Africa's automotive industry has been subject to various trends and impacts over the 2004 to 2014 period. Chief among them has been the impact of the 2007 sub-prime financial crisis. Each of the three provinces held an export share of between 25% and 40% during the 2007 to 2008 calendar year, however by 2010, both the Kwa-Zulu Natal and the Eastern Cape provinces had experienced a drop off, of between 10% and 12%.

By 2012, the Kwa-Zulu Natal automotive industry had managed to rebound back to its pre-crisis export levels, with an export share of 28%. This serves as a good indication of the strong underlying fundamentals, found within the Kwa-Zulu Natal automotive industry. Gauteng has also displayed strong fundamentals and has managed to grow beyond its pre-crisis export levels, to an export share of 60%, in 2014. Although, initially Gauteng was the first to feel the effect of the crisis with a 6% drop in 2008, it soon rebounded to an export share of 46% in 2009. (*Cognisance must be given to the fact that an export share increase in Gauteng could simply be the result of lower vehicle output from the other provinces, however it is still nonetheless a significant result as it describes the ability of the Gauteng automotive industry to resist exogenous demand shocks*). Since 2009, Gauteng has increased its export share by 12% while the Eastern Cape's export share has managed to fall by 14%. The vast divergence between the two regions, is part of the automotive production trend that has continued since 2004.

Automotive market commentators will point out that the problem inherent in this statistic is that it excludes the effect of the unique business environment currently faced by the localised OEMs and other vehicle manufacturers. In this case it may be assumed that either domestic sales could be higher and/or that international demand may be lower, both of which would negate the motive to export. However due to

globalisation it is incredible unlikely that both domestic and international new vehicle demand would follow alternative demand patterns over the long run. Furthermore, the South African government has initiated various automotive incentives such as the MIDP and as of 2013 the APDP, both of which motivated automotive producers to operate at high operational levels. Hence, the business environment experienced by the individual automotive producers should not undervalue the importance of exports as an indicator.

The ability of a province to export can give a good indication of the productivity and core competencies inherent in their local industries. Thus based on the current trend within the export markets, it can be assumed that the Gauteng automotive region holds several underlying competitive advantages over the Kwa-Zulu Natal and the Eastern Cape regions.

2.4. Shift from the Motor Industry Development Plan (MIDP) to the Automotive Production Development Policy (APDP)

The South African automotive industry has been drastically transformed over the past 20 years, mainly as a result of the MIDP's incentives. The MIDP was introduced in 1995 with the following objectives:

- Help improve the automotive industry's international competitiveness
- Provide improved vehicle affordability in the domestic market
- Encourage growth in vehicle and component manufacturing, particularly through exports
- Stabilise employment levels in the industry
- Create a better industry foreign exchange balance

A critical component of the MIDP was the introduction of an import-export complementation scheme. This required that firms gain competitive access into the small domestic market as they would need to export either directly or indirectly, through their value chain. The programme intended to guide small ineffective industries integration into the global automotive environment (Lamprecht, 2009). It was successful in terms of broadening the base and increasing the overall output of the domestic motor industry, both in terms of automotive components and entirely built up vehicles.

Looking back on the MIDP's history is important as it will allow for an understanding of South Africa's radical development within the automotive industry. The MIDP was a voluntary incentive scheme designed to save money for participants, by reducing import duties through the incentives facilitated by the MIDP. There were three ways in which incentives could be utilised to reduce duties:

- Duty Free Allowance (DFA)
- Import Rebate Credit Certificates (IRCCs)
- Production Asset Allowance (PAA)

The MIDP essentially worked by subsidising the production of vehicles and OEM components for both the domestic market and for export. The subsidy is in part paid by domestic consumers of vehicles in the form of restricted choices and higher prices. Instead of paying lower prices for locally produced vehicles, prices tended to be increased in order to help subsidise the local automotive production industry (Flatters, 2005).

The automotive industry faces challenges in adapting old procedures of the MIDP (Motor Industry Development Plan) to meet the new, complex tax, customs liabilities, and incentives introduced by the new APDP. It was necessary for the MIDP to change to the APDP as it was required for the South African automotive industry to align with the World Trade Organisation's (WTO) agreement on subsidies. This effectively changed the focus of South Africa's manufacturing programme from an export-based incentive (MIDP Incentives), which is prohibited by the WTO, to a production focused incentive. In 2011 the automotive industry contributed approximately 12% of South Africa's total exports.

The APDP is a programme set up by national government in order to assist in reaching the goal of the South African automotive industry of producing 1.2 million vehicles by 2020. This was to aid in creating a better suited environment that will enable registered light motor vehicle manufacturers to significantly grow production values and component manufacturers to significantly raise value addition, with the main objective of creating new sustainable employment opportunities across the automotive value chain and enhancing the trade balance of SA. The APDP consists of four strategic pillars that will guide the implementation of the programme: (International Trade Administration Commission of South Africa, 2012)

- **Import duty:**

Provides stable and more moderate import tariffs. Import duties on vehicles and components are frozen at the 2012 level of 25% on light vehicles and 20% on components, which will persist through to 2020. A preferential agreement results in vehicles imported from the EU only paying 18% duty.

- **Vehicle Assembly Allowance (VAA):**

Allows vehicle manufacturers with a plant volume of at least 50,000 units per annum to import a percentage of their components duty free.

The VAA looks to provide more incentives for vehicles built for the local market. Initially in the MIDP, OEMs earned a smaller percentage on incentives for locally produced vehicles. The APDP, through the VAA, insures a greater support for products developed for the local market and provides more encouragement for higher volume vehicle production. This is all in line with the production goal of the APDP.

- **Production Incentives (PI):**

Is in the form of an allowance for duty-free importation of vehicles or components. The PI support started at 55% in 2013, reducing annually by 1% to 50% of value added. Certain vulnerable products will earn up to 80% PI in 2013 and 2014, which reduces annually by 5% thereafter to 50% in 2020.

The Production Incentives aim to encourage more local component production. This will significantly reduce the incentives exporters gained initially under the MIDP. Simultaneously this will have a negative impact on the future of exports on components with high raw material content, such as aluminium based products and catalytic converters.

- **Automotive Investment Scheme (AIS):**

- Assists with investment decisions and cash flow by giving back up to 30% cash back on qualifying investments as a taxable cash grant from treasury.
- Targets OEMs and component suppliers to stimulate with the objective to:
 - Stimulate investment and employment creation in the automotive industry of SA
 - Invest in technologically advanced automotive production.
 - Increase plant production volumes and strengthen the automotive value chain.

The APDP has ushered in a new era of volume-driven production. This programme is essentially focused to ensure the sector has a greater impact on the economy and national employment level by increasing the local component manufacturing and the sourcing of goods in the domestic market.

2.5. Conclusion

The vision of the AIDC's is to become, "the preferred provider of strategic solutions and Government projects to the South African automotive industry". In order to accomplish this vision, the AIDC has established a number of key focus departments, namely: The Enterprise Development Department, Skills development and Training, Incubation Programmes Department, Government Incentives Scheme Department, Special Programmes Department, Business Development Department and the Operations Department. The above departments aim to:

- drive skills development and technology transfer to local automotive businesses;
- support and develop local automotive suppliers and other automotive related SMME's;
- encourage investment and particularly FDI investment into Gauteng's automotive industry;
- enhance the competitiveness of the Gauteng automotive industry and expand the reach of the South African automotive market;
- support the development of BBEEE businesses, employment creation and skills development;
- and the managing, maintaining and improving the ASP, all its other project sites, as well as attending to infrastructure development (construction of facilities).

Through the above, the AIDC aims to develop Gauteng into a world leader in automotive production. However, the current global market, (See annexure 1), will play a large part in the future success of the Gauteng automotive industry and therefore the success of the AIDC. Elements such as the Chinese economic slowdown, the oil supply glut, the US Federal Bank's quantitative tightening, and the prevailing uncertainty in the EU, will all have a massive effect upon the Gauteng automotive market. While it is uncertain as to which of these elements will have the greatest effect, the US Federal Bank tightening cycle and the Chinese economic slowdown, will cause South Africa's currency to depreciate against most automotive producing nations. The extent to which the Rand depreciates, will directly increase the cost of new automotive imports in Rand terms. However, while it is also expected that the weaker Rand will increase automotive exports, this will only be true in the long run. Moreover, with the economic uncertainty in the EU, it is likely that this effect will not be as great as it would be expected under normal circumstances. The oil supply glut is therefore the only exogenous macro-economic shock which will have a positive effect on automotive sales, both domestic and international. The lower petrol price, will in effect increase consumer's disposable income and, ceteris paribus, increase the demand for automotive vehicles. Hence, the South African automotive market, will not receive any boosts from the global macro-economic climate, and must duly rely on the underlying fundamentals of the South African automotive market to achieve market gains.

It can be shown that South Africa is still far above its regional rivals in automotive production and sales. This is due to South Africa's relatively more developed economy and strong trade links. Indeed, with strong existing automotive export links to nations such as, German, USA, Namibia, Japan and the United Kingdom, South Africa is ideally positioned to capitalise on an increase in automotive production. Moreover, South Africa's geographic positioning places it as the most important automotive manufacture within the fast growing SADC region.

Gauteng, as the largest province in terms of both population and GDP, is a central figure in South Africa's automotive landscape. During 2014 alone, the Gauteng Province has been estimated to have exported around 60% of South Africa's total automotive exports. Moreover, the automotive potential of Gauteng and South African as a whole has been given a lift by various government policies. The most import of which is the APDP programme, which aims to assist the South African automotive sector to produce 1.2 million vehicles by the year 2020. Indeed, the South African automotive industry will be assisted by the APDP, through import duties, vehicle assembly allowances, production incentives and the AIS.

In this context, it can be seen that the AIDC is a crucial cog in the development of the Gauteng automotive industry. Although, Gauteng does have continue a competitive advantage in automotive production, over other African nations, the South African automotive industry still faces an exceptionally hostile international market. As, such the ability of the AIDC to provide appropriate and strategic support to the Gauteng

automotive industry through its various departments, will both support the industry through macroeconomic shocks, and build upon the strong underlying fundamentals of the Gauteng automotive industry.

3. Baseline Profile

3.1. Socio-economic Profile

The aim of a socio-economic profile is to establish the key socio-economic characteristics of the delineated areas, as provided in section 1.5. Whereby the socio-economic characteristics are used to measure the potential impact of an intervention, upon the delineated areas. Quantitative data relating to population, income, expenditure and labour, is collected and assessed.

3.1.1. Population

Population is defined by (Oxford Dictionaries, 2015) as, “a particular group or type of people living in a place”. The population dynamic will therefore discuss the total population and changes thereof, at a national, provincial and regional level, with special reference being made to the delineated areas of Gauteng and Tshwane. Understanding the population dynamic of the delineated areas is important, as it provides information on the emigration patterns, strategic importance and economic growth potential of an area. Table 3-1, below, indicates population statistics of South Africa at a national and provincial level, over the 2004 to 2014 period.

Table 3-1: Provincial and National Population, (2004-2014), Number

Year	2004	2014	CAGR '04- '14
Western Cape	4,648,644	5,562,887	1.81%
Eastern Cape	6,599,527	6,933,447	0.49%
Northern Cape	1,055,042	1,122,279	0.62%
Free State	2,707,859	2,774,171	0.24%
Kwazulu-Natal	9,922,304	11,156,555	1.18%
North West	3,052,339	3,389,020	1.05%
Gauteng	10,027,726	11,952,577	1.77%
Mpumalanga	3,443,864	3,788,874	0.96%
Limpopo	5,131,946	5,745,517	1.14%
South Africa	46,589,251	52,425,325	1.19%

Source: Quantec Easydata, 2015

As seen in Table 3-1 above, South Africa's population has increased from 45,997,195 to 52,388,352 over the 2004 – 2014 period. This equates to an approximate continuous average growth rate (CAGR) of 1.19%.⁷

Gauteng and KwaZulu-Natal are South Africa's largest provinces, with populations of 11.8 and 11.0 million, respectively. While at the other end of the spectrum, the Free State and the Northern Cape, are the smallest provinces, with populations around 2.8, and 1.1 million individuals, respectively. However, interestingly, the provincial population growth rates differ substantially from the composition and size of the provincial populations.

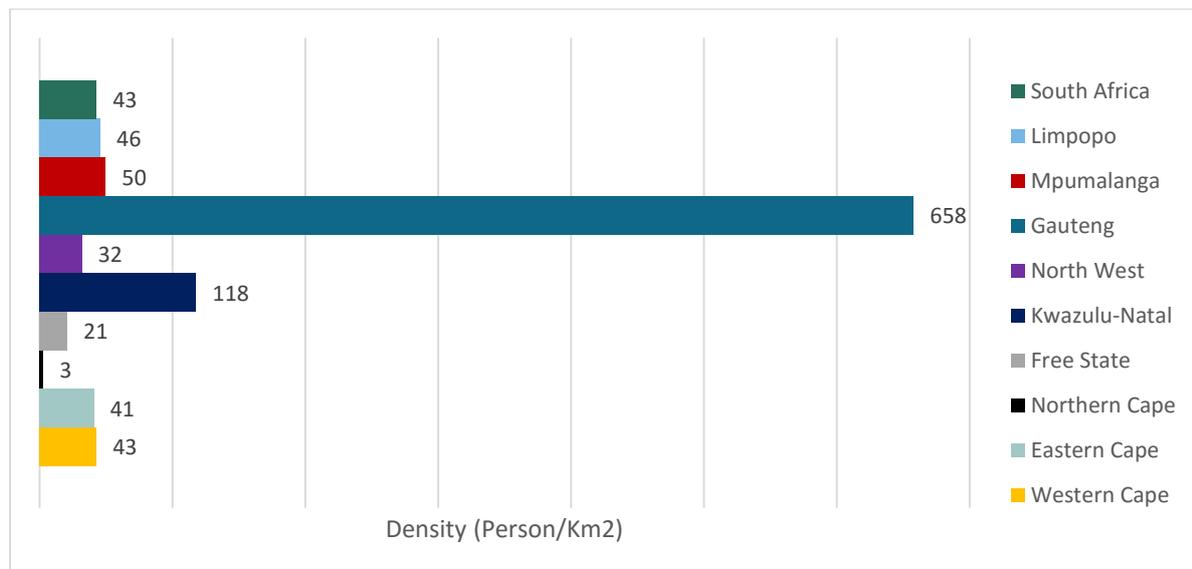
⁷ National CAGR will be used as a population growth benchmark for the rest of the population dynamics section.

Gauteng and the Western Cape recorded the highest population growth rates, over the 2003 to 2013 period, with growth of 1.77% and 1.81%, respectively. Both the Western Cape and Gauteng populations are thought to have grown from high immigration levels, due to their strong employment capacity, (see table xx). Kwazulu-Natal, with a 1.18% growth rate, is the only province to record a growth rate close to the national population average of 1.19%. Although Kwazulu-Natal has the second largest province, the AIDS pandemic and large amounts of job seeker emigration, are likely to have limited population growth up to this point.

Each of the remaining provinces have recorded a relative decline in population growth, when compared to the national average of 1.19%. The Free State and the Eastern Cape have recorded the slowest population growth rates in the country. Over the 10-year analysis period, the Free State's population increased from 2,7 million to just 2,8 million, at a growth rate of 0.24%. In a similar fashion the Eastern Cape's population increased from 6,6 million to 6,9 million, at a growth rate of 0.49%, within the same time period.

Reasons for the slow and fast population growth rates in South African provinces are complex and unique. However, the main driving force behind South Africa's provincial population decline and increase, continues to be interprovincial population migration. Figure 3-1 below, indicates population densities at a provincial level.

Figure 3-1: Population densities per province, (2014), person/km²



Source: Quantec Easydata, 2015

As seen above, Gauteng has an unusually high population density in comparison to South Africa's other provinces. Gauteng's strong labour absorption capacity and historical economic importance has contributed to its distorted population density of 658 persons/km². KwaZulu-Natal boasts the second highest density of any province, with 118 persons/km², while the Northern Cape with its arid and sparse landscape has the lowest population density at 3 persons/km². Table 3-2 below, indicates the total population and average growth rate for South Africa and Gauteng and the City of Tshwane, over the 2004-2014 period.

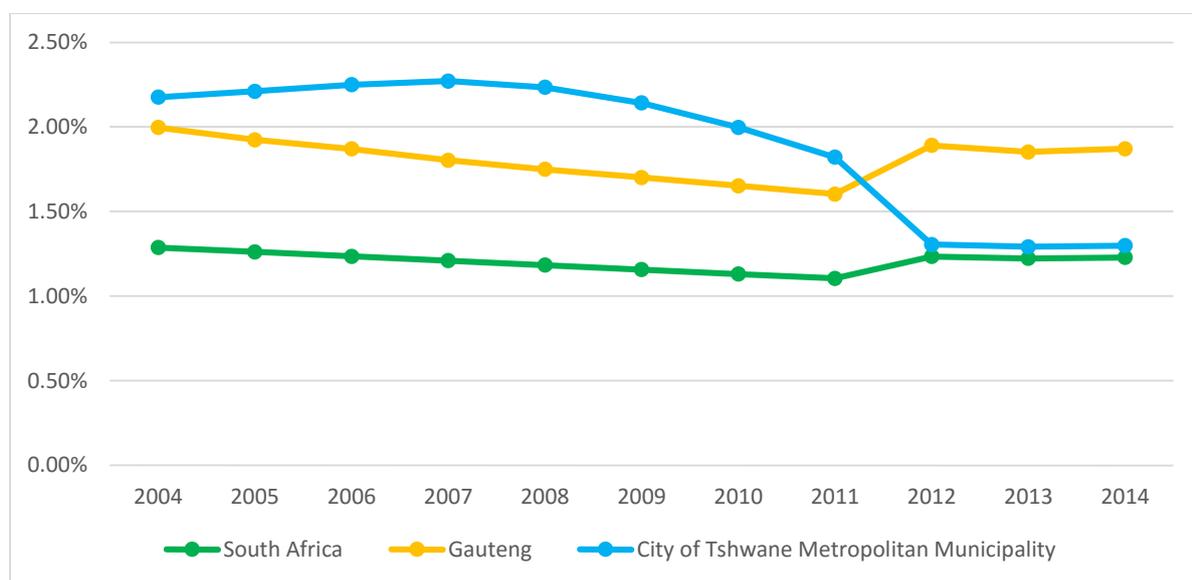
Table 3-2: Population and Population Growth Rate for South Africa, Gauteng and City of Tshwane, (2004-2014)

Delineated Area	Population (2004)	Population (2014)	Average Growth Rate ⁸
South Africa	10,027,726	52,425,325	1.32%
Gauteng	2,187,796	11,952,577	1.97%
City of Tshwane	46,589,251	2,641,487	2.12%

Source: Quantec Easydata, 2015

Per Table 3-2 above, as of 2014 Gauteng constituted around 22.8% of South Africa's total population, whereas Tshwane comprised around 5.0% of South Africa's total population. Gauteng has experienced an above national average growth of around 1.97% over the 2004 – 2015 period, while Tshwane has on average experienced a higher population growth rate of 2.12% over the period. Figure 3-2 below provides greater details on the population growth trends for the delineated areas of South Africa, Gauteng and Tshwane, over the 2004 – 2014 period.

Figure 3-2: Population Growth Rate of South Africa, Gauteng and Tshwane, (2004-2014)



Source: Quantec Easydata, 2015

Figure 3-2 indicates that South Africa's average population growth, decreased from 1.29% to 1.10%, over the 2004 – 2011 period. Gauteng's population growth followed a similar trend by dropping from 2.00% to 1.60% over the same time period. However, by 2012, both South Africa and Gauteng's population growth had decreased to 1.23% and 1.89%, respectively. In contrast Tshwane's population growth improved over the 2004 to the 2007 period, increasing from 2.18% to 2.27%. The trend reversed in 2008, and Tshwane's average population growth decreased to 1.31% by 2012. Since 2012, the growth rates of all three delineated areas have remained relatively consistent.

3.1.2. Income, Expenditure and Inequality

⁸ Percentage growth rates differ from table 3.1, as the Average Growth Rate formula differs from the CAGR Formula. Although CAGR is more accurate, the Average Growth Rate formula can be used to good effect as an illustration of growth over time, as seen in Figure 3-2.

Income distribution is one of the most important indicators of social welfare. Income is used to purchase education, utility services, food and health care. Hence, a disparity of income between population groupings is often an indication of social and lifestyle inequality.

Moreover, household expenditure can influence economic growth. Depending on the circumstances, an increase in household expenditure can stimulate aggregate demand in the economy, which is the central driving force behind the short to medium term employment and production. Table 3-3 below illustrates the total household disposable income growth rates per study area, over the 2004 to 2014 period.

Table 3-3: Average Disposable Income of Households, for South Africa, Gauteng and Tshwane, (2004-2014), Rand (Current Prices)

Year	2004	2014	CAGR (2004 - 2014)
South Africa	72,848	156,404	7.94%
Gauteng	133,235	295,433	8.29%
Tshwane	92,018	200,165	8.08%

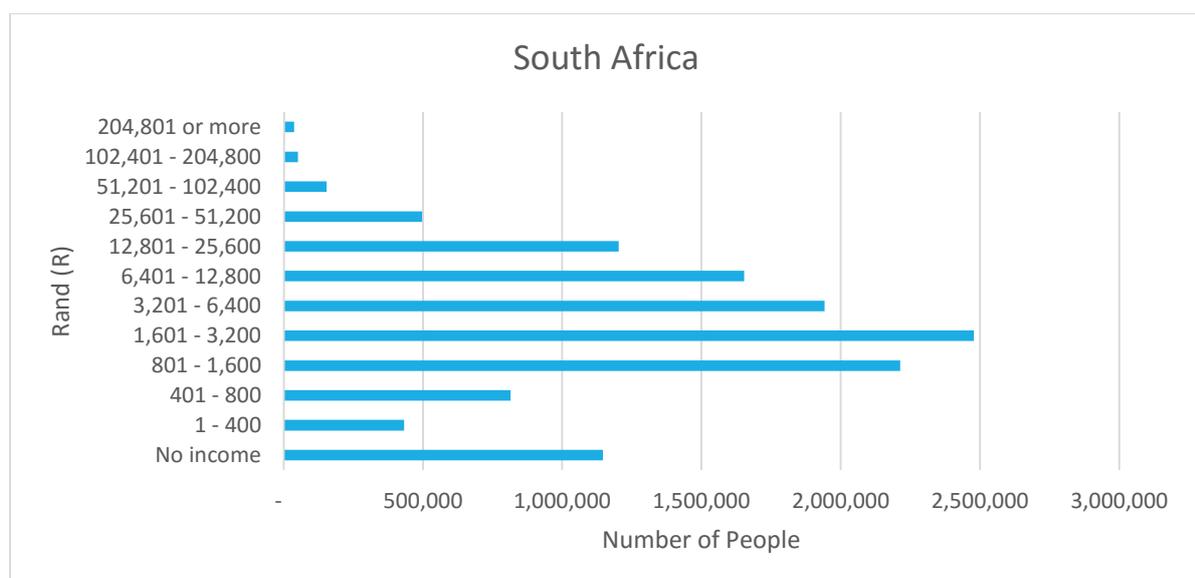
Source: Quantec Easydata, 2015

Per Table 3-3 above, between 2004 and 2014, all three of the delineated areas experienced good growth in their household disposable income.

Significantly both Gauteng and Tshwane, with growth rates of 8.29% and 8.08% respectively, are outperforming the national growth rate of 7.94% per annum. This feat is particularly impressive when considering that in 2004, Gauteng and Tshwane had a larger disposable income per household than the national average (i.e. high growth rates are normally associated with a lower starting base). By 2014, Gauteng's disposable income of R 295,433 was roughly 89% greater than the national average. While Tshwane's disposable income of R 200,165 had grown to be roughly 28% greater than the national average.

Figure 3-3, highlights income distribution of South Africa's employed population, as per figures given in the 2011 census.

Figure 3-3: Distribution of Income Levels, South Africa, (2011), Rand

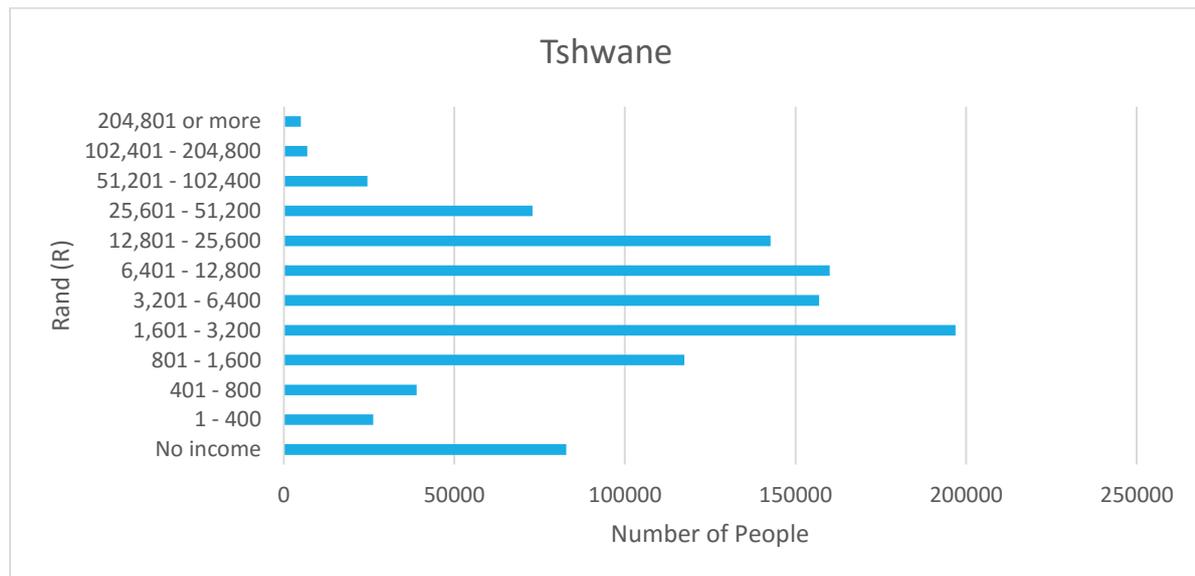


Source: Quantec Easydata, 2015

According to Figure 3-3, South Africa's largest income bracket is the R 1,601.00 to R 3,200.00 per month category, of which 19.63% of all South Africa's employed persons fall. South Africa's second largest income bracket is the R 801.00 to R 1,600.00 per month category, of which contains 17.54% of South Africa's employed. However, with 1,146,776 individuals or around 9.08% of all earners, there is a considerable amount of individuals in South Africa who earn no monthly salary. In contrast, 88,515 persons or roughly 0.70% earned a monthly salary of R 102,401.00 or greater.

Figure 3-4 below, highlights income distribution of Tshwane's employed population, as per figures given in the 2011 census.

Figure 3-4: Distribution of Income Levels, Tshwane, (2011)

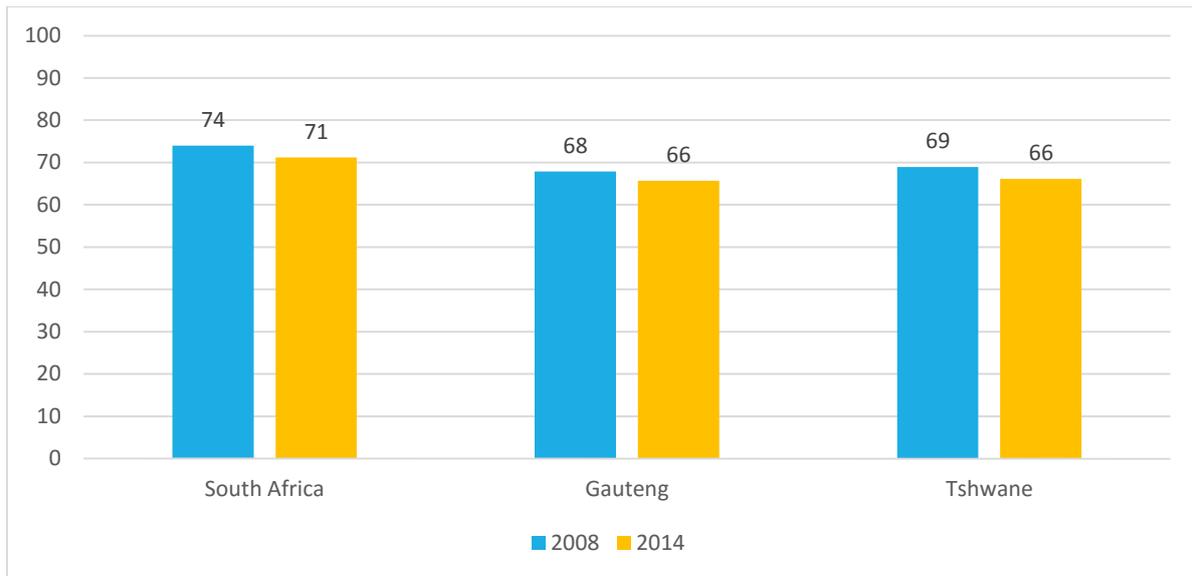


Source: Quantec Easydata, 2015

As indicated above, 19.09% of all employed persons within Tshwane earn between R 1,601.00 to R 3,200.00. Whereas, Tshwane's second largest income bracket is the R6,401 to R 12,800 bracket, with 15.52% of all employed persons. This bracket is closely followed in percentage terms, with the R3,201 to R 6,400 income bracket, which includes 15.22% of all employed persons.

Noticeably Tshwane's income brackets graph is more evenly spread out than the national income bracket graph (see Figure 3-3). This implies that the Tshwane's income distribution is slightly more equitable than the national income distribution. However, despite Tshwane's success in income distribution, as much as 8.03% of Tshwane's employed population earns no income. Hence, while notice must be given to Tshwane's success in equitable income distribution, there are still systemic issues which must be addressed.

Figure 3-5 below depicts the Gini index in 2008 and 2014, across the delineated areas.

Figure 3-5: Gini Index⁹, South Africa, Gauteng & Tshwane, (2008 & 2014)

Source: Quantec Easydata, 2015

Per Figure 3-5 above, it is evident that all three of the delineated areas are still struggling with inequality and income distribution. South Africa's Gini index number has improved moderately from 74 to 71 over the 2008 to 2014 period. Tshwane has, in a similar fashion experienced a moderate improvement to 66. Gauteng has experienced the lowest Gini index number improvement to 66.

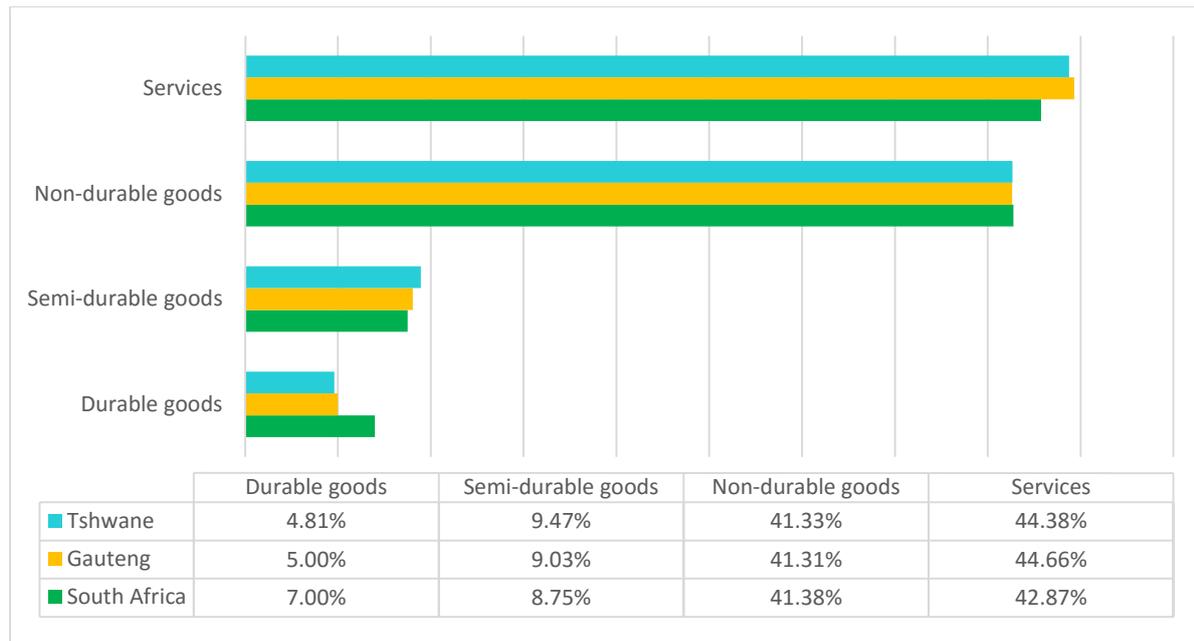
However, while improvement has been made, all three of the delineated areas still record a Gini index number over 50, which implies that the nation is, as a whole, still struggling with a large amount of income inequality.

Figure 3-6 below, illustrates the percentage expenditure of households across durable, semi-durable, non-durable goods; and services, for South Africa, Gauteng & Tshwane.

⁹ A Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. Whereby a Gini Index number of 0 represents perfect equality, an Index number of 100 implies perfect inequality, (World Bank, 2015).

Measured off market income: (Income excluding social grants such as pension fund, disability grant and child support grant. Alimony received is also excluded.)

Figure 3-6: Composition of Household Expenditure, South Africa, Gauteng &Tshwane, (2014)



Source: Quantec Easydata, 2015

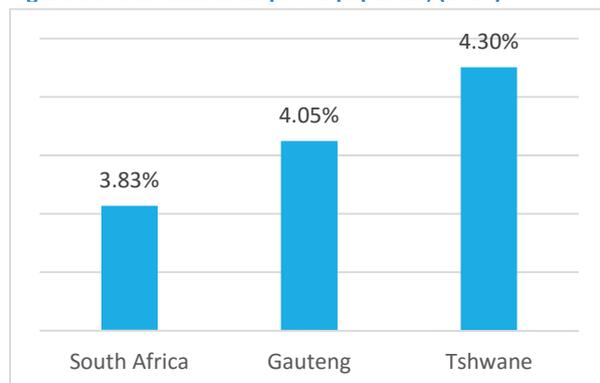
As seen above, all three study areas have very similar spending habits, with only slight variations in expenditure compositions. An aggregation of the household spending compositions, is used to give a better illustration of spending habits within the delineated areas.

Services is the biggest expense across all study areas averaging 43.97% of all expenditure, closely followed by non-durable goods, which averages around 41.34% of all household expenditure across the delineated areas. Semi-durable and durable goods are the least important categories, and average 9.08% and 5.60% of total household expenditure, respectively.

The high expenditure on non-durable goods and services across all the delineated areas is indicative of the consumerist culture that pervades the South Africa’s economy. The low levels of expenditure on durable goods, limits the ability of individuals to build up and retain their wealth.

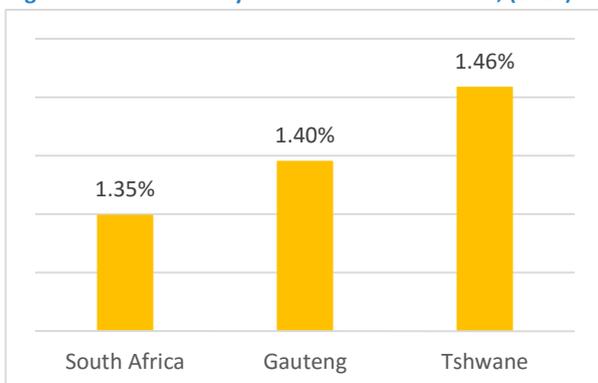
Figure 3-7 and 3-8 below, display the percentage expenditure on personal transport equipment, and motor car tyres and other accessories for South Africa, Gauteng and Tshwane.

Figure 3-7: Personal Transport Equipment, (2014)



Source: Quantec Easydata, 2015

Figure 3-8: Motor car tyres and other accessories, (2014)



Source: Quantec Easydata, 2015

As per Figures 3-7 and 3-8, Tshwane spent the most in disposable income percent, on both personal transport equipment and motor car tyres and other accessories, with 4.30% and 1.46%, respectively. Gauteng followed suit, spending the second most in both personal transport equipment and motor car tyres and other accessories, with 4.05% and 1.40%, respectively. Interestingly both Tshwane and Gauteng save more money than South Africa as a whole, (see Figure 3-9 below), but also spend more on automotive purchases. This yet again highlights the greater household disposable income found within Gauteng and Tshwane.

Table 3-4 below, indicates the household disposable income, expenditure and savings of the three delineated areas.

Table 3-4: Household Disposable Income, Expenditure and Savings, South Africa, Gauteng and Tshwane, (2014), R million (Rm)

	Disposable Income	Expenditure	Savings
South Africa	2,137,693	2,143,708	(6,015)
Gauteng	771,968	767,252	4,716
Tshwane	209,512	208,236	1,276

Source: Quantec Easydata, 2015

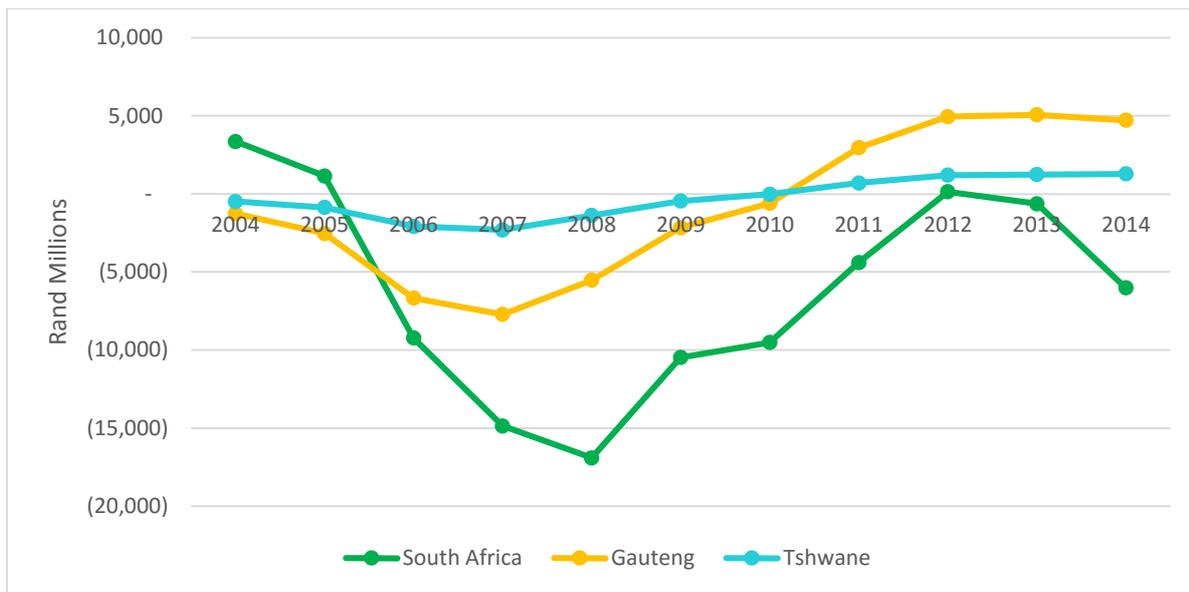
As can be seen above, South African households are estimated to outspend their incomes in 2014, resulting in a Rm 6,015 savings shortfall, of which, most will be funded by credit. A developing economy, such as South Africa, is expected to rely upon credit, in order to purchase essential equipment and other necessary goods for development. However, South African households spent roughly 84.25%, (see Figure 3-6), of their total expenditure on temporary non-durable goods and services, during 2014. In essence the South African economy was borrowing money to spend on perishable goods and services, which in the long run will lead to an overextension of credit and stagnate economic growth.

In contrast, the Gauteng and Tshwane households recorded savings of Rm 4,716 and Rm 1,276, respectively. Accumulated household savings are important for an economy as they, *ceteris paribus*¹⁰, allow for greater levels of investment expenditure. Which through the help of the multiplier effect, is able to stimulate production and employment throughout the whole economy.

Figure 3-9 below, illustrates household savings for South Africa, Gauteng and Tshwane, from 2004 to 2014.

¹⁰ Latin phrase meaning, "all other things being equal" (Oxford Dictionaries, 2015).

Figure 3-9: Household Savings, South Africa, Gauteng & Tshwane, (2004 -2014), Rand Million (Rm)



Source: Quantec Easydata, 2015

As can be seen above, national household savings were negative from 2006 to 2012, reaching a negative low of Rm 16,903 during 2008. Moreover, while South African savings did record a positive of Rm 135 in 2012, this was only temporary as savings again fell again to a negative Rm 635, by 2013. This trend continued into 2014, which has been estimated as a negative Rm 6,015. Gauteng and Tshwane followed a remarkably similar trend, albeit slightly more positive.

Gauteng and Tshwane experienced negative savings until 2011, at both recoded positive savings of Rm 2,954 and Rm 692, respectively. Positive savings in Gauteng and Tshwane are expected to continue to 2014, where Gauteng and Tshwane households have been estimated to save Rm 4,716.00 and Rm 1,276, respectively.

3.1.3. Labour Market

Labour is a crucial element in the study of economics and is often used as an indicator to describe the health of an economy and the stability of its society. It is therefore important to examine the employment rates and composition of employment, when establishing a socio-economic baseline of an area. According to Mohr (2008), there are various terms used to describe the employment status of a group or individual, including:

1. **Working Age Population:** includes all individuals between the ages of 15 and 65.
2. **Labour Force:** those in the working age population who are willing and able to work, whether employed or unemployed.
3. **Unemployed:** people who: did not work 7 days prior to an interview; want to work and are available to start working; and have taken steps to look for work or to start some form of self-employment.
4. **Unemployment rate:** the percentage of the total labour force that is unemployed but actively seeking employment and willing to work.

5. **Labour force participation rate:** measures the active portion of an economy's labour force. The participation rate refers to the number of people who are either employed or are actively looking for work. The number of people who are no longer actively searching for work would not be included in the participation rate
6. **Labour absorption rate:** is the ratio between the number of employed individuals, both formal and informal, and the total working age population

Table 3-5 below, displays the employment profile of South Africa, Gauteng and Tshwane, for 2014.

Table 3-5: Employment Profile, South Africa, Gauteng and Tshwane, (2014)

	South Africa	Gauteng	Tshwane
Working Age Population (WAP)	33,875,978	8,176,662	1,806,716
Labour Force	20,174,829	5,955,436	1,357,070
Labour Force Participation Rate (LFPR)	59.55%	72.83%	75.11%
Employed (formal & informal)	15,183,360	4,437,308	1,050,660
Unemployed	4,991,469	1,518,128	306,409
Unemployment rate	24.74%	25.49%	22.58%
Absorption Rate	44.82%	54.27%	58.15%

Source: Quantec Easydata, 2015¹¹

As per Table 3-5, Gauteng's working age population (WAP) makes up approximately 24% of South Africa's total WAP. Tshwane also comprises a fair portion of South Africa's WAP at around 5%. The large WAP's found in Gauteng and Tshwane, further underline the importance of the areas to the national labour dynamics.

Nonetheless, Gauteng, with 25.49% has the worst unemployment rate out of the three delineated areas. South Africa has the second worst employment rate with 24.74%, while Tshwane has a commendable unemployment rate of just 22.58%.

Gauteng and Tshwane have a LFPR of around 73% to 75%, while South Africa has considerably lower LFPR of around 60%. This may indicate that Gauteng and in particular Tshwane is less traditional in following patriarchal customs than South Africa as a whole, whereby more woman in Gauteng and Tshwane opt to pursue careers. The lower LFPR found in South Africa may also indicate a high number of disgruntled work seekers within other provinces, (i.e. these individuals would only form part of the expanded definition of unemployment).

The high LFPR found in Gauteng and Tshwane has also lead to a labour absorption rate of 54.27% and 58.15%, respectively, which is considerably higher than the national average of 44.82%. South Africa's low labour absorption rate, is primarily caused by its relatively low LFPR. Indeed, from this perspective, despite the fact that Gauteng has a higher unemployment rate, there are far more jobs created in Gauteng, when employment is compared to the entire WAP. Table 3-6 below, illustrates South Africa unemployment by sector over the 1995 to 2014 period.

Table 3-6: South African Employment by Sector, (1995-2014)

¹¹ Due to unavailability of data, some items have been estimated.

Sectors	1995	2004	2014	CAGR	
				'95- '04	'04- '14
Agriculture, forestry and fishing	1,603,991	1,352,972	881,848	-1.69%	-4.19%
Mining and quarrying	601,740	450,834	524,843	-2.85%	1.53%
Manufacturing	1,722,121	1,522,020	1,341,871	-1.23%	-1.25%
Electricity, gas and water	49,810	47,978	681,74	-0.37%	3.58%
Construction	1,271,815	769,620	1,132,621	-4.90%	3.94%
Wholesale and retail trade,	2,599,215	2,740,978	3,784,090	0.53%	3.28%
Transport, storage and	643,188	524,126	827,400	-2.02%	4.67%
Finance, insurance, real estate	1,010,321	1,791,637	2,180,169	5.90%	1.98%
Community, social and personal	1,654,549	1,855,737	2,413,071	1.15%	2.66%
General government	1,487,859	1,481,927	2,029,286	-0.04%	3.19%
All Sectors	12,644,60	12,537,829	15,183,372	-0.08%	1.93%

Source: Quantec Easydata, 2015¹²

As illustrated in Table 3-6, South Africa's biggest employment sector is *wholesale and retail*, which employs 3,8 million individuals. Other strong employers in the tertiary sector are the *community, social and personal service sector* and the *finance, insurance, real estate and business services sector*, with 2,4 million and 2,2 million labourers respectively. Strong employers in the secondary sector are *manufacturing* and *construction*, with 1,3 million and 1,1 million employed individuals respectively.

Numerous industries increased and decreased in their labour employment over both the 1995 to 2004, and the 2004 to 2014, periods. However, despite this, there has been an overall effective increase in employment of 1.85%, over the entire 1995 to 2014-time period.

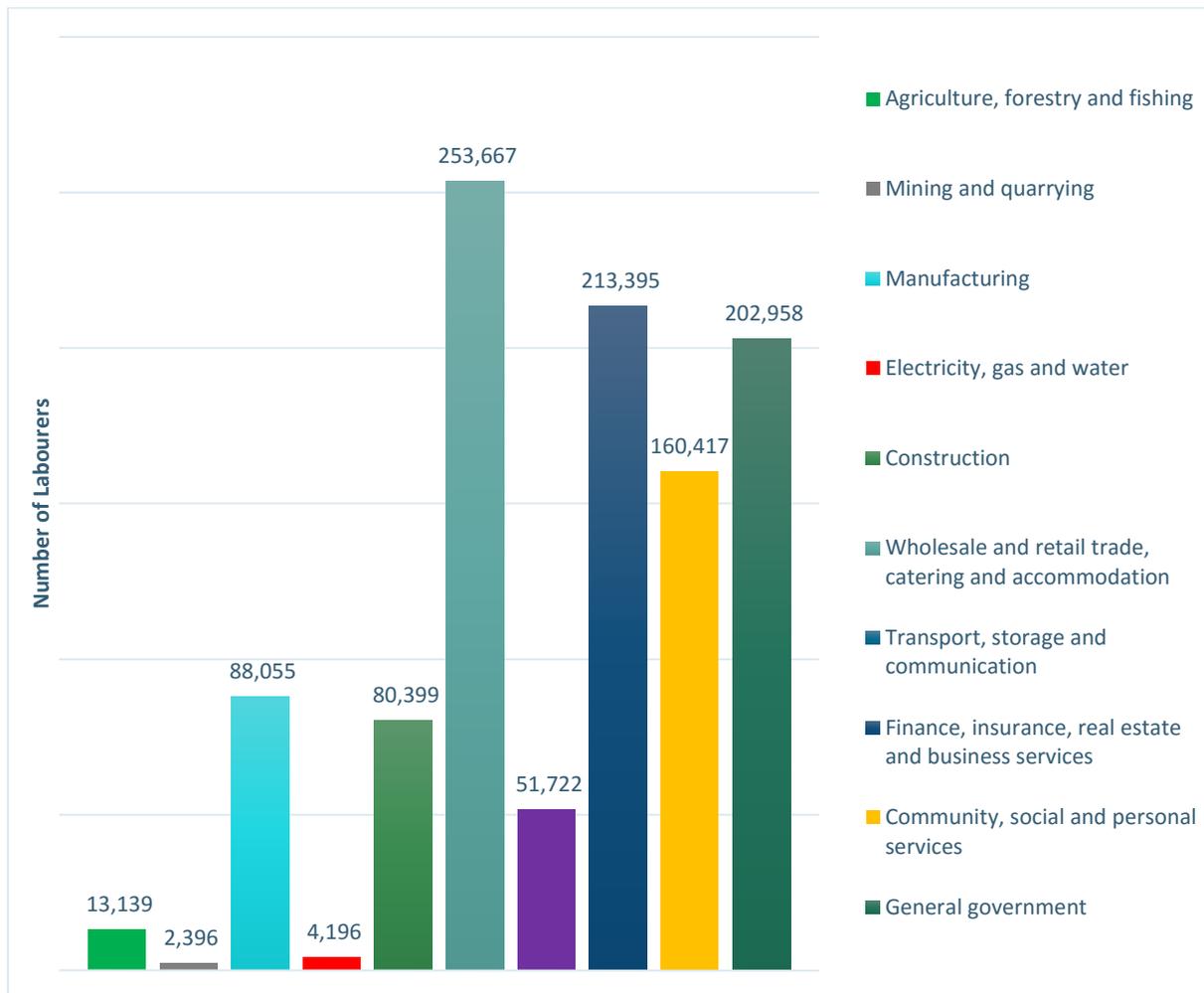
During the 1995 to 2004-time period, the *agriculture, forestry and fishing; mining and quarrying; manufacturing; electricity, gas and water; construction; transport, storage and communication; and general government* sectors all suffered a contraction in employment.

Conversely, over the 2004 to 2014 period the *mining and quarrying; electricity, gas and water; construction; transport, storage and communication; and general government* sectors made healthy gains to increase employment. Only the *agriculture, forestry and fishing* and *manufacturing* sectors, continued to decrease in employment, by a further 4.19% and 1.25% respectively.

The sectors to see the biggest growth in employment over both time periods, (i.e. 1995 to 2014), are the *finance, insurance, real estate and business services*, and the *community, social and personal services* sectors, with an effective increase in unemployment of around 7.99% and 3.84% respectively. Figure 3-10 below highlights Tshwane's labour per sector, estimated for 2014.

¹² CAGR percentages are based on true figures, not rounded off figures as presented in Table 2-6.

Figure 3-10: Tshwane Labour per Sector, (2014)



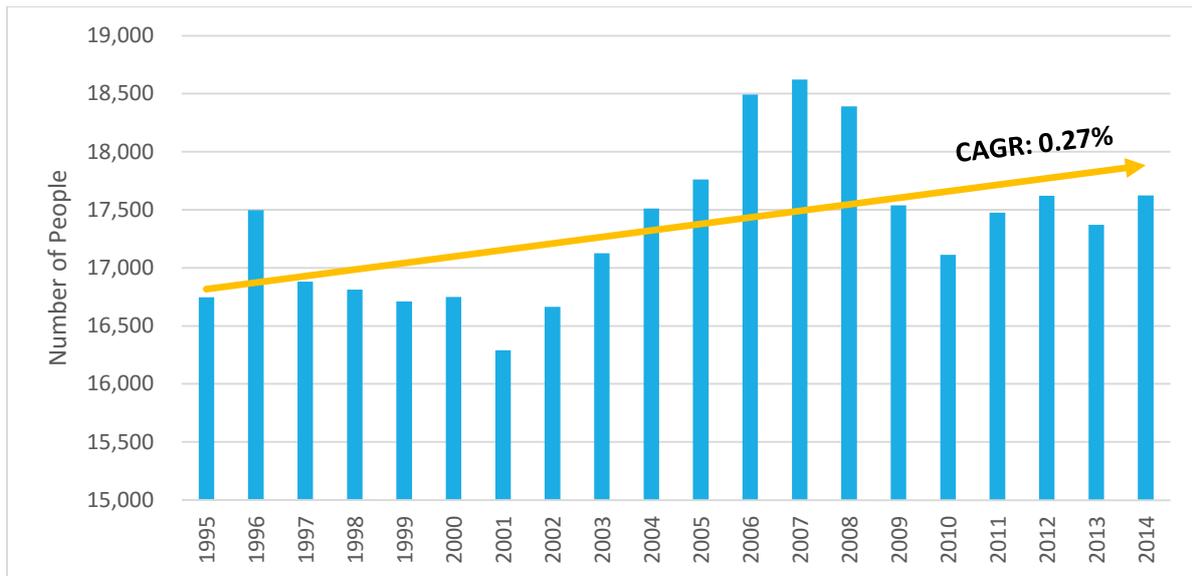
Source: Quantec Easydata, 2015

As seen above, Tshwane's strongest employment sector is *wholesale and retail*, with around 253,667 labourers in the sector. Other strong tertiary industry employers are, *finance, insurance, real estate and business services* sector with 213,395 employees and the *general government* sector with 202,958 employees.

Tshwane's strongest secondary industries are the manufacturing sector with 88,055 and the construction sector with 80,399 employed individuals. Overall the distribution Tshwane's employment per sector is therefore very similar in nature to national sectoral employment, as given in Table 2-12, with only the *community, social and personal services* sector showing great difference.

Figure 3-11 below, displays Tshwane's labour growth in the personal transport manufacturing sector, over the 1995 to 2014 period.

Figure 3-11: Labour Growth in the Personal Transport Manufacturing Sector, Tshwane, (1995 – 2014), Number



Source: Quantec Easydata, 2015

As can be seen above, despite the varying employment numbers the personal transport manufacturing sector, has as a whole seen a small growth increase of 0.27% in employment per annum, over the last 19 years. Although this may seem insignificant, when the growth is viewed through the lens of the national manufacturing labour employment decrease that occurred between 1995 and 2014, it becomes clear that the Tshwane automotive sector has performed more than admirably in terms of job creation within the manufacturing sector.

3.1.4. Key Points of Socio-Economic Profile

- The KwaZulu-Natal and Gauteng provinces have the largest populations, with 11,256,555 and 11,952,577 individuals respectively. However, the Western Cape and Gauteng area have the strongest population growth in South Africa, at 1.81% and 1.77%, respectively. The strong growth rates experienced in Gauteng and the Western Cape, may be due to their strong absorption rates of 54.27% and 53.35%, respectively. The City of Tshwane saw their average annual population growth fall from 2.27% in 2007 to 1.31% in 2012, however this figure seemed to stabilise, holding around 1.30% to 2014.*
- The City of Tshwane had an average household disposable income of R 200,165 per household during 2014. Gauteng had the highest average household disposable income with R 295,433 while South Africa had the lowest with R 156,404. Tshwane households spent relatively more than Gauteng and South Africa, in both personal transport equipment and motor car tyres and other accessories, with 4.30% and 1.46%, respectively. Gauteng spent, relatively, the second most in both personal transport equipment and motor car tyres and other accessories, with 4.05% and 1.40%, respectively*
- South Africa has a labour unemployment rate of 24.74%, which is slightly better than Gauteng's and slightly worse than City of Tshwane labour unemployment rate at 25.49% and 22.58%, respectively. South Africa's labour absorption rate is just 44.82%, while both Gauteng and City of Tshwane perform admirably, with labour absorption rates of 54.27% and 58.15% respectively. Tshwane's labour employment in the personal transport manufacturing sector, has grown by 0.27% per annum, over the 1995 to 2014 period.*

3.2. Economic Profile

The economic profile aims to capture the salient economic and sectoral aspects of the delineated areas. Particular focus is given to the composition of the delineated economies, whereby the growth driving and competitive sectors of the economies are identified and discussed.

3.2.1. Economic Growth

Economic growth is an important identification of the health and stability of an economy. The degree to which an economy experiences growth and/or fluctuations in growth, gives insight into the structural composition and developmental phase of the economy. The growth of an economy also highlights the effects of exogenous impacts, such as the 2007 subprime crisis, and the ability of an economy to recover from such impacts. In a similar vein global risk appetite and perceived country risk are also heavy influencers of economy growth in the long run. For these reasons, economic growth is the most fundamental of economic indicators, and is often the central concept in the foreign investment process.

Table 3-7 below, displays the GDP for South Africa, Gauteng and Tshwane, over 2004 and 2014, given in constant 2005 prices.

Table 3-7: GDP (Constant 2005), South Africa, Gauteng & Tshwane, (2004 & 2014)

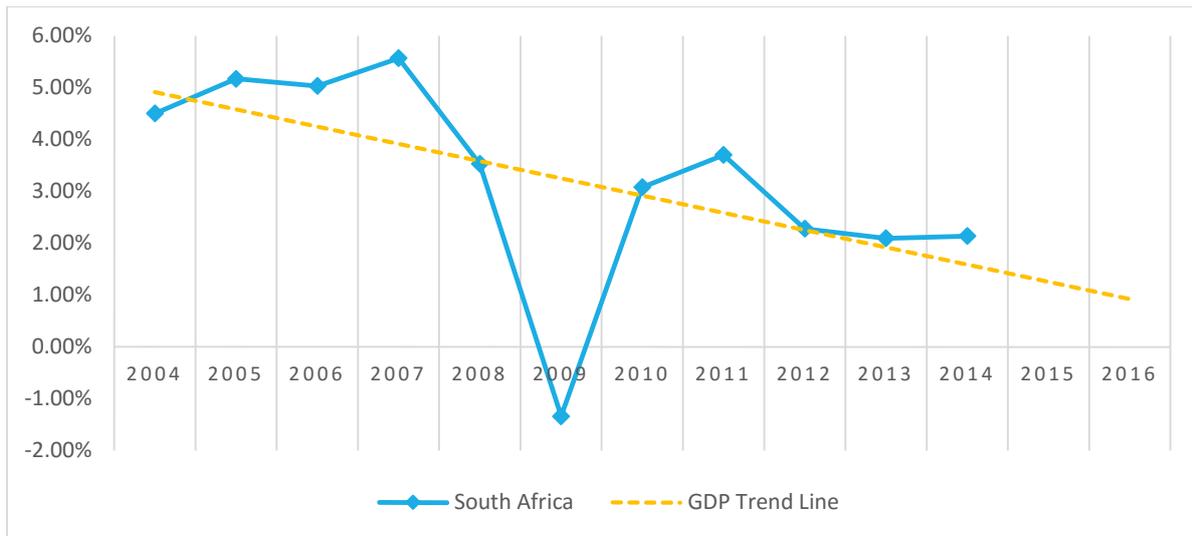
	GDP 2004 (Constant 2005)	GDP 2014 (Constant 2005)	CAGR 2004 - 2014
South Africa	1,359,306	1,845,614	3.11%
Gauteng	464,999	655,900	3.50%
Tshwane	116,208	170,655	3.92%

Source: Quantec Easydata, 2015

As per Table 3-7 above, Gauteng's GDP comprises a significant 36% of South Africa's total GDP, in a similar manner Tshwane comprises a noteworthy 9% of South Africa's total GDP. In addition, with GDP growth rates of 3.50% and 3.92%, respectively, both Gauteng and Tshwane have outperformed South Africa's average GDP growth rate of 3.11%. The above average economic growth rates experienced in both Gauteng and Tshwane, combined with the significant role they play in South Africa's total economic output, only further underlines the strategic importance of Gauteng and Tshwane to South Africa's ongoing economic development.

Figure 3-12 below, displays South Africa's average economic growth rate, over the 2004 to 2014 period.

Figure 3-12: GDP Growth, South Africa, (2004 - 2014)



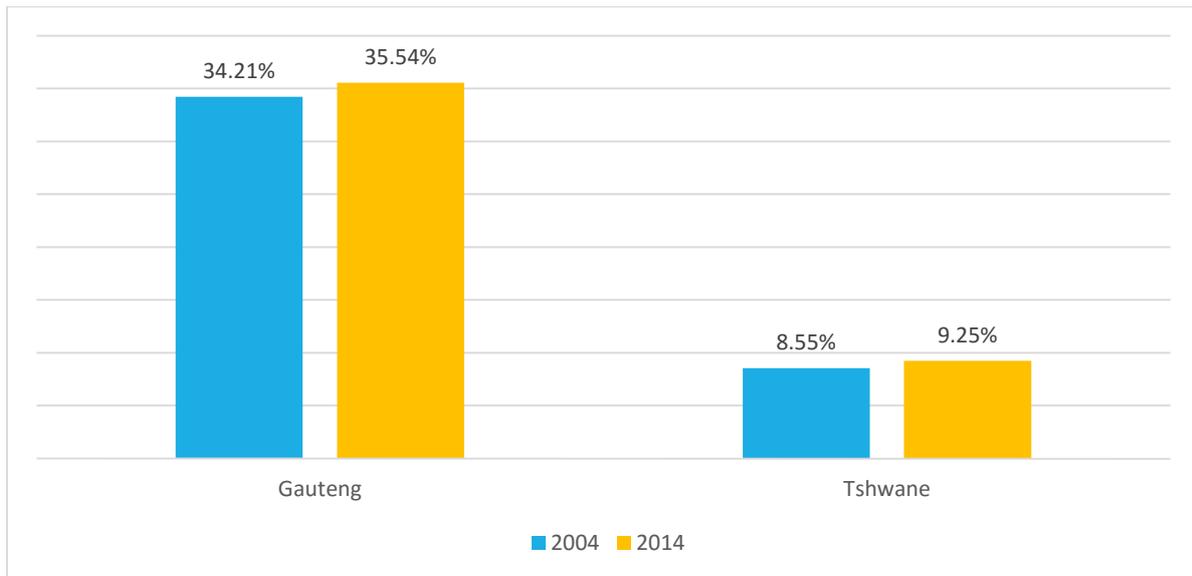
Source: Quantec Easydata, 2015

As per Figure 3-12, South Africa's GDP growth was significantly impacted by the 2007 subprime financial crisis, dropping from a positive GDP growth rate of 5.56% in 2007 to a negative GDP growth rate of 1.34% in 2009. With the aid of expansionary monetary and fiscal policy the South African economy recovered to a respectable GDP growth rate of around 3.70% by 2011. However, South Africa's economy has since been plagued by a series of structural and manufacturing issues, which have hindered economic growth. Some of which include: An unproductive and uneducated labour force; strong trade unionism; weak business confidence and underinvestment; inefficient bulk power supply; corruption and wasteful public spending. All of which have led to an increased sovereign risk rating and an associated decrease in FDI inflows to South Africa.

The combined effect of the above listed problems has seen South Africa's GDP growth decrease further to just over 2% in 2014. Moreover, as can be seen by the GDP trend line, South Africa's GDP growth is expected to decrease further, to around 1% by 2016. While this outcome may not be accurate, it serves to indicate that unless South Africa manages to address some of the above manufactured and structural issues, the economic growth climate will continue to stagnate.

Nonetheless, despite the negative picture described above, both Gauteng and Tshwane economies have managed to outperform national economic growth. Figure 3-13 below, displays the national percentage share of the Gauteng and Tshwane economies, in 2004 and again in 2014.

Figure 3-13: Share of South Africa's GDP, Gauteng & Tshwane, (2004 & 2014)



Source: Quantec Easydata, 2015

Figure 3-13, indicates that both the Gauteng and Tshwane economies have increased in their percentage share of the national economy, during the 2004 to 2014 period. A percentage increase indicates that economic growth has increased so rapidly in these regions, that it has outstripped most other areas in South Africa. In this regard, the Gauteng economy increased its share by 1.33% over the ten-year period, while the Tshwane economy increased its share by 0.70%. Thus, roughly 53% of Gauteng's national percentage share increase, may be attributed to the economic growth of the Tshwane region.

3.2.2. Composition

It is important to understand the structure of an economy, as it identifies in which sectors lie a certain region's economic strengths and weaknesses. This knowledge empowers investors to make informed decisions on where to invest their money and in addition it also empowers government to decide on which sectors to spend support in order to strengthen the economy. Knowledge of the economic structure can also assist in determining the economic impact resulting from investment and expenditure in specific sectors. South Africa's economy is divided into three overall sectors, namely; the primary, secondary and tertiary sectors.

The primary sector includes activities such as agriculture, fishing and forestry. This sector is concerned with making direct use of natural resources, and is generally more significant in developing nations. The secondary sector is concerned with transforming natural resources into finished products, and includes manufacturing, electricity and construction industries. Finally, the tertiary sector is the 'knowledge' part of the economy where economic agents are involved in improving efficiency, productivity, performance, etc.; this sector includes trade, government services and finance. The composition of the national economy per sector can be found in the below Table 3-8.

Table 3-8: GVA Composition given by Constant 2005 Prices, South Africa, (2014), Rand Millions

Industry	GVA 2014 Constant (2005), Rm	Avg. Growth Rate '04- '14
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Primary Sector	Agriculture, forestry and fishing	44,305	1.99%
	Mining and quarrying	97,671	-0.71%
Secondary Sector	Manufacturing	304,812	2.25%
	Electricity, gas and water	33,903	0.79%
	Construction	62,328	6.11%
Tertiary Sector	Wholesale and retail trade, catering and accommodation	257,372	3.52%
	Transport, storage and communication	184,025	3.34%
	Finance, insurance, real estate and business services	443,968	4.73%
	Community, social and personal services	110,104	2.60%
	General government	278,034	3.35%

Source: Quantec Easydata, 2015

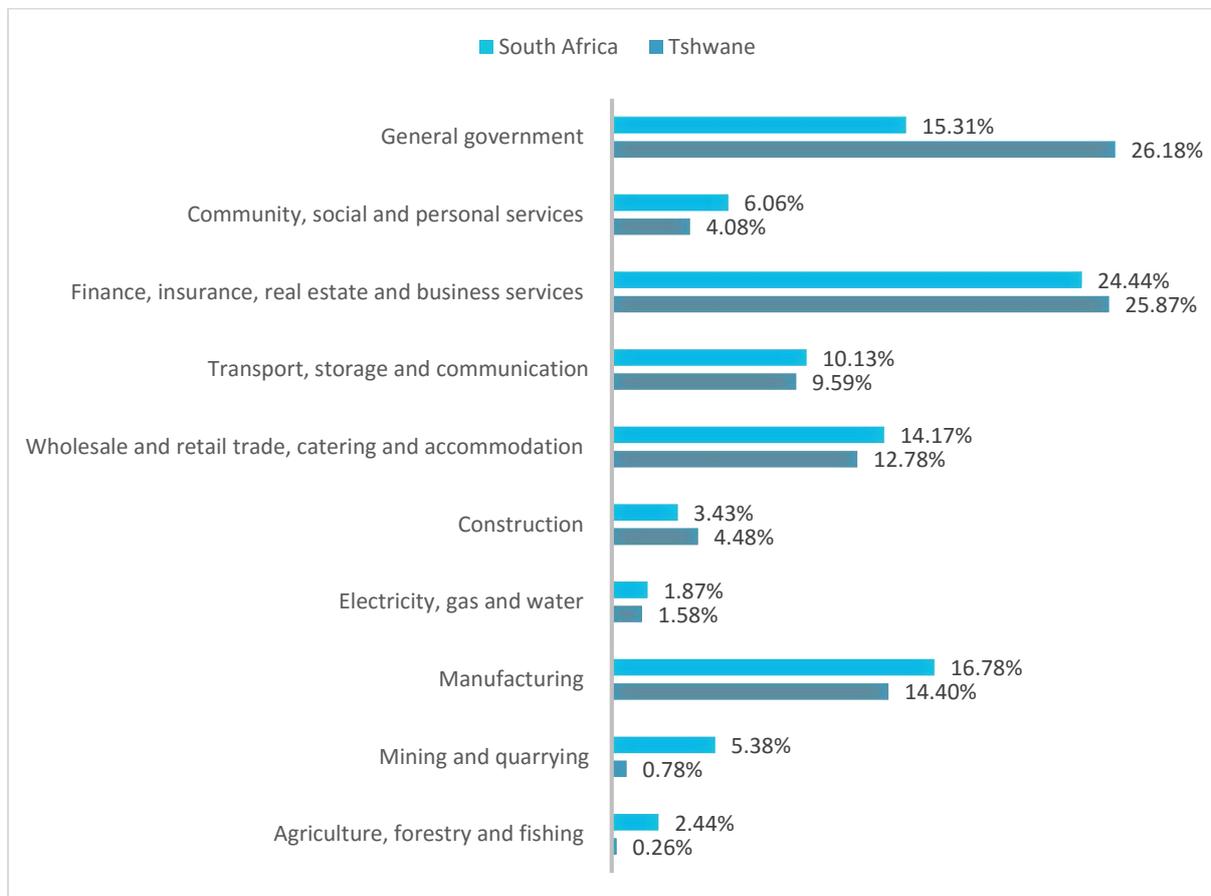
As per Table 3-8 above, South Africa's tertiary sector industries comprise around 70% of South Africa's total GVA. Within the tertiary sector, the 'finance, insurance, real estate and business services' and the 'wholesale and retail trade, catering and accommodation' industries reflected the greatest growth in GVA, over the 2004 to 2014 period, with a continual annual growth rate of around 4.73% and 3.52%, respectively.

South Africa's secondary sector encompasses around 22% of South Africa's total economy. All industries within the secondary sector have increased between the 2004 to 2014 period, with the 'construction' and 'manufacturing' industries experiencing an annual growth of 6.11% and 2.25%, respectively.

With around 8% of the South Africa's total gross value added, the primary sector is South Africa's smallest contributor to economic output. In addition to being the smallest economic contributor, the primary sector has also been the worst performing sector, with the 'agriculture, forestry and fishing' industry showing a small positive growth of 1.99% per annum, and the 'mining and quarrying' industry showing a decrease of 0.71% per annum, over the 2004 to 2014 period.

Figure 3-14 below, displays South Africa's economic composition in comparison to Tshwane.

Figure 3-14: Composition of GVA, South Africa & Tshwane, (2014)



Source: Quantec Easydata, 2015

As per Figure 3-14 above, the Tshwane economy is more geared towards tertiary sector industries than the national economy. The 'general government' industry is Tshwane's largest and is responsible for 26.18% of its total gross value added. Comparatively, on a national level the industry makes up just 15.31% of total national gross value added.

Tshwane's second biggest contributor is the 'finance, insurance real estate and business services' industry, with is responsible for 25.87% of Tshwane's total gross value added, which is not dissimilar to the national contribution of 24.44%. Tshwane's third biggest industry is 'manufacturing' which contributes around 14.40% of Tshwane's total gross value added. Although 'manufacturing' is an industry of strategic importance to Tshwane, especially in light of its upstream and downstream linkages, its contribution to total national gross value added is higher, at 16.78%.

Tshwane's two lowest contributing industries are both found in the primary sector. The 'mining and quarrying' and the 'agriculture, forestry and fishing', industries contribute just 0.78% and 0.26%, to Tshwane's total gross value added, respectively. The exceptionally low contribution of these industries to Tshwane's overall economy, implies that Tshwane's spatial layout is likely to be, on average, far more urbanised than the rest of the country.

3.2.3. Location Quotient

A comparative advantage (CA) indicates a relatively more competitive production function for a product or service in a specific economy than in the aggregate economy. This economy therefore produces the product or renders the service more efficiently. An indication of the CA of an economy is its location quotient. A location quotient provides an indication of the CA of an economy in terms of its production and employment. An economy has a location quotient larger than one, or a CA in a particular sector when the share of that sector in the specific economy is greater than the share of that sector in the specific economy greater than the share of the same sector in the aggregate economy.

Table 3-9 below, provides a general overview of the CA for each major industry with a more focused look at the 'manufacturing' industry of Eastern Cape, Kwa-Zulu Natal and Gauteng.

Table 3-9: Location Quotient, South Africa, Eastern Cape, Kwa-Zulu Natal & Gauteng, (2015)

Industry	Percentage contribution of industry to GGP Per Region				Location Quotient		
	Total SA	Eastern Cape	KZN	Gauteng	Eastern Cape	KZN	Gauteng
Agriculture	2.39%	2.08%	4.41%	0.36%	0.9	1.8	0.2
Mining	9.23%	0.19%	2.18%	3.18%	0.1	0.2	0.3
Manufacturing	11.56%	12.39%	15.67%	13.43%	1.1	1.3	1.2
Food and tobacco	24.46%	29.89%	25.10%	16.61%	1.2	1.0	0.7
Textiles, clothing and leather goods	2.94%	3.66%	5.37%	1.31%	1.2	1.8	0.4
Wood, paper, publishing	8.78%	6.17%	11.12%	8.00%	0.7	1.3	0.9
Petroleum products, chemicals, rubber and plastic	21.06%	14.55%	20.45%	23.56%	0.7	1.0	1.1
Other non-metal mineral products	3.56%	4.05%	2.16%	3.68%	1.1	0.6	1.0
Metals, metal products, machinery and equipment	20.51%	11.76%	19.58%	25.51%	0.6	1.0	1.2
Electrical machinery and apparatus	2.69%	4.01%	1.90%	3.35%	1.5	0.7	1.2
Radio, TV, instruments, watches and clocks	1.38%	0.84%	1.01%	1.90%	0.6	0.7	1.4

Transport equipment	8.10%	19.02%	6.99%	8.97%	2.3	0.9	1.1
Furniture and other	6.52%	6.06%	6.32%	7.10%	0.9	1.0	1.1
Energy	3.04%	1.54%	3.01%	3.07%	0.5	0.9	1.0
Construction	3.75%	3.01%	3.46%	4.71%	0.8	0.9	1.3
Commerce	16.58%	16.96%	18.21%	17.77%	1.0	1.1	1.1
Transport	8.87%	7.70%	13.21%	7.92%	0.8	1.5	0.9
Finance	21.52%	21.07%	18.83%	25.12%	0.9	0.9	1.2
Services	5.95%	10.55%	6.19%	4.12%	1.7	1.0	0.7
General government	17.11%	24.51%	14.83%	20.32%	1.4	0.9	1.2

Source: Quantec Easydata, Urban-Econ Calculations, 2015

When analysing the location quotient, it is important to understand the vast linkages that coexist within the automotive industry. Gauteng possesses a strong and relatively consistent 'manufacturing' industry with top four industries including the following:

- 'Metals, metal products, machinery and equipment'
- 'Petroleum products, chemicals, rubber and plastic'
- 'Food and tobacco'
- 'Transport equipment'

Three of these industries wade heavily on the automotive industry in general. Table 3-10 below, provides a more focused view on Tshwane when compared directly with the national manufacturing industries.

Table 3-10: Tshwane Location Quotient, (2015)

Manufacturing Industries	Percentage yield per sector		Location Quotient
	SA	Tshwane	Tshwane
Food and tobacco	24.5%	17.5%	0.7
Textiles, clothing and leather goods	2.9%	1.5%	0.5
Wood, paper, publishing	8.8%	6.5%	0.7
Petroleum products, chemicals, rubber and plastic	21.1%	19.4%	0.9
Other non-metal mineral products	3.6%	3.5%	1.0
Metals, metal products, machinery and equipment	20.5%	19.4%	0.9
Electrical machinery and apparatus	2.7%	2.9%	1.1

Radio, TV, instruments, watches and clocks	1.4%	2.3%	1.7
Transport equipment	8.1%	20.1%	2.5
Furniture and other	6.5%	6.9%	1.1

Source: Quantec Easydata, Urban-Econ Calculations, 2015

As per Table 3-10, the 'transport equipment' manufacturing sector within the 'manufacturing' industry of Tshwane, made up just over 20% of the total manufacturing industry in the City. When compared to the South African percentage yield, roughly 8% of the total country's 'manufacturing' industry was attributed to the 'transport equipment' manufacture. Thus, this leads to Tshwane having a strong location quotient of 2.5 when measured against the national transport manufacturing industry.

3.2.4. Shift Share Analysis

Shift-share analysis is one way to account for the competitiveness of a region's industries and to analyse the local economic base. This analysis is primarily used to decompose employment changes within an economy over a specific period of time into mutually exclusive factors. It paints a picture of how well the region's current industries are performing by systematically examining the national, local, and industrial components of employment change.

A shift-share analysis will provide a dynamic account of total regional employment growth that is attributable to growth of the national economy, a mix of faster or slower than average growing industries, and the competitive nature of the local industries. Like other analytical economic tools, the shift-share technique is only a descriptive tool that is used in combination with other analysis to provide a summary of a region's key employment potential industries. The analysis provides a representation of changes in employment growth or decline, and it is useful for highlighting industries that can offer significant future employment opportunities. By interpreting data provided by shift-share, one can explore the advantages a local area (in this case Tshwane) may enjoy, as well as identify growth, or potential growth industries that are worthy of further investigation.

A traditional shift-share analysis splits regional changes into just three components namely, national share, industry mix and regional shift. Thus, one is able to apply a shift share to determine how much each component contributes to the local economic growth. A competitive industry is defined as one that outperforms its counterpart at the national level.

Table 3-11, below summarises the calculations of the shift share analysis based on the national (South Africa) and local (Tshwane employment figures over a thirteen-year time period (from 2003 to 2015).

Table 3-11: Shift Share Analysis, Tshwane, (2003 – 2015)

Industry	National Share	Industry Mix	Regional share	Workers in 2015 per sector
Food, beverages and tobacco	8,720	1,947	1,618	12,285
Textiles, clothing and leather goods	5,857	-2,389	1,100	4,569
Wood, paper, publishing and printing	5,733	-142	160	5,751
Petroleum products, chemicals, rubber and plastic	6,520	796	2,396	9,713
Other non-metal mineral products	4,926	-160	457	5,223
Metals, metal products, machinery and equipment	15,725	3,446	3,495	22,666
Electrical machinery and apparatus	2,153	464	666	3,283
Radio, TV, instruments, watches and clocks	1,567	126	119	1,812
Transport equipment	15,108	-1,810	4,181	17,478
Furniture and other manufacturing	8,669	-1,974	1,144	7,840

Manufacturing	74,977	0	15,641	90,618
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Source: Quantec Easydata, Urban-Econ Calculations, 2015

Per Table 3-11, National Share measures how employment in a local area would increase (or decrease) due to the growth of the national economy during the same period of time being analysed. Hence the National Share represented in the table above provides the hypothetical estimated employment for each industry had the local 'manufacturing' sector grown at the same rate as that of the national sector. In 2003, approximately 84 996 workers were employed within the manufacturing industries in Tshwane. By 2015, that number grew to an estimated 90 618 workers. The change in local employment that would have occurred for a specific industry had it grown at the national growth rate of all industries combined would of totalled 74 977. This would have led to a loss of around 15 641 jobs within the 'manufacturing sector' and more specifically to this study, a loss of 2 370 jobs within the 'transport equipment' manufacturing industry.

Industry Mix identifies the share of local job growth that can be attributed to the region's mix of industries being analysed. This second factor is the change in a local industry that would be attributable to the growth or decline of the industry nationally. This component isolates the fact that nationwide, some industries have grown faster or slower than others. In this instance, the manufacturing industries within Tshwane experienced a stronger growth when compared to the national growth. The 'transport equipment' manufacturing industry is indicated to be the third strongest growing sector in Tshwane when compared against the ten industries represented.

Regional Share indicates the additional gain (or loss) in local employment for a specific industry beyond the national growth and industry mix effects resulting from the industry growing faster (or slower) than the same industry nationally. Thus the regional share column in the table above indicates the following:

1. Top 3 leading manufacturing Industries between 2003 and 2015:

- Metals, metal products, machinery and equipment
- Transport Equipment
- Food, beverages and tobacco

2. Top 3 lagging manufacturing industries between 2003 and 2015:

- Radio, TV, instruments, watches and clocks
- Electrical machinery and apparatus
- Textiles, clothing and leather goods

Therefore, the results indicated by the shift share analysis indicates that the Tshwane manufacturing industry has outperformed its national counterpart during the indicated period between 2003 and 2015. Based on the identification of leading and lagging industries, this analysis suggests that manufacturing and recruitment efforts should be directed at the manufacturing of 'metals, metal products, machinery and equipment' and more importantly 'transport equipment'.

3.2.5. Industry Linkages

Industry linkages refer to the interdependence of sectors and industries within the local economy. As a product moves through the various stages of development, many different sectors become involved in the process, and

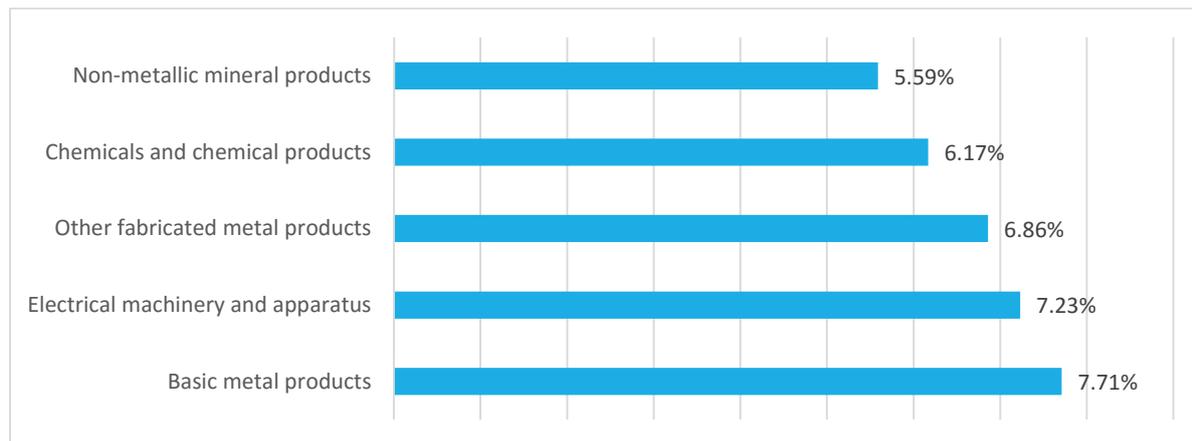
dependent upon the value-add of the preceding sectors. Industry linkages can be either backward or forward in nature.

3.2.5.1. Backward Linkages

Backward linkages can be construed as a number of industries that supply a particular industry. These industries are up-stream industries which supply goods and services to others industries further along the production value-chain.

Backward linkages can be dissected into direct and indirect components. Direct backward linkages refer to supply industries, which are directly affected while indirect backward linkages refer to supply industries, which are affected through other industries. For example, the automotive component manufacturing sector will have a direct backward linkage to the steel industry, and an indirect backward linkage to the steel and coal mining industry. The value-chain thus follows that the steel and coal is mined, supplied to the steel industry for smelter, which is then supplied to the automotive component industry as an input for the manufacture of automotive components. The largest backward linkages to the automotive industry can be found in Figure 3-15 below.

Figure 3-15: Automotive Industry's Five Largest Backward Linkages, South Africa, (2014)



Source: Urban-Econ Calculations based on Social Accounting Matrix, (2015)

As can be seen above, the 'basic metal products' and the 'electrical machinery and apparatus' industries, are the two largest automotive industry linkages, with 7.71% and 7.23%, respectively. Also noticeable, is that, no single industry has a big percentage share over the backward value chain in the automotive industry. This implies that the automotive industry has a marked impact across numerous backward value chain industries and is thus a vital component within the South African economy.

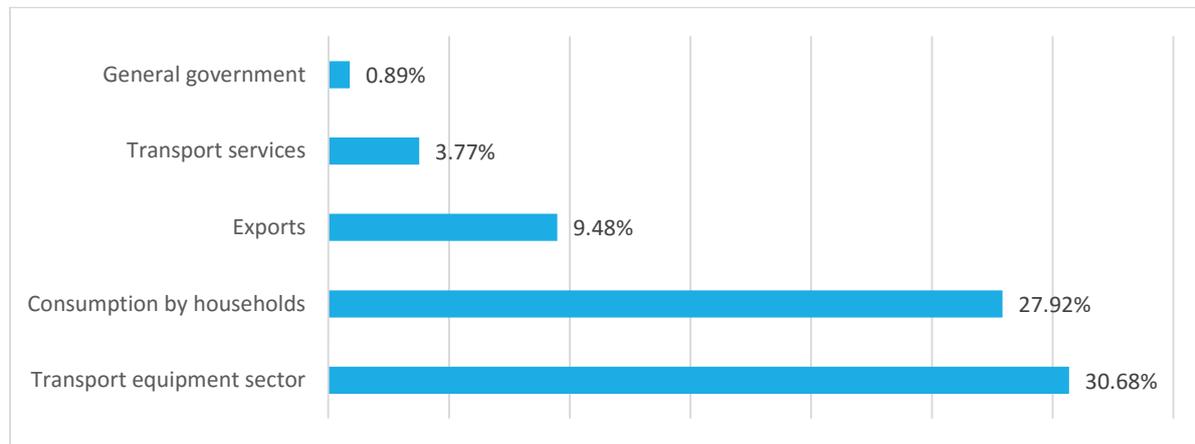
3.2.5.2. Forward Linkages

Forward linkages can be understood at industries that succeed a particular industry, where they receive their inputs from another industry. These industries are down-stream and receive the supply of one industry as their inputs further along the value-chain. In addition, forward linkages can be split into two distinct linkages. The first is the direct forward linkage that affects an industry directly further down the line. The second type is the indirect forward linkage that are indirectly affected by the supply of preceding industries. For example, the

automotive component industry directly affects the transport manufacturing sector, while it both indirectly and directly (due to the dependence on logistics) affects the transport sector.

The main forward linkages for the automotive sector can be found in Figure 3-16 below.

Figure 3-16: Automotive Industry's Five Largest Forward Linkages, South Africa, (2014)

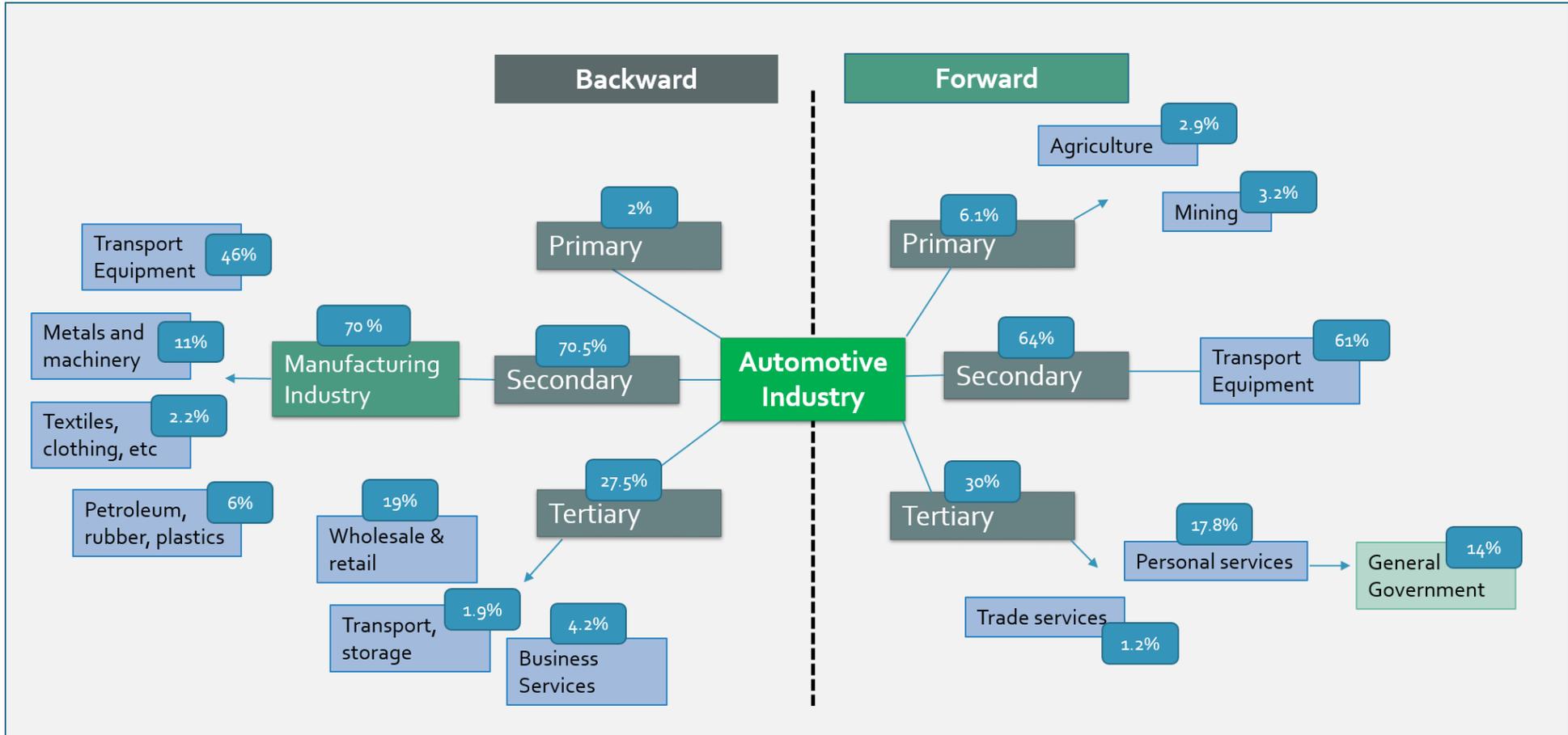


Source: Urban-Econ Calculations based on Social Accounting Matrix, (2015)

Where the backward linkages were very spread out, the automotive industry's forward linkages are exceptionally concentrated. As per Figure 3-16 above, the largest consumer of automotive manufacturing output is the 'transport equipment sector' at 30.68%. Consumption of automotive manufacturing output by households stood at 27.92%, while 9.48% of automotive manufacturing output was exported. In monetary values, this equates to R 1.65 billion for the transport equipment sector; R1.50 billion consumed by households; and R509.4 million is exported out of the province.

Figure 3-17 below, is a summary of the major forward and backward linkages found within the South African automotive industry.

Figure 3-17: Main Automotive Linkages, South Africa, (2014)



Source: Quantec Easydata

3.2.6. Key Points of Economic Profile

- *The South African economy has shown modest growth at 3.11% per annum, over the 2004 to 2014 period. The Gauteng and Tshwane economies have both managed to outstrip the national economy, and have grown at 3.50% and 3.92% per annum, respectively. However, despite a fairly admirable national growth rate, South Africa's future growth rate is expected to be around 1% - 2% over the next two years, as the country struggles with inadequate power supply, and other structural constraints.*
- *The fast pace of growth shown in Gauteng and Tshwane, over the 2004 to 2014 period, has resulted in a 1.33% increase in Gauteng's contribution to national GDP, and whereby, roughly 53% of Gauteng's GDP share increase, may be attributed to the economic growth of the Tshwane region.*
- *With 70% of South Africa's total gross value added, the tertiary sector encompasses the bulk of South Africa's industries. The tertiary sector is distantly followed by the secondary sector with around 22% and then lastly by the primary sector with 8% of South Africa's total gross value added. South Africa's fastest growing industries, over the 2004 to 2014 period, are the; 'construction' industry followed by the 'finance, insurance, real estate and business services' and the 'wholesale and retail trade, catering and accommodation' industries. The only industries to show a decline in the analysis period was the 'mining and quarrying' industry.*
- *Gauteng, with a location quotient of 1.1, has a nominal competitive advantage in the manufacturing of 'transport equipment'. While, KwaZulu-Natal has a slightly lower location quotient with 0.9, the Eastern Cape has a much higher 'transport equipment' location quotient of 2.3. Despite Gauteng's lack of a significant location quotient, Tshwane has an impressive 'transport equipment' location quotient of 2.7. Thus, Tshwane has a competitive advantage in the manufacturing of 'transport equipment'.*
- *Based on the shift share analysis performed, Tshwane's 'manufacturing' industry has outperformed the national 'manufacturing' industry, over the 2003 to 2015 period. The following industries were the top three lagging the national economy: 'Radio, TV, instruments, watches and clocks', 'Electrical machinery and apparatus' and 'Textiles, clothing and leather goods. In addition, the following industries were the top three leading the national economy: 'Metals, metal products, machinery and equipment', 'Transport Equipment' and 'Food, beverages and tobacco'.*
- *The automotive industry has strong backward and forward linkages with other industries economic sectors throughout the entire economy. The two strongest backward linkages are the 'Basic Metal Products' and 'Electrical Machinery and Apparatus' with linkages of 7.71% and 7.23%, respectively. While the two strongest forward linkages are the 'Transport Equipment Sector' and 'Consumption by Households', with 30.68% and 27.92%, respectively.*

4. Socio-Economic Impact Analysis

The socio-economic impact assessment provides results regarding the local and regional impact of the various AIDC interventions during the 2012/13 financial year. The impact modelling exercise done through the use of the Social Accounting Matrix (SAM), will also be discussed briefly.

4.1. Background to the Impact Assessment Exercise

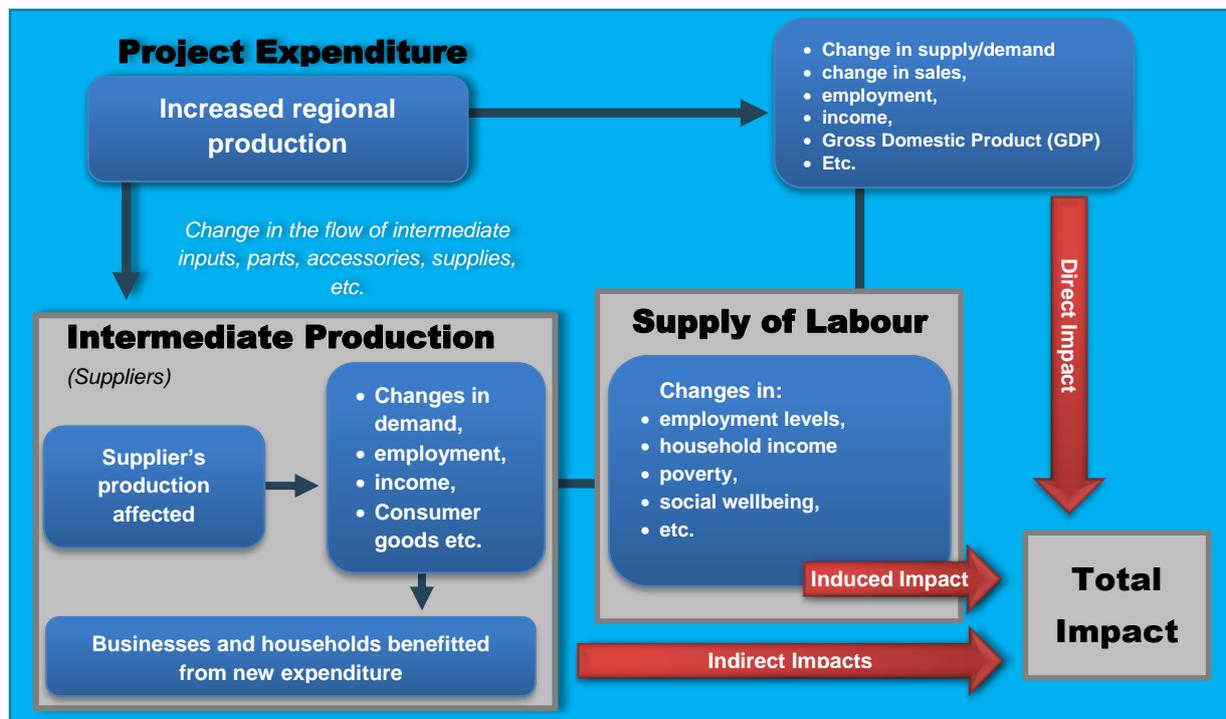
A socio-economic impact assessment describes the impact, which various interventions can have upon the production, growth and tax within the local economy, whilst taking cognisance of the welfare effect upon households. Whereby:

- The intervention can be in the form of new investment in infrastructure (as in the case of the current assessment), new development, adoption of a new policy or service, expansion of the current operations, etc.
- The type of economic impact, stimulated by the intervention is generally positive and includes the creation of additional jobs, generation of business sales and value-added, improved quality of life, increase in disposable income, and growth of government revenue.

4.1.1. The Modelling Process

The interventions do not only have direct impacts onto the economy, but also have a spill-over effect in other sectors of the economy, through the multiplier effect. Figure 4-1 below, illustrates the impacts that the AIDC interventions will have on the economy.

Figure 4-1: Direct, Indirect and Induced Impacts of a Social Accounting Matrix (SAM)



Source: Urban-Econ (2015)

As seen in Figure 4-1 above, there are three types of economic impacts assessed, namely, direct, indirect and induced.

- **Direct impacts** are generated when new businesses create new jobs and purchases goods and services to operate the new facility. Direct impact results in an increase in job creation, production, business sales, and household income.
- **Indirect impacts** occur when the suppliers of goods and services to the new businesses experience larger markets and potential to expand. Indirect impact results in an increase in job creation, GDP, and household income.
- **Induced impacts** represent further shifts in spending on food, clothing, shelter, and other consumer goods and services as a consequence of the change in workers and payroll of directly and indirectly affected businesses. This leads to further business growth/decline throughout the local economy.

The results gathered from calculations by the SAM show the impact that the different projects have on the following socio-economic indicators:

1. **Production:** Production is defined as the process in which labour and assets are used to transform inputs of goods and services into outputs of other goods and services. The impact assessment will measure the expected changes in production as a result of the project.
2. **Gross Domestic Product (GDP):** Gross Domestic Product refers the market value of all final goods and services produced within a country in a given period of time. The assessment therefore measures the impact of the proposed project on the South African economy.
3. **Employment created:** An employment opportunity is defined as one person employed for one year. Seasonal work is therefore not counted as an individual employment opportunity, but instead combined to calculate the number of total jobs created in one year.
4. **Income generated:** The income generated by the project refers to the salaries and wages earned by those employed directly in the project and the suppliers of goods and services.

4.1.2. Assumptions

The following assumptions were used with regard to the econometric model and modelling exercise:

- The Expenditure figures reflect the real situation accurately enough for the purpose of the impact assessment.
- Production activities in the economy are grouped in homogeneous sectors.
- The mutual interdependence of sectors is expressed in meaningful input factors.
- Each sector's inputs are a function of the specific sector's production, comparative advantage, and location.
- The production by different sectors is equal to the sum of the production of separate sectors.
- No structural changes in the economy are experienced during the projection period.
- One employment opportunity is the equivalent of one person employed for one year.

4.2. ASP & AIDC Impact Analysis Results

This section gives an overview of the economic impacts that resulted from the ASP and AIDC project expenditures. After the merger between the SPDC and the AIDC, in January 2013, the various AIDC projects and the automotive supplier park, (ASP) were collectively brought under the AIDC banner.

The AIDC, as an entity of the Gauteng provincial government is in charge of the facilitation, occupation, and the overall success of the ASP. While certain administer functions of the ASP and AIDC remain separated, there is nonetheless a certain amount of cross over between the certain AIDC projects and the ongoing running of the ASP. Thus, in order to generate an accurate assessment of the AIDC projects and the ASP, their activities have been duly separately, during the impact assessment.

4.2.1. Automotive Supplier Park (ASP)

During the course of the 2014/2015 financial year, the ASP had numerous operational and capital expenditures. A significant of the ASP's capital expenditure was the continued development of the mini factories. However, in order to avoid double counting, the impacts resulting from the Mini Factories Project have been separated from the ASP.

The impact of the ASP, (less the mini factory expenditure), is given in Table 4-1 below.

Table 4-1: Economic Impact, Automotive Supplier Park, (2014/2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	79.9	77.8	57.9	215.6
GDP		35.7	32.2	23.5	91.4
Income		17.6	13.4	10.2	41.2
Employment	Number	100	210	173	483

Source: Urban-Econ Calculations (2015)

As per Table 4-1, the approximate total impact on domestic production was Rm 215.6. This consisted of a direct impact of Rm 79.9, in addition to a combined indirect and induced impact of Rm 137.8. GDP received a direct impact of Rm 35.7, which in turn caused an indirect and induced impact on the economy of Rm 32.2 and Rm 23.5, respectively. Which brought the total impact on GDP to an impressive Rm 91.4 during the 2014/2015 financial year. Moreover, income received a direct impact of Rm 17.6, which after through the multiplying effect led to a further indirect and induced impact of Rm 13.4 and Rm 10.2, respectively.

A total of 100 employees were directly employed through the ASP, while through the indirect and induced effects, a further 210 and 173 employment opportunities were created, respectively. Thus the ASP operations created approximately 483 employment opportunities, during the 2014/2015 calendar year.

4.2.2. Mini Factory Project

The Mini Factory Project attempts to provide potential ASP tenants with smaller and more flexible factory space for their operations. The goal of the project was to create multi-purpose and low specified factories that would be able to accommodate a variety of differing automotive entities. The end objective of the mini factory project is to increase factory space at the ASP by an additional 8,000 m². Subsequently this space will serve to increase the ASP's rental income to approximately Rm 2.8 per annum. Construction of the mini factories phase 1 is almost complete and as of May 2015 was pending issuance of final occupancy certificate. Phase 2 of the mini factory project will commence during the 2015/2016 financial year and is expected to be completed during the 2016/2017 financial year. During the 2014/2015 financial year period approximately Rm 12.3 was spent completing phase 1 of the Mini Factory Project. The economic impact of the project is given in Table 4-2 below.

Table 4-2: Economic Impact, Automotive Supplier Park, (2014/2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	12.3	23.7	8.6	44.6
GDP		2.7	7.3	3.5	13.5
Income		1.5	3.4	1.5	6.5
Employment	Number	-	57	26	83

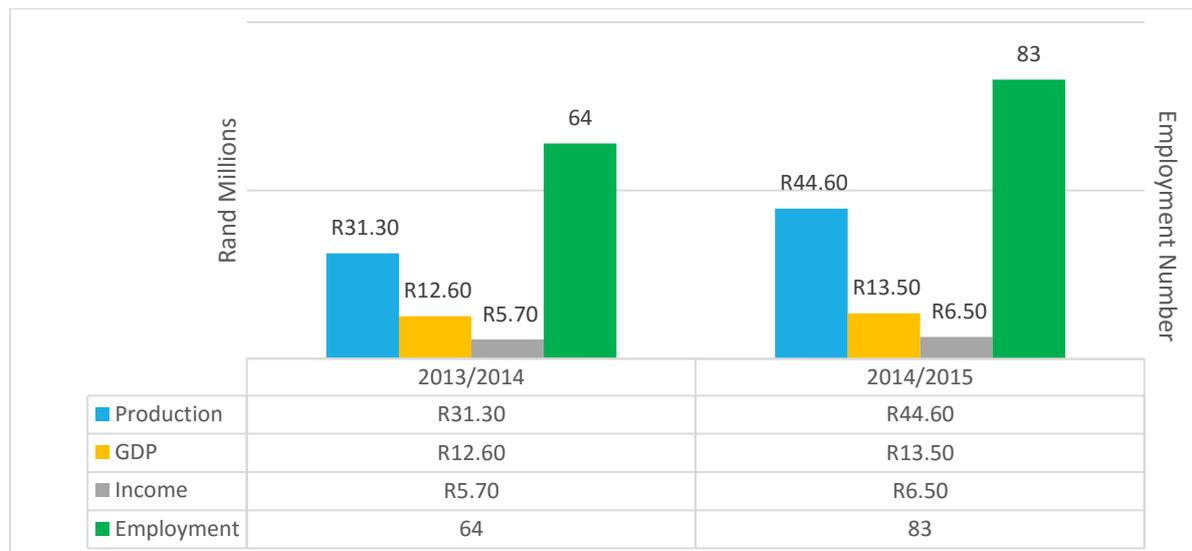
Source: Urban-Econ Calculations (2015)

The direct capital expenditure of Rm 12.3, brought about an additional Rm 23.7 and Rm 8.6, increase in indirect and induced production, respectively. Thus collectively the total production caused from the construction of the mini factories was Rm 44.6. From the production increase, GDP received a total impact of Rm 13.5, which consisted of a small direct impact of around Rm 2.7, a moderate induced impact of Rm 3.5, and a large indirect impact of Rm 7.3. Income was impacted by an increase of Rm 6.5. This increase consisted of Rm 1.5 from direct income, Rm 3.4 from indirect income and Rm 1.5 from induced income.

Due to the impact analysis separation of the mini factory project from the ASP, there is no clear indication of the direct number of employment opportunities created by the mini factory project. However, through the indirect and induced multipliers an estimated 83 job opportunities have been created in the broader economy.

Figure 4-2 below, indicates the total production, GDP, income, tax and employment for the Mini Factory Project, over the 2014/2015 financial year.

Figure 4-2: Total Economic Impact, Mini Factory Project, (2013/2014 - 2014/2015)



Source: Urban-Econ Calculations (2015)

As can be seen above the greater volume of expenditure during the 2014/2015 financial years, compared to the 2013/2014 financial year has led to a much greater impact across all indicators. Of particular interest is the R 900 000 increase in GDP as well as the increased from 64 persons per annum to 83 persons per annum. Overall the completion of the first mini factory and the increased impact across all variables highlights the success of the mini factory project to date.

4.2.3. AIDC Automotive Incubation Centre

The AIDC joined forces with the Ford Motor Company of South Africa, (FMCSA) to launch the BBBEE Supplier Incubation Centre. It was decided to establish such a centre after the FMCSA realised that the automotive industry in SA lagged far behind in terms of BEE transformation. The reasons for this lag was identified as:

- High capital cost for establishing manufacturing facilities.
- Procurement of funding from local banks, which is virtually impossible without collateral.
- Difficulty for new local suppliers to supply to manufacturing companies in SA as these companies are prescribed by multinational controlling companies to use certain suppliers.
- Established vehicle manufacturers must adhere to costly quality and environmental auditing requirements of the countries that they export goods to.

Through the BBBEE Supplier Incubation Project, the AIDC aims to address some of the systemic industry problems above. To date around 200 new jobs have been created within the 6 new BEE companies which been established with the Incubation Project. The project has been able to have such an impact by effective incubation method, which offers subsidised incubator companies benefits including but not limited to; subsidised rentals, professional marketing of businesses, mentoring, skills transfer and business development.

During the 2014/2015 financial year, the key deliverable of the Incubator Project was to support FMCSA to achieve a successful production ramp-up to 450 vehicles per day. The AIDC ensured the success of the deliverable by assisting the incubator companies to fulfil their obligations. Approximately Rm 1.6 was spent on the project over the course of the 2014/2015 financial year.

The impact of this expenditure is represented in Table 4-3 below.

Table 4-3: Economic Impact, BBBEE Incubation Centre Project, (2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	1.60	1.55	1.11	4.26
GDP		0.69	0.65	0.45	1.79
Income		0.3	0.27	0.20	0.77
Employment	Number	-	4	3	7

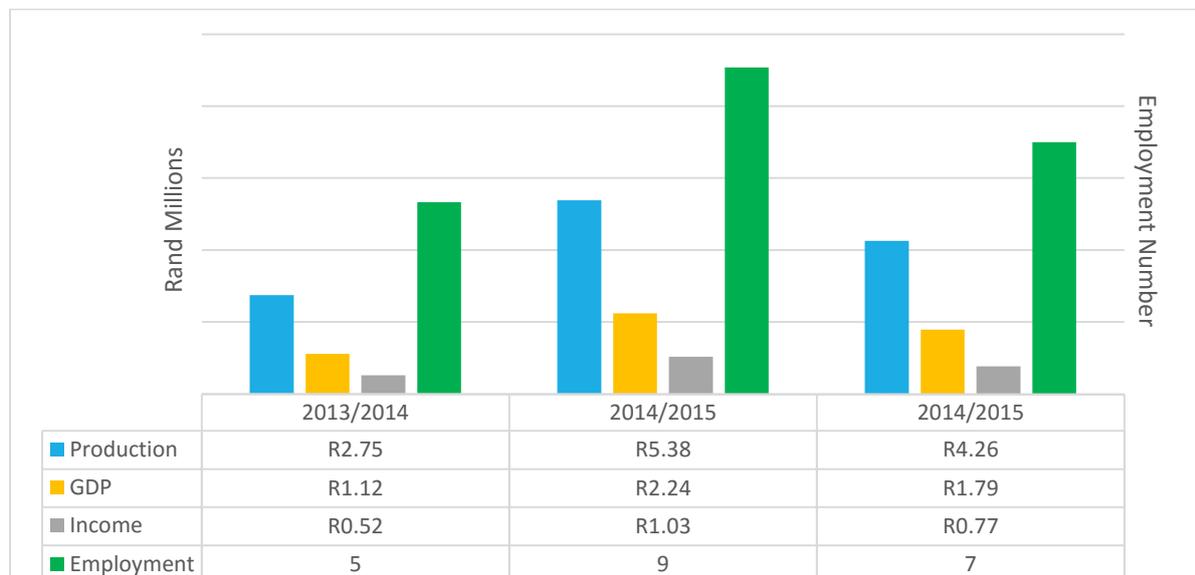
Source: Urban-Econ Calculations (2015)

As per Table 4-3, the initial direct investment of Rm 1.6, was multiplied by indirect and induced income to have a total impact on domestic production of Rm 4.26. GDP had a total impact of Rm 1.79, brought about by a direct impact of Rm 0.69, an indirect impact of Rm 0.65 and an induced impact of Rm 0.45. The increase in production also positively impacted income with a total impact of Rm 0.77, of which the direct income impact of Rm 0.3, was the greatest. The combined indirect, direct and induced impacts, ensured that the project expenditure resulted in 7 employment opportunities.

Additionally, as per the project close-out report, 74 people were employed and an additional 163 BEE candidates were trained through various interventions offered at the Incubation Centre, during the 2014/2015 financial year. The pool training has had positive results with 90% of the operators being absorbed by BEE companies on fixed term contracts.

The Incubation programme has been operating from 2012/2013 financial year. Figure 4-3 below, represents a comparison of the economic impact experienced over the three years in which the programme has been run.

Figure 4-3: Economic Impact Assessment, BBBEE Incubator Project, (2012/2013 – 2014/2015)



Source: Urban-Econ Calculations (2015)

As seen above, the incubator project had its largest total impact during the 2013/2014 financial year. This was due to the larger direct investment made compared to the 2012/2013 and 2014/2015 financial years. Indeed, from the 2013/2014 financial year to the 2014/2015 financial year, the BBBEE Incubator Project experienced a

21% drop in production, a 20% drop in GDP and a 25% drop in income levels. As a result, total employment due to expenditure, decrease by 2 individuals.

4.2.4. Winterveld Enterprise Hub (WEH)

The AIDC in association with the GGDA and the City of Tshwane has established the Winterveld Enterprise Hub. The WEH is the first of its kind within Gauteng, and acts as a catalyst for the development of the larger Tshwane Automotive City.

The aims of the WEH are twofold, firstly to support local SMMEs by giving access to high value vehicle repairs and secondly to provide artisans with access to employment in one of the 3000 formal auto body repair workshops, located in Gauteng. However, currently the WEH project focusses primarily on the auto repairs sector and operates through the onsite/offsite 'hub and spoke' enterprise business model approach. A full list of the WEH's 2014/2015 deliverables are given in Table 4-4 below.

Table 4-4: Winterveld Project Deliverables, (2014/2015)

Period under review	Deliverable
2014/2015	<ul style="list-style-type: none"> Recruited and enrolled ten local SMME's for participation Provided introductory training in the field of Spray painting and Panel Beating Facilitated discussions to attract work to the hub Selected and appointed either community members into jobs

Source: AIDC, *Winterveld Close-out Report (2015)*

In achieving these deliverables, the WEH spent approximately, during the 2013/2014 financial year. The impacts of this expenditure are given below in Table 4-5.

Table 4-5: Economic Impact, Winterveld Enterprise Hub Development, (2014/2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	4.11	4.24	2.93	11.29
GDP		1.84	1.58	1.19	4.61
Income		0.9	0.71	0.52	2.13
Employment	Number	8	10	9	27

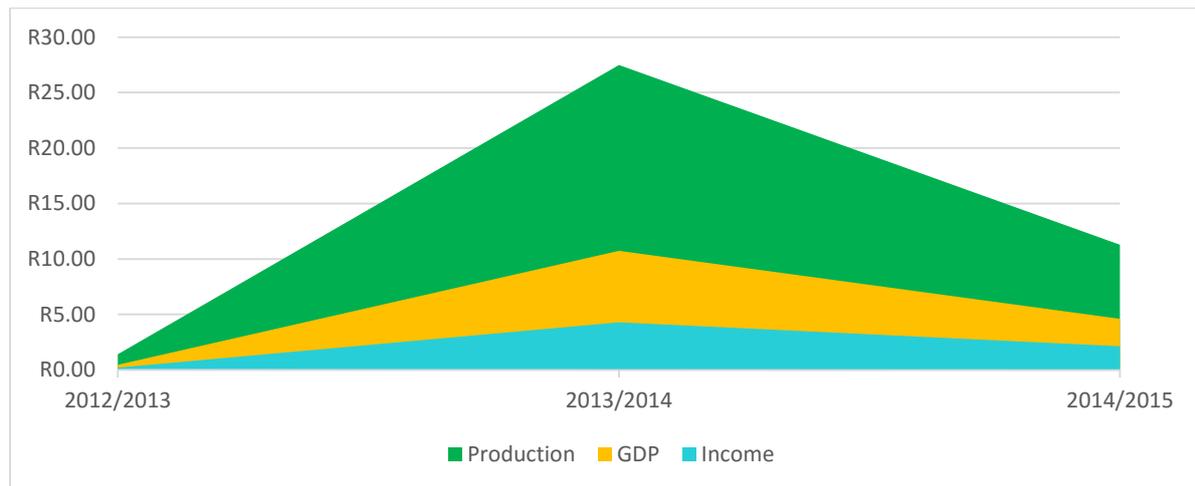
Source: *Urban-Econ Calculations (2015)*

As seen above, the project expenditure of Rm 4.11 led to an indirect and induced production impact of Rm 4.24 and Rm 2.93, respectively. Moreover, the impact in production corresponded to a total GDP increase of Rm 4.61, brought about by a direct GDP impact of Rm 1.84, an indirect impact of Rm 1.58 and an induced impact Rm 1.19 induced. The higher production and GDP levels, led to higher income rates as total income increase by Rm 2.13. In addition, the project positively impact employment, creating a total of 27 jobs over the course of the 2014/2015 financial year. These employment opportunities consisted of project 8 direct, 10 indirect and 9 induced employment opportunities.

The close-out report for the IPD Winterveld Enterprise hub summarised the 2013/14 financial year achievements. These achievements included the creation of 8 direct jobs and a 103 individuals trained in experimental, industry-relevant and application environments.

Figure 4-4 below graphically represents the impact of the WEH over the three-year period in which the project has been running.

Figure 4-4: Economic Impact Assessment Less Labour, Winterveld Enterprise Hub, (2012/2013; 2013/2014; 2014/2015)



Source: Urban-Econ Calculations (2015)

The initial expenditure of roughly R250 000 in 2012/13 represented a far smaller impact to the expenditure of Rm 9.84 made in 2013/2014. Likewise, the 2014/2015 expenditure of Rm 4.11, is also noticeably smaller than the expenditure made in 2013/2014. Moreover, as the WEH project direct expenditure was much lower than the previous year, a markedly smaller economic impact was experienced.

4.2.5. Nissan South Africa Investment Support Programme

The objective of this programme was to support Nissan SA (NSA) to gain the rights to manufacture the new pickup in Rosslyn for South Africa and other export markets. The NSA made a request to the Gauteng Provincial Government, through the office of the Department of Economic Development (DED), for an investment of R260 million which would give the NSA a better chance of winning the bid to manufacture these vehicles locally. Given the recent economic slowdown and its potential negative impact on the automotive industry in regard to jobs losses, the AIDC managed to secure a job fund grant of R140,199m based on the DED's commitment of R120,100m which would be supplied over the next three years¹³ to assist NSA to obtain the necessary rights. The investment support started in the 2012/2013 financial year and is expected to create approximately 4000 new jobs and 400 construction jobs over the three-year period.

The Nissan SA Investment Support Programme is based on the elements listed below:

- An Incubation Centre that will host BEE SMMEs in collaboration with various Tier 1 supplier to produce parts and components for the new Nissan series pick-up trucks

¹³ (Note: Due to a delayed product launch the NISP programme will run for another 2 years.)

- The Gauteng Automotive Learning Centre that will offer a variety of accredited (MerSeta) and other technical training, up-skilling and mentoring programmes
- A Simulator Facility
- FDI Support and the relocation of a number of NSA's international supplier into RSA
- New staff recruitment to meet increased production requirements

Over the 2014/2015 financial year, the following projects were facilitated through the Nissan SA Investment Support Programme.

4.2.5.1. Automotive Incubation Centre at Nissan

The Automotive Incubation Centre model is based on the success of the AIDC's Automotive Incubation Centre at Ford Motor Company of Southern Africa's manufacturing plant constructed in Silverton. The Incubation Centre at Nissan will look to provide support to BEE entrepreneurs who supply components to the production line for Nissans next generation 1-ton pick-up. The Automotive Incubation Centre at Nissan will also operate as a multi-incubation model incubator by supporting both:

- Various Incubatees linked to Tier 1 component suppliers – where applicable
- Original Equipment Manufacturers (OEMs) linked to the incubatees, through the respective Tier 1 entities – where applicable.

The appointment of the Incubatees had to be moved out, to 2016/2017, due to the postponed manufacturing of Nissan's new pick-up truck. Despite this, Nissan have provided a provisional list of possible components that would/could be considered for the incubation centre.

During the 2014/2015 financial year approximately Rm 2.2 was spent on the project. Table 4-6 below, highlights the impact effect of the expenditure.

Table 4-6: Economic Impact, Nissan Incubation Centre, (2014/2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	2.20	4.24	1.55	7.99
GDP		0.49	1.31	0.63	2.43
Income		0.3	0.62	0.27	1.16
Employment	Number	-	10	4	14

Source: Urban-Econ Calculations (2015)

Per Table 4-6 above, the direct expenditure by the AIDC has led to a total impact on production output of Rm 7.99, for the 2014/2015 financial year. GDP experienced a total increase of Rm 2.43 which consisted of a direct increase of Rm 0.49, as well as an indirect and induced increase of Rm 1.31 and Rm 0.63, respectively. The total impact on income was Rm 1.16, whereby Rm 0.3 was due to direct income, Rm 0.62 was due to indirect income and Rm 0.27 was due to induced income. As there was no direct impact, employment increased by just 14 individuals, of which 10 individuals were employed as a result of indirect expenditure and 4 individuals were employed as a result of induced expenditure.

4.2.5.2. Gauteng Automotive Learning Centre

The Gauteng Automotive Learning Centre is the result of a Private/Public partnership between Nissan South Africa (Pty) Ltd (NSA) with the support of the DBSA-administrated Jobs Fund and the Gauteng Provincial Government through the AIDC. Nissan's contribution to this partnership included the provision of land and buildings as well as provide long term subsidisation for applicable utilities. As a result, the land provided was extensively refurbished and expanded with accordance to world class standards for technical automotive training centres.

The Learning Centre is based in Rosslyn, Pretoria and is set on servicing the existing automotive industry stakeholders and is positioned to be part of the 2050 Tshwane Auto City Vision. The AIDC manages and owns the Learning Centre which will house a key range of technical training equipment and processes (such as welding, auto-tronics, test benches, spray painting, etc.) and aids the importance of developing the industry's specialised technical skills.

The key objectives of the Learning Centre include the following:

- Establish a world class automotive learning centre, which will service the training needs of the industry and address critical and scarce skills.
- Establish collaborative partnerships with industry, associations, regulatory bodies and educational institutions through the Automotive Industry Forum.
- Formalise skills development and training within the automotive industry.
- Offer training, support and mentorship programmes linked specifically to support global strategies.
- Procure state-of-the-art training facilitates and equipment.

Through the partnership between the AIDC, Nissan SA and the City of Tshwane, a total of 157 learners from previously disadvantage areas have been recruited and trained. Moreover, 144 learners have successfully completed the learnership programme. The project's capital expenditure during the 2014/2015 financial year was estimated at R34.95. Table 4-7 below details the economic impact resulting from the expenditure within the Learning Centre's programme.

Table 4-7: Economic Impact, Gauteng Automotive Learning Centre, (2014/2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	34.95	65.19	24.50	124.64
GDP		7.77	20.92	9.94	38.63
Income		4.2	9.60	4.31	18.15
Employment	Number	2	165	73	240

Source: Urban-Econ Calculations (2015)

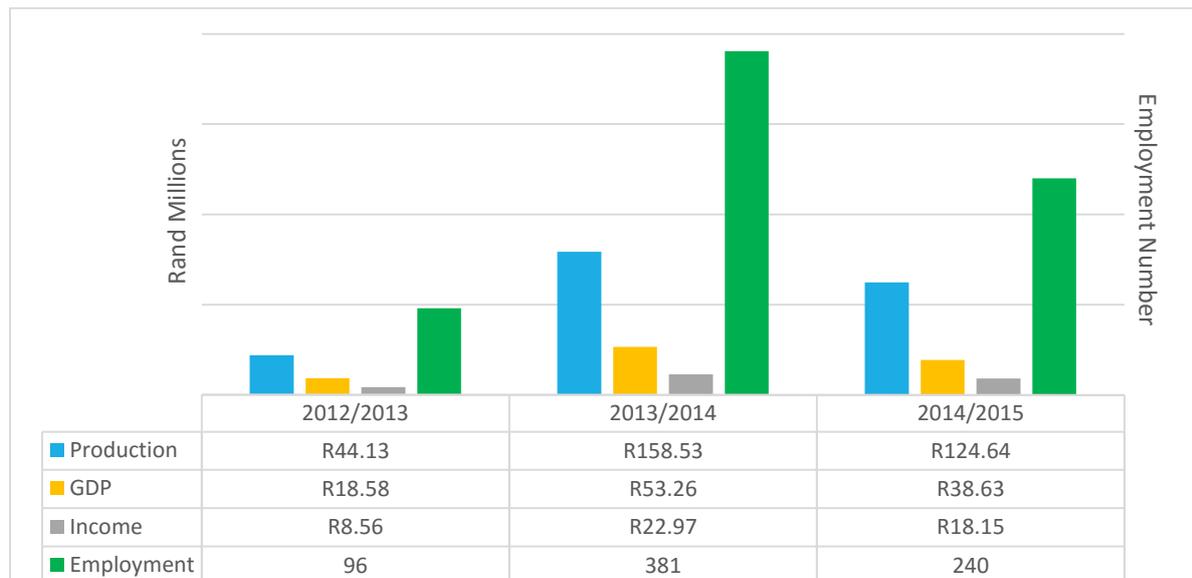
According to Table 4-7, the Rm 34.95 direct Learning Centre expenditure, resulted in an indirect and induced impact of Rm 76.5 and Rm 32.9 respectively. Moreover, the change in production positively impacted GDP by Rm 38.63, whereby the direct impact on GDP was Rm 7.77, the indirect impact of industries supplying inputs to the project was Rm 20.92 and the induced impact found throughout the rest of the economy was Rm 9.94.

The project expenditure contributed to direct income impact of Rm 4.20, as well as to an indirect and induced income impact of Rm 9.60 Rm 18.15, respectively. The direct impact on employment included just 2 jobs, whilst approximately 165 and 73 other jobs were created through the indirect and induced employment multipliers.

The Learning Centre project close-out report stated that through the ACMA learnership programme, 157 learners from previously disadvantaged areas were recruited and provided training. The learnership was implemented over a 12-month period and is aligned to the capacitation plan for the production of the new generation pickup truck.

The Learning Centre programme began in the early stages of 2012/2013 financial year, and has continued through to 2014/2015 financial year. The economic impact of the Learning Centre over these years is given in Figure 4-5 below.

Figure 4-5: Economic Impact, Gauteng Automotive Learning Centre, (2012/2013 - 2014/2015)



Source: Urban-Econ Calculations (2015)

As seen above, the total impacts of the Learning Centre have varied over the 2012/2013 to the 2014/2015 period. All total categories showed a large increase from 2012/2013 to 2013/2014 and a slight decrease from the 2013/2014 to 2014/2015. Indeed, in comparison to the 2013/2014 financial year, the 2014/2015 financial year, showed a decrease in production of 21%, a decrease in GDP of 21% and a decrease in income of 21%. As a result, total employment due to expenditure decreased by 141 individuals.

4.2.6. Skills Development and Training Programmes

The skills development and training programmes, are specifically aimed at developing the technical skill levels within the automotive industry. Addressing the skills requirements of the automotive sector, will address both industry's global competitiveness challenges and the country's need for employment creation. The AIDC facilitates various skills programmes, which aim to develop relevant technical training capacity and programmes in formal, tertiary and further education institutions. Details of the AIDC's most prominent skills development programmes, are given in the sections below.

4.2.6.1. *Supplier Efficiency Improvement Programme*

The Supplier Efficiency Improvement Programme was born out of the need to support the South African government's stretch goals for the automotive industry. Indeed, by the year 2020, the South African government aims to double South Africa's automotive production capacity from 650 000 units to 1 200 000 units, and to increase local content from 35% to 70%.

Thus the Supplier Efficiency Improvement Programme is a collective programme, which focuses on addressing the key issues and challenges in the industry in order to assist the automotive industry to achieve the governments stretch goals. Some of the key challenges within the industry are surrounding quality control, cost mitigation, productivity improvements and manufacturing stability. Hence, the ultimate goal of this Efficiency Programme was to both address the before mentioned key challenges, and to improve the competitiveness of South African SMEs in the automotive component industry and other manufacturing industries. Increasing South Africa's automotive competitiveness would enable manufacturers to enter the international automotive supply chain.

As the Efficiency Programme is a collective programme, the impacts of the various interventions within the programme, were first calculated separately and then combined to provide an accurate disaggregated portrayal of the Supplier Efficiency Programme. The following four Supplier Efficiency Improvement Programme interventions, were highlighted for impact assessment. Namely:

- Total Productive Maintenance Programme, (TPM)
- Cleaner Production Programme
- Quality and Environmental Manufacturing Standards, (QEMS)
- Rapid Process Improvement Programme

The total impact of the four different interventions has been given in table 4-8 below.

Table 4-8: Economic Impact of the Supplier Efficiency Improvement Programme

	Variable	TPM	Clean Production	QEMS	Rapid Improvement	Total
Production	Rand Million (Rm)	3.47	0.41	0.44	0.13	4.45
GDP		1.57	0.19	0.20	0.05	2.01
Income		0.58	0.07	0.08	0.02	0.76
Employment		Number	14	1	1	0

Source: *Urban-Econ Calculations (2015)*

Per Table 4-8 above, between the four Efficiency programmes, TPM production impact of Rm 3.47, was easily the most impactful during the 2014/2015 financial year. This manifested in TPM having a GDP impact of Rm 1.57, and an income impact of Rm 0.58. When it comes to employment, TPM's employment is even more impressive than the other projects under the Efficiency Programme. The reason for TPM's large employment figure, is due to the 5 direct employment opportunities TPM created during the year.

The QEMS programme was the second most impactful project during the 2014/2015 financial year, owing to a GDP and income impact of Rm 0.20 and Rm 0.08, respectively. The Clean Production Programme recorded exceptionally similar impacts, while the Rapid Improvement Programme was the least impactful project, in the period under review. Excluding TPM, the remaining three projects only managed to employ 2 individuals, due

to project expenditure. The total expenditure related impact of the Supplier Efficiency Programme was impressive, with an impact upon production and GDP of Rm 4.45 and Rm 2.01, respectively. While, the impact upon income was only Rm 0.76, the Efficiency Programme managed to provide 16 employment opportunities.

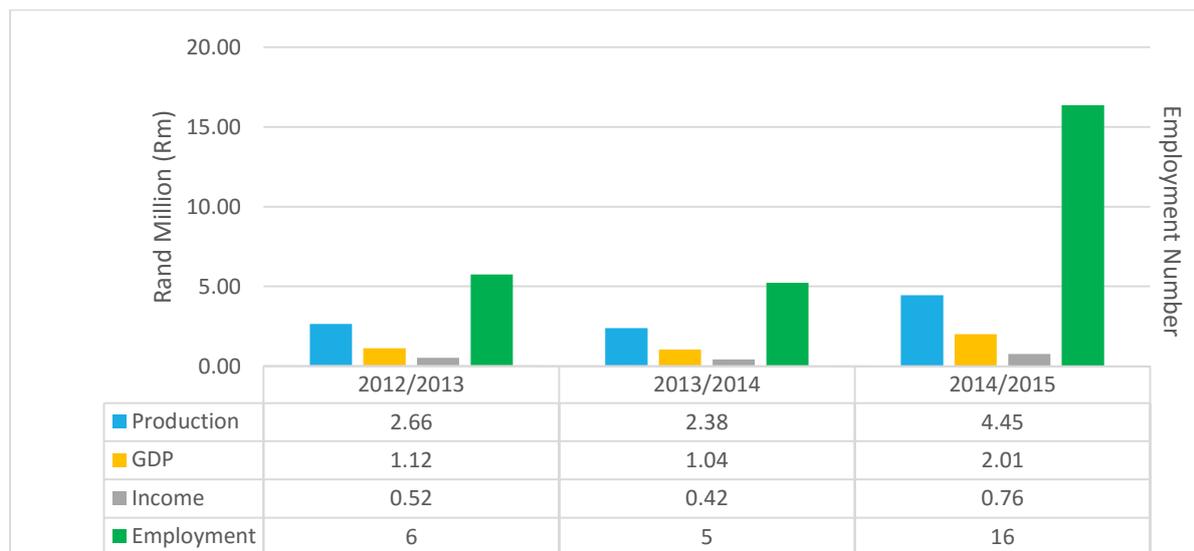
During the 2014/2015 financial year, the Supplier Efficiency Programme had two main Key Performance Indicator targets, namely:

- To provide support to 20 companies within the automotive and allied industries.
- To provide training to 140 individuals across numerous disciplines

The Efficiency Programme outperformed the Key Performance Indicators, to impact 23 automotive industry related companies, and to train an impressive 296 individuals, over the course of the 2014/2015 financial year.

In order to gauge the effectiveness of the Supplier Efficiency Improvement Programme in 2014/2015 financial year, it is important to compare the impact outcomes, with those from the previous financial years. Figure 4-6 below, details the impact of the Supplier Efficiency Improvement Programme, over the 2012/2013 to 2014/2015 financial years¹⁴.

Figure 4-6: Economic Impact Assessment, Supplier Efficiency Improvement Programme, (2012/2013 - 2014/2015)



Source: Urban-Econ Calculations (2015)

As can be seen above the total production impact of the Efficiency programme was Rm 2.30 and Rm 2.70 over the 2012/2013 to 2013/2014 period, whilst in 2014/2015 the total production impact was Rm 4.45. The vast difference in impact is due to increase in direct expenditure during the 2014/2015 financial year. More over this theme is continued with the 2014/2015 GDP impact almost doubling the GDP impacts recorded in the previous years. However, the 2014/2015 impact upon income is far more moderate in this regard and only differs slightly from the previous years. Although the 2014/2015 employment of 16, is almost three times higher than the

¹⁴ The Quality and Environmental Manufacturing Standards, (QEMS) programme was not included in previous Efficiency Programme impact assessments. Nonetheless, as a majority of the 2014/2015 growth came from the TPM programme, it will not affect the current analysis in a material manner.

employment impact recorded in 2013/2014, this is mostly due to a higher number of direct employment during the 2014/2015 financial year, and not simply a result of expenditure related employment, as is the case in the previous years.

4.2.6.2. Auto Sector Skills Development in Dubai

The Auto Sector Skills Development project was brought about through the joint effort of the AIDC and Motherson Sumi Systems Limited (MSSL). The Auto Sectors Skills Development project centred on addressing skills shortages in the automotive sector, job creation, promoting public and private partnership to develop sustainable employment and managing sustainable job creation and inclusive growth within the Province of Gauteng.

The project recruited unemployed female youths in Gauteng, to partake in automotive wire harnessing training, at a leading manufacturing plant in Sharjah, Dubai for a period of two years. The plan was to train and up-skill them in an international factory to improve their employability on arrival back in South Africa. The total direct expenditure spent over the 2014/2015 financial year was Rm 0.52.

Twenty-one associates completed studies in productions and productivity management through the University of South Africa, in February 2015. While remaining candidates which remained in the programme experienced two invaluable years of international work placement.

Through the programme expenditure, approximately 3 new employment opportunities were created.

4.2.6.3. Youth Reskilling and Technical Training Programme

It is estimated that the average age of an artisan within the automotive sector is 56 years. This indicates a lack of younger artisans, which are both trained and available within the labour force market. The Youth Reskilling and Technical Training project was initiated by the AIDC in order to address this need. The multi-year project aims to train 40 unemployed youth from Gauteng, to become fully qualified artisans. The project aims to train apprentices in the following fields:

- Boilermaker
- Welder
- Fitter
- Diesel Mechanic.

Direct project expenditure totalled roughly Rm 0.45, during the 2014/2015 financial year. The impacts of the expenditure can be seen in Table 4-10 below.

Table 4-9: Economic Impact, Youth Reskilling and Technical Training Programme, (2014/2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	1.19	1.14	0.86	3.20
GDP		0.51	0.60	0.35	1.46
Income		0.23	0.15	0.15	0.53
Employment	Number	2	6	3	11

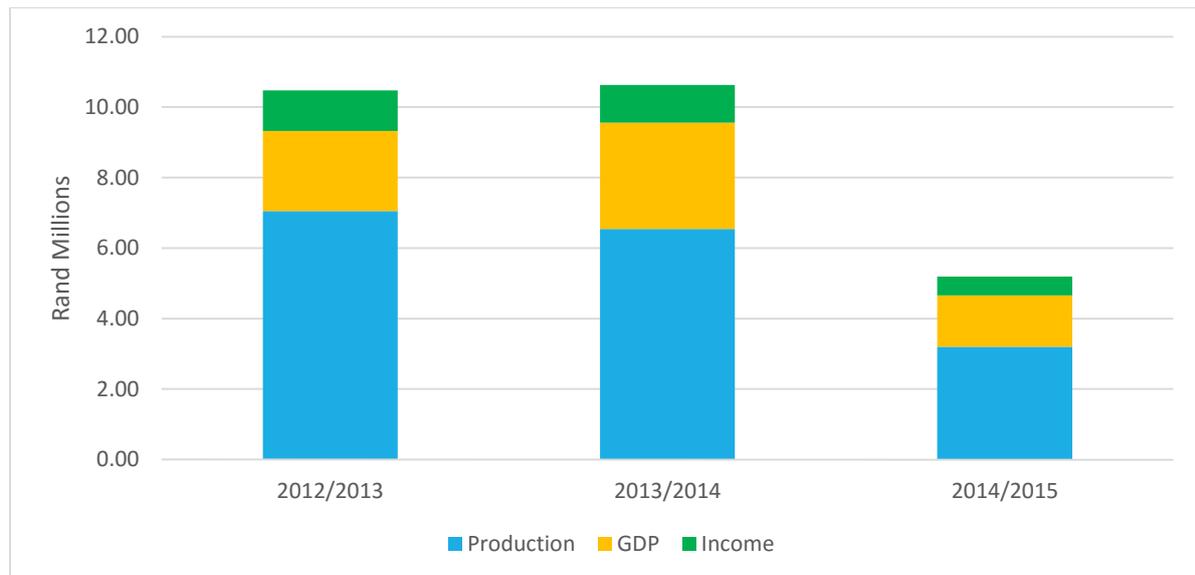
Source: Urban-Econ Calculations (2015)

As can be seen above, direct expenditure resulted in an equivalent production impact of Rm 1.19 in the economy. This direct production impact, stimulated an indirect production impact of Rm 1.14 from supply sectors within the economy and an induced production impact of Rm 0.86, from expenditure multipliers within the greater economy. The positive impact on production led to a total impact on GDP of approximately Rm 1.46, which consisted of a direct impact of Rm 0.51 in addition to both an indirect and induced impact of Rm 0.60 and Rm 0.35, respectively. The direct impact on income was Rm 0.23, which had an indirect impact of Rm 0.15 and an induced impact of R 0.15.

In line with the Youth Reskilling and Technical Training project goals, the 2014/2015 close-out report indicated that 44 apprentices had been qualified in varying fields. In addition, the project expenditure generated approximately 11 additional employment opportunities created in the economy.

The Youth Reskilling and Technical Training Programme was successfully implemented in 2012/2013 and has continued to see positive results in both the 2013/2014 and 2014/2015 financial years. The total economic impact experienced by the programme over these years has been given in Figure 4-7 below.

Figure 4-7: Economic Impact Assessment Less Employment, Youth Reskilling and Technical Training Programme, (2012/2013 - 2014/2015)



Source: Urban-Econ Calculations (2015)

As per Figure 4-7 above, the total summarise total impact of production, GDP and income, experienced in the 2012/2013 and the 2013/2014 financial years, was markedly similar. While the total impact of production, GDP, and income, experienced in the 2014/2015 financial year was comparably much lower. Indeed, from the 2013/2014 financial year to the 2014/2015, all three impact indicators decreased by roughly 51%. However, while the monetary impact notably decreased, expenditure employment during the year was given as 11, which is around 8 individuals less than the 2013/2014 expenditure employment and significantly only 3 individuals less than the 2012/2013 financial year.

4.2.6.4. Mentorship Programme

The Gauteng Provincial Government's Department of Economic Development appointed the AIDC to develop and facilitate the Mentorship Programme for Body shops and Auto Mechanical repairers. This project was developed on the basis that there is a decline in informal body repairers and these repairers often do not have the capabilities to grow and migrate into professional entities in order to become part of the formal economic sector. This programme is set to not only develop technical skills but also provide support in business development, customer satisfaction, quality services and aftercare skills in order to promote the necessary growth. The projects key deliverables for the 2014/2015 financial year are given in Table 4-11 below.

Table 4-10: Mentorship Programme Deliverables, (2014/2015)

Period under review	Deliverable
Quarter 1	<ul style="list-style-type: none"> • Identification, selection and screening of 20 new mentees
Quarter 2	<ul style="list-style-type: none"> • Appoint and commence mentorship training with new and existing mentees
Quarter 3	<ul style="list-style-type: none"> • Continue with mentorship training with new mentees and existing mentees
Quarter 4	<ul style="list-style-type: none"> • Both new and existing mentees complete mentorship programme

Source: AIDC, Mentorship Programme Close-out Report (2015)

During the 2014/2015 financial year the Mentorship programme had a project expenditure of approximately Rm 0.45. Table 4-12 below indicates the direct, indirect and induced impacts resulting from the project expenditure.

Table 4-11: Economic Impact, Mentorship Programme, (2014/2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	0.45	0.34	0.34	1.14
GDP		0.24	0.18	0.14	0.56
Income		0.11	0.04	0.06	0.21
Employment	Number	-	2	1	3

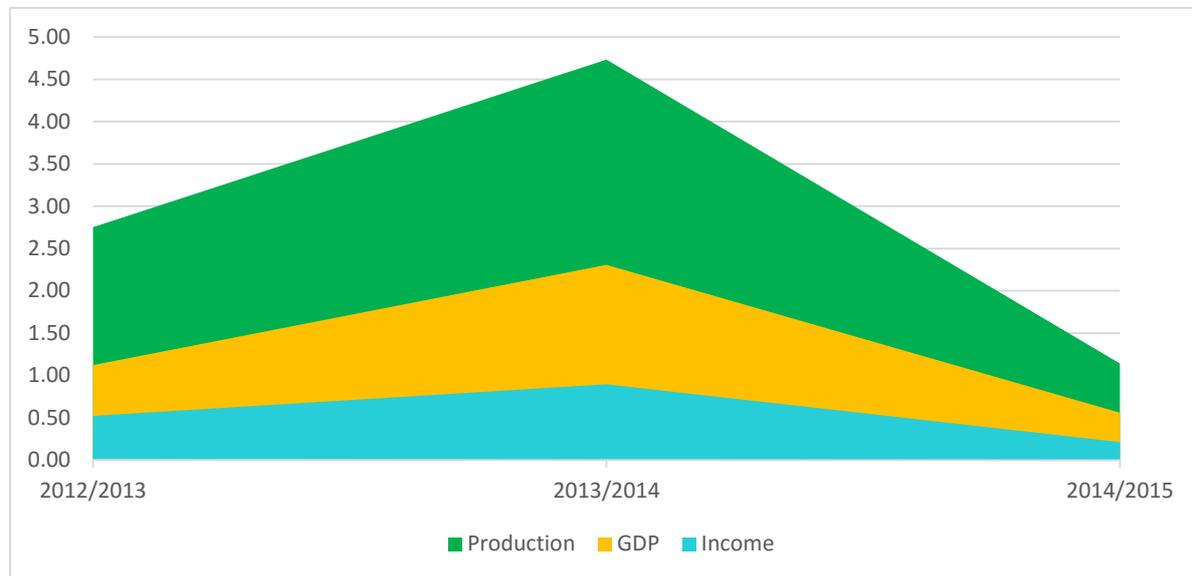
Source: Urban-Econ Calculations (2015)

As seen above, total impact on production was approximately Rm 1.14, of which Rm 0.45 was due to direct production and the remainder was due to a combination of indirect and induced impacts on production. GDP received a direct impact of Rm 0.24, in addition to an indirect and induced impact of Rm 0.18 and Rm 0.14, respectively. The total impact on income was approximately Rm 0.21, of which the Rm 0.11 impact was direct and the Rm 0.10 impact was accounted for in the broader economy.

During the current year under review, 40 mentees from 2014/2015 completed the mentorship programme. Additionally, the projects direct investment into the economy resulted in the creation of two indirect and one induced employment opportunity.

The mentorship programme has been implemented annually since the 2012/2013 financial year. Figure 4-8 below compares the differing expenditure impacts that have accrued over the 2012/2013, 2013/2014 and 2014/2015 financial years.

Figure 4-8: Economic Impact Less Labour, Mentorship Programme, (2012/2013 - 2014/2015)



Source: Urban-Econ Calculations (2015)

As per Figure 4-8 above, the total impact in production, GDP and income, is noticeably bigger in both the 2012/2013 and 2013/2014 financial years than in the current 2014/2015 financial year. The variation in total impact displayed about, is mainly due to the changes made in the AIDC's investment expenditure. The total economic impact experienced by the programme in 2014/2015 is close to 76% less than economic impact experienced by the programme in 2013/2014.

4.2.7. Value Propositions & Economic Impact Assessment

The purpose of this project is to determine not only the direct impacts, but also the indirect, induced and total impacts on the economy as a result of the investments made during the financial year. The key objectives and outcome for this project are listed below:

- Production and sectoral contribution or impact
- Gross Domestic Product (GDP)
- Macroeconomic effect of the AIDC Construction Phase
- Quantitative Operational Expenditure Impacts of the AIDC
- Impact of Capital Investment/ Operational Expenditure
- Jobs creation, both direct and indirect
- Impact of strategic infrastructure on the economy
- GDP and GDP-R contributions
- Conclusion and Recommendations

The initial MTEF budget received for the value proposition and impact assessment reports was set at approximately Rm 0.31. Accordingly, a total of four high level strategic Economic Impact Assessments were agreed upon, for the 2011/2012, 2012/2013 and 2014/2015 financial years. A total of Rm 0.15 was spent during

the current financial year under review. The economic impact of this project expenditure, is represented in Table 4-14 below.

Table 4-12: Economic Impact, Value Propositions & Impact Assessment, (2014/2015)

Indicators	Variable	Direct	Indirect	Induced	Total
Production	Rand Million (Rm)	0.15	0.13	0.11	0.39
GDP		0.07	0.07	0.04	0.18
Income		0.03	0.02	0.02	0.07
Employment	Number	-	1	0	1.13

Source: Urban-Econ Calculations (2015)

As per Table 4-13 above, total impact on domestic production was approximately Rm 0.39. The production impact was mainly driven from a direct impact of Rm 0.15, but was also positively impacted by the indirect production of Rm 0.13 and induced production of Rm 0.11. Comparably, total GDP was impacted from a larger direct impact of Rm 0.18, in addition to lesser indirect and induced impacts of Rm 0.07 and Rm 0.04, respectively. Total impact on income was estimated at Rm 0.07, brought about from a direct impact of Rm 0.03 in addition to a combined indirect and induced impact of Rm 0.04. The total project expenditure generated approximately 1 employment opportunity in the broader economy.

4.3. Performance Comparison and Summary of Total Economic Impact

In order to determine the success of the various AIDC interventions during the 2014/2015 financial year, the impact of the projects will be summed and then compared to the total impacts of the AIDC, over the previous three financial years, namely; 2011/2012, 2012/2013, and 2013/2014.

This summary will provide an evaluation of the current year under review, in addition to a comparison between the current year and the previous three financial years. The comparison will evaluate the impact of the AIDC in terms of production, GDP, employment, and income. Importantly the SPDC and the AIDC merged in 2013, at which point the SPDC began trading under the AIDC banner. Table 4-14 below, provides the estimated AIDC and the SPDC expenditure, over the 2011/2012 to 2014/2015 period.

Table 4-13: Total Economic Expenditure, SPDC & AIDC, (2011/2012 - 2014/2015)

Organisation	Variable	2011/2012	2012/2013	2013/2014	2014/2015
AIDC	Rand Million (Rm)	38.61	47.15	82.64	138.95
SPDC		123.13	90.27	9.8	0
Total		161.74	137.42	92.44	138.95

Source: Urban-Econ Calculations (2015)

As can be seen above, the AIDC incurred relatively low levels of expenditure during the 2011/2012 and 2012/2013 financial years, while the SPDC incurred relatively high levels of expenditure over the same time period. The reason for the lopsided levels in expenditure lies in the expenses associated with the maintenance and development of the Automotive Supplier Park (ASP). Indeed, following the 2013 merger, the AIDC has seen its annual expenditure almost triple in size.

The impact of the ASP in relation to the accumulated impact of the various AIDC projects which will be discussed below, in Table 4-15.

Table 4-14: Economic Impact, AIDC Projects & ASP, (2014/2015)

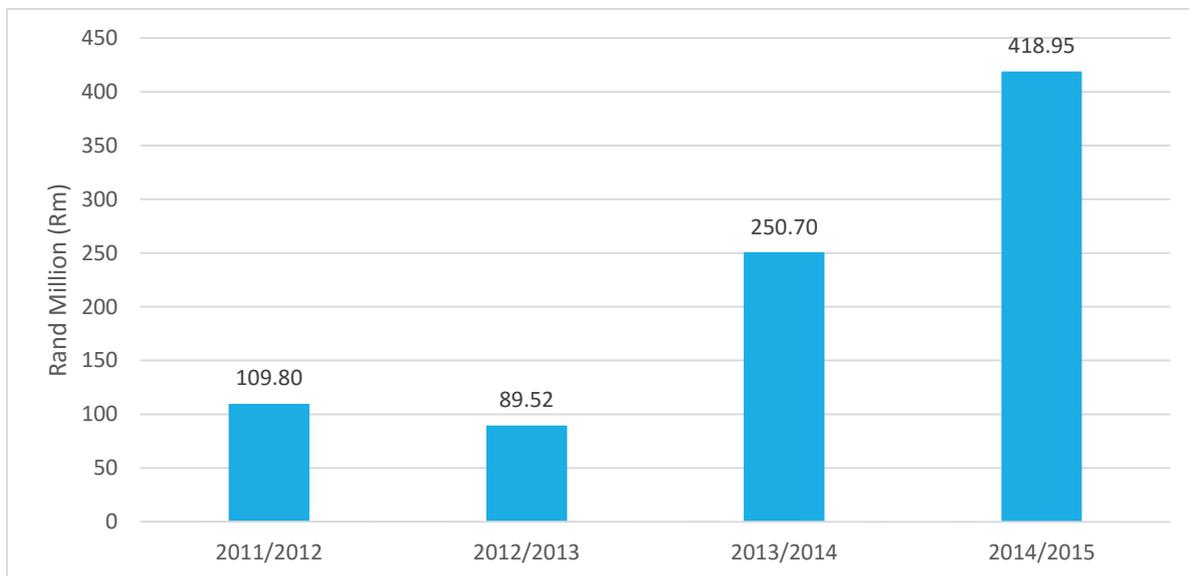
	Variable	AIDC Projects	ASP	Total
Production	Rand Million (Rm)	203.36	215.59	418.95
GDP		65.85	91.37	157.22
Income		30.49	41.20	71.69
Employment	Number	406	483	890

Source: Urban-Econ Calculations (2015)

Table 4-15 above details the total impact of both the AIDC projects and the ASP, upon production, GDP, income and employment. The combined AIDC projects experienced a production impact of Rm 203.36, a GDP impact of Rm 65.85 and an income impact of Rm 30.49, while the ASP experienced a production impact of Rm 215.59, a GDP impact of Rm 91.37 and an income impact of Rm 41.20. Moreover, both the combined AIDC projects and the ASP created over 400 employment opportunities during the period under review. However, while the ASP has had a slightly greater total impact than the AIDC, the direct ASP expenditure of Rm 79.90 was significantly greater than the direct AIDC's expenditure of Rm 59.10. Thus, although the ASP has had a greater absolute impact, the AIDC projects have been more impactful on a relative basis.

Nonetheless, in order to put the performance of the AIDC in context it is important to analyse the total impact of the AIDC, in comparison to the previous 3 financial years. (For the remainder of this chapter the SPDC and the AIDC will both be simply referred to as the 'AIDC'.) Figure 4-9 below compares the total economic impact on production as a result of AIDC expenditure, over the 2011/2012 to 2014/2015 period.

Figure 4-9: Total Production Impact, AIDC, (2011/2012 - 2014/2015)

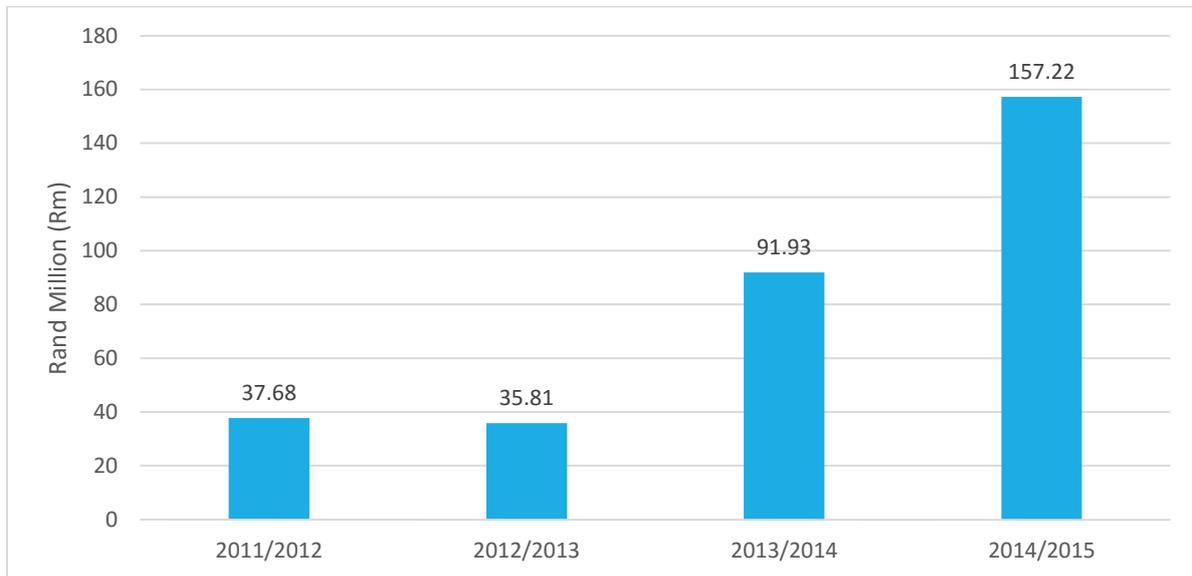


Source: Urban-Econ Calculations (2015)

As seen above in Figure 4-9, the Rm 418.95 production impact recorded in the 2014/2015 financial year was substantially higher than had been experienced in previous years. Indeed, the expenditure impact of the various AIDC interventions has aggressively increased since the 2012/2013 financial year, and over the 2013/2014 to 2014/2015 period alone, the AIDC's total impact on production increased roughly 67%.

Figure 4-10 below represents the total economic impact on GDP as a result of AIDC expenditure, over the 2011/2012 to 2014/2015 period.

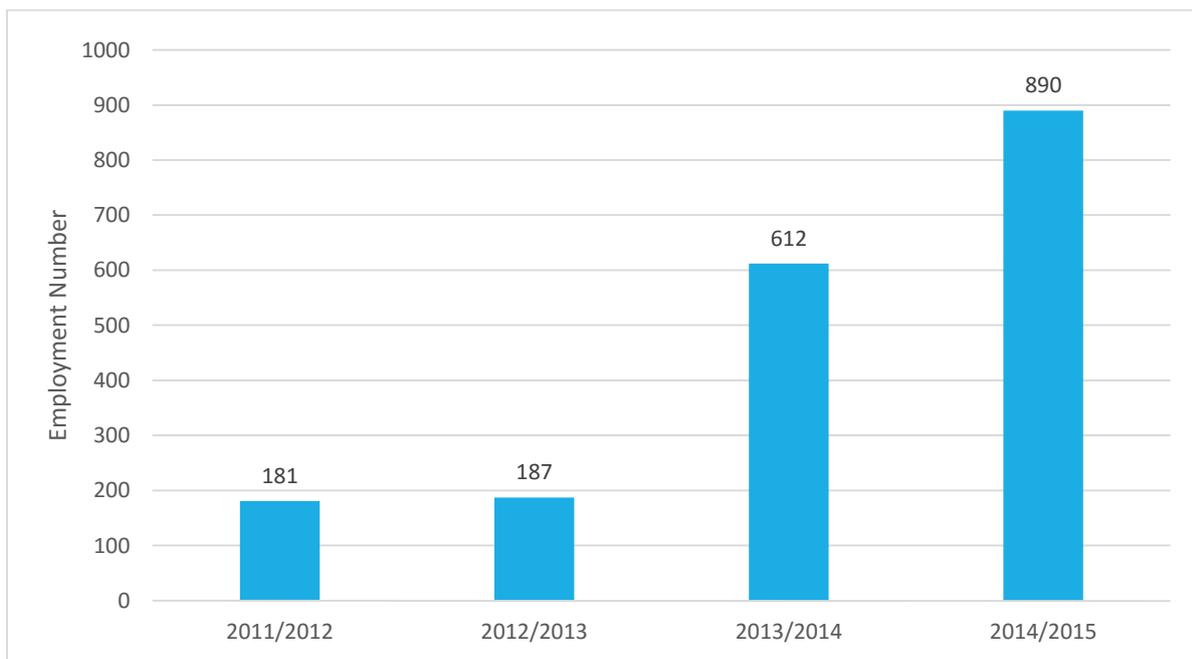
Figure 4-10: Total GDP Impact, AIDC, (2011/2012 - 2014/2015)



Source: Urban-Econ Calculations (2015)

As per Figure 4-10, the AIDC's total impact on GDP remained relatively consistent over the 2011/2012 and 2012/2013 financial years. However, the 2013/2014 and then the 2014/2015 financial years both experienced a much larger increase in total GDP impact, with impacts of Rm 91.93 and Rm 157.22, respectively. Whereby, over the 2013/2014 to the 2014/2015 financial year the AIDC's total impact upon GDP increased around 71%. Figure 4-11 below, illustrates the total impact on the number of employment opportunities created over the three-year period.

Figure 4-11: Total Employment Impact, AIDC, (2011/2012 - 2014/2015)

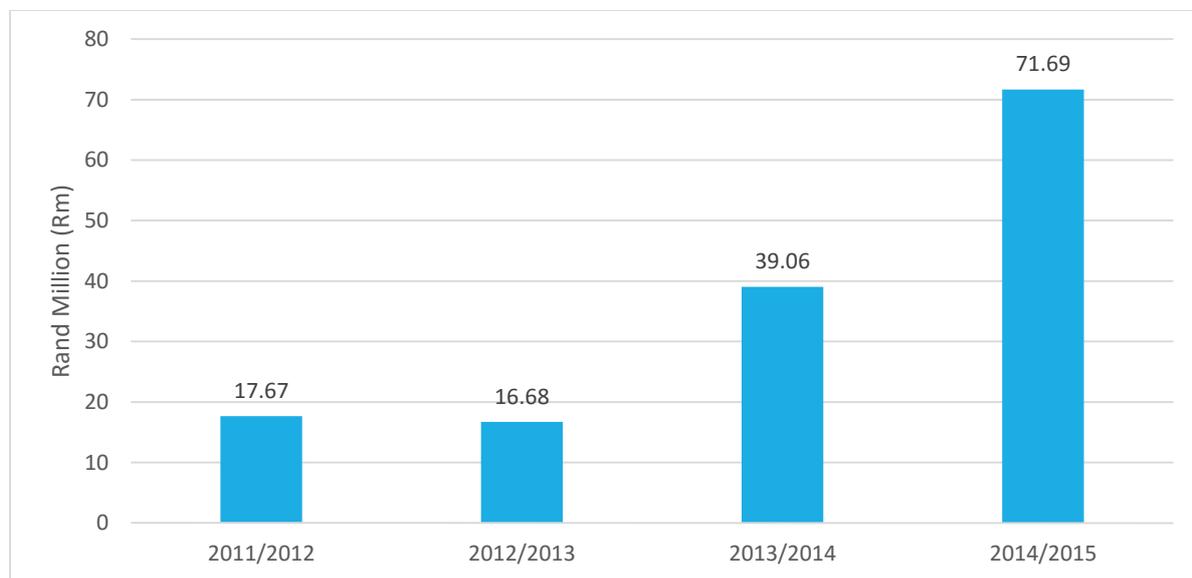


Source: Urban-Econ Calculations (2015)

As can be seen above, the 2013/2014 and the 2014/2015 financial years experienced a much larger contribution to total employment opportunities, than was experienced during the preceding years. While this trend is in line with previous years, the scale of the increase is much greater on a percentage level. Although the employment increased by just 45% over the last financial year, the 187 employment opportunities created in the preceding 2012/2013 financial year are approximately 21% of the 890 employment opportunities created during the 2014/2015 financial year. This indicates that the AIDC's larger expenditure portfolio and composition of project interventions are proving to more proficient at providing employment within the Gauteng region.

The AIDC's greater and more effective expenditure has also positively impacted worker income. Figure 4-12 below, illustrates the effect of the various AIDC interventions upon worker income, over the 2011/2012 to 2014/2015 financial years.

Figure 4-12: Total Income Impact, AIDC, (2011/2012 - 2014/2015)



Source: Urban-Econ Calculations (2015)

Per Figure 4-12 above, the AIDC's expenditure during the 2011/2012 and the 2013/2014 financial years led to a total impact on worker income of roughly Rm 17.67 and Rm 16.68, respectively. As with the previous impact assessment criteria, the 2013/2014 and the 2014/2015 financial years, experienced a massive increase in impact upon worker income, with impacts of Rm 39.06 and Rm 71.69, respectively. Indeed, in relation to the current year under review, the initial 2011/2012 impact upon income has increased roughly 305.71%.

5. Qualitative Impacts and Achievements of the AIDC

5.1. Gauteng Provincial Government Development Objectives

The Gauteng Provincial government (GPG) aims to transform, modernise and re-industrialise the Gauteng Province, over the medium to long term. To accomplish this the GPG has employed a ten pillar programme, which will form the basis of Gauteng's objectives in the medium to long term. The programme will enable Gauteng into an integrated city-region that is both socially cohesive and economically inclusive to all people groups and entities.

The ten pillars are:

1. Radical economic transformation
2. Decisive spatial transformation
3. Accelerated social transformation
4. Transformation of the state and governance
5. Modernisation of the public service
6. Modernisation of the economy
7. Modernisation of human settlements and urban development
8. Modernisation of public transport infrastructure
9. Re-industrialisation of Gauteng province
10. Taking the lead in Africa's new industrial revolution.

Radical economic transformation

The Gauteng Provincial Government (GPG) aims to support the township economy with the development of township business enterprises, and SMME's that adequately meets both the employment and consumer needs of the township residents. Furthermore, the GPG has identified different economic sectors which will aid the dual objectives of strong employment and economic integration. The identified sectors, include: finance, manufacturing, ICT, tourism, pharmaceuticals, construction, real estate, automotive and creative industries. Innovation and reindustrialisation will be the cornerstones of the new emerging Gauteng economy, which will promote knowledge-based enterprises capable of fast tracking development.

Decisive spatial transformation

The GPG aims to alter South Africa's distorted spatial makeup, by developing mixed-use settlements, which provide strong employment opportunities and efficient public transport facilities. Moreover, GPG will look to address the legacy of apartheid by developing both diverse but also inclusive human settlements. In addition, coordinated land use management between government departments and the private sector, will ensure the swift transformation of Gauteng's spatial landscape.

Accelerated social transformation

Accelerated socio-economic transformation is interlinked with the economic and spatial transformation of the Gauteng province. In this manner higher; income levels, education standards and health care will increase human welfare, protect the vulnerable and serve to further integrate society as a whole.

Transformation of the state and governance

The GPG will transform the governance and state of Gauteng, through measures which focus on effective financial management, transparent and accountable government practises and improvement of state capacity. These measures will include; achievement & sustenance of an unqualified audit; higher quality infrastructure contracts; monitoring the business activities of public servants; and vetting individuals involved on high risk positions.

Modernisation of the public service

The GPG aims to introduce radical transformation into Gauteng by altering the way state institutions interact with society. Practically this involves how government deals with corruption in the public and private sector. The Gauteng government will actively introduce interventions to improve the moral fibre of public and private entities. The early identification of fraud and corruption in the value chain will prevent losses and protect producers and consumers alike.

Modernisation of the economy

The promotion of new SMMEs and township enterprises will be key to the revitalisation of the township economies. The GPG has identified different economic actives such as, food and textile production which could be utilised to catapult township residents into the formal sector. These economic actives will look to catalyse the growth of these sectors in the provincial economy and in so doing, create job opportunities that are more inclusive of previously disadvantaged persons.

Modernisation of human settlements and urban development

The GPG will aim to develop cities which are both sustainable and modern integrated human settlements. These settlements will aim to be socially and economically inclusive and will further promote environmentally conscious urban development. This process will include the renewal of old towns and inner-city regeneration, made possible through cooperation between the GPG, municipality and the private sector. The GPG will also labour to ensure that all townships have effectively maintained roads, and have access to an efficient public transport system where available.

Modernisation of public transport infrastructure

Over the medium to long term, Gauteng will embark upon a public transport infrastructure roll out, driven primarily by the Aerotropolis and OR Tambo Special Economic Zone. This infrastructure roll out will aim to create more than 300 000 employment opportunities and boost the development of black owned SMME's and township entities.

Re-industrialisation of Gauteng province

The GPG will focus on the reindustrialisation of the Gauteng economy, through strategic infrastructure developments. The rollout of public transport infrastructure developments will revitalise industries which locally manufacture or assemble buses, trains and locomotives. Furthermore, the GPG and the Gauteng municipalities will procure around 75% of all goods and services from South African producers, with special regard to SMMEs, township enterprises and previously disadvantaged people. Choosing locally sourced suppliers will strengthen industry linkages and increase employment opportunities and economic integration.

Taking the lead in Africa's new industrial revolution.

Gauteng province the leading economic powerhouse in both South Africa and SADC. Moreover, Gauteng is the fourth biggest economy in the continent, contributing roughly 11% to Africa's total economy. In order to capitalise and build upon Gauteng's unique position, the GPG will aim to increase trade and investment in SADC and Africa, through the Africa Infrastructure Conference. Prepare and train township enterprises and SMME's in exporting capabilities. Gauteng will also aim to extend and strengthen its position internationally, by building upon existing partnerships within the BRICKS group.

5.2. AIDC Projects in Relation to the GPG's 10 Pillar Plan

To establish the role of the AIDC in fulfilling the objectives set out by the Gauteng Provincial Government,

Table 5-1 below, links the qualitative overview of each AIDC project with the corresponding GPG's pillar. This sheds light on the way the AIDC projects supports the 10 pillar plan.

Table 5-1: AIDC Project Compliance to GEGDS Pillars

AIDC Project	GPG's Pillars Supported	Qualitative Project Overview
BBBEE Supplier Incubation Centre at FMCSA (AIDC 05)	Pillars 1,6,9,10	<ul style="list-style-type: none"> • The automotive sector is plagued with a myriad of entry barriers which have limited BBBEE transformation. In response to this bottle neck, the AIDC, in association with FMCSA, developed the BBBEE Supplier Incubation project. Through the project, the AIDC aims to overcome the barriers to entry, which BBBEE companies experience when they enter the formal automotive industry. • The incubation project supports incubates and overcome barriers, through the following ways: <ul style="list-style-type: none"> ○ Subsidised rental ○ Professional marketing of business ○ Share Services ○ Professional mentoring ○ Skills transfer and learning ○ Business Development and assisting with business plans and proposals • Through the incubator project a total of 200 new jobs were created within the 6 new BBE businesses that have been established to date. • The project thus complies with its main objective of core empowerment of previously disadvantaged individuals through enabling them to be better owners and managers of their own businesses. In line with GPG objectives, the project created self-sustainable businesses within the automotive industry.
Youth Skilling and Technical Training Programme (AIDC 09)	GPG Pillar 1,4	<ul style="list-style-type: none"> • The project aims, to give proper training to young individuals, so that they may, be employed in the manufacturing sector. A more skilled labour pool, will lead to an increase in economic efficiency and productivity. • Originally the programme aimed to cater to around 40 trainees. However, due to additional funding from host companies, a total of 56 apprentices were identified for training. • Over the 2014/2015 financial year, around 44 apprentices had been trained in the professions related to boilermaker, welder, fitter and diesel mechanic.

Mini Factories (AIDC 13)	GPG Pillar 1	<ul style="list-style-type: none"> The aim of the project object was to deliver mini factory spaces, which could accommodate small to medium automotive supplier. The construction includes 8000m² for SME factories and 300m² office space for central administration. Phase 1 of the mini factory project, was completed in May 2015.
Mentorship programme for body repair shops (AIDC 14)	GPG Pillar 1,3,4, 5	<ul style="list-style-type: none"> This project was introduced to develop the capabilities of informal body repairers to grow and migrate into professional entities. BEE and SMME informal body shop companies were chosen from Mpumalanga, Tshwane, and Johannesburg. The companies were then trained in basic business management and bookkeeping, labour relations and technical auto body repairs. During the 2014/2015 financial year, 40 mentees completed the mentorship programme.
Nissan- Gauteng Automotive Learning Centre & simulation (AIDC 22/1 and/2)	GPG Pillar 1,2,6,9,10	<ul style="list-style-type: none"> The Gauteng Automotive Learning Centre is part of the NSA Investment Support Programme. This programmes main objective was to create long term employment opportunities in the automotive sector, through the establishment of sustainable businesses enterprises. The Gauteng Automotive Learning Centre, equips individuals and businesses with a wide range of skills required within the South African automotive industry. During the 2014/2015 financial year, 144 learners successfully completed the learnership programme.
Nissan Incubator setup, (AIDC 22)	GPG Pillar 1,2,6,9,10	<ul style="list-style-type: none"> The Incubation Centre is another programme initiated through the Job Fund's NSA Investment Support Programme. It is modelled on the AIDC's Automotive Incubation Centre at Ford Motor Company of Southern Africa manufacturing plant in Silverton. The appointment of the Incubatees had to be moved out to 2018, due to the postponed manufacturing of Nissan's new pick-up truck. Nissan have provided a provisional list of possible components that could be considered for the incubation centre.
Auto sector students to Dubai 100 (AIDC 33)	GPG Pillar 2,4	<ul style="list-style-type: none"> This programme aimed to provide skills development and training to 100 unemployed female's youths. The skills development process involved international exposure at a leading manufacturing entity in Dubai, in addition to studies in productions and productivity management, through the University of South Africa. Twenty-one associates completed their studies in productions and productivity management in February 2015 (UNISA)

Supplier Efficiency Programme (AIDC 36)	GPG Pillar 1,6,9,10	<ul style="list-style-type: none"> • The Supplier Efficiency Programme aimed to support South Africa's stretch goals for the automotive industry. By 2020, the South African government aims, to increase production from 650 000 to 1 200 000 units. • The Supplier Efficiency Programme addressed key issues and challenges in the industry through the implementation of the following four skills and training programmes. <ul style="list-style-type: none"> ○ Total Production Management, (TPM) ○ Cleaner Production Management ○ Rapid Process Improvement Programme ○ Quality and Environmental Manufacturing Systems • The Supplier Efficiency Programme was able to impact 23 companies and train 296 individuals, during the 2014/2015 financial year.
Winterveld project (AIDC 43)	GPG Pillar 1,6,9	<ul style="list-style-type: none"> • The Winterveld Enterprise Hub, (WEH) was established by AIDC in association with the GGDA and the City of Tshwane. The main aim of the hub is to provide automotive services that support SMME co-operatives with automotive mechanical, auto electrical and paint finishing specialists. Moreover, the hub will provide OEM approved shared services in support of local SMME's. • During the 2014/2015 financial year, 5 SMMEs were enrolled in the upskilling process and a total of 8 jobs were created. In addition, a new a quotation system is being procured to assist the SMMEs.

Source: AIDC Project Charters, 2014/2015

The qualitative aspects analysed indicate that the AIDC contributes to achieving sustainable socio-economic growth at national, provincial, and local levels. Specific reference must be made to the majority of the AIDC projects focussing on industrial activities associated with advanced manufacturing, by which the economy of Gauteng can be transformed through improved efficiencies, investment in human capital and sustainable creation of more employment opportunities. This focus does not only benefit the automotive industry, but has a leverage effect on the broader economy and contributes to the efforts launched to decrease unemployment, equally distributing economic growth and development and giving more opportunities to individuals and various enterprises to make a living through assisting skills development and improved business management.

5.3. Preferential Procurement (BEE) and Enterprise Development (SMME)

BEE is an initiative implemented by government to address the inequalities between different racial groups. The initiative strives to give citizens from previously disadvantaged backgrounds the opportunity for employment preference, skills development, ownership, management, and socio-economic development preferences. Government has also prioritised the promotion of entrepreneurship through SMMEs that assist in achieving economic growth and development. With the government assistance provided to various

departments and institutions it ensures that adequate financial and non-financial assistance are provided to the appropriate sector, for the long-term success of SMMEs in the economy and the country as a whole. (Department of Trade and Industry).

- **BBBEE Act**

BBBEE (Broad-Based Black Economic Empowerment) means, as stated by the Act, is the viable economic empowerment of all black people, in particular woman, workers, people with disabilities and people living in rural areas, through diverse but integrated socio-economic strategies. Thus, the BEE process will include elements of human resource development, employment equity, enterprise development, preferential procurement, as well as investment, ownership and control of enterprises and economic assets. BBBEE is established as an enabling framework for the promotion of BEE in South Africa. In essence companies wishing to do business with government will have to obtain a BEE certificate from an accredited BEE rating agency based on a scorecard for that specific industry. This certificate will determine the number of "empowerment" points, which will be given to bidder when awarding a bid. The balanced scorecard focuses on three core elements of BEE. These are:

- Direct empowerment through ownership and control of enterprises and assets,
- Human resource development and employment equity,
- Indirect empowerment through preferential procurement and enterprise development.

- **PPPFA (Preferential Procurement Policy Framework Act)**

The PPPFA stipulates that when government assesses contracts, it must take into account a preference point system which prescribes functionality, price and reconstruction development programme (RDP) goals.

5.4. BEE and SMME Mandate of the AIDC

In the AIDC annual report of 2011/12, the company clearly states its mandate towards the development of BEE and SMME initiatives.

"...The AIDC strives to ensure that equitable opportunities are created and offered to historically disadvantaged South Africans in its pursuit of achieving the goals and targets set by the Broad Based Black Economic Empowerment (BBBEE) Act. BBBEE is enforced within the organisation through its preferential procurement policy as well as adherence to corporate targets on procurement spend with regards to women, SMMEs and BEE service providers...."

The project activities developed and performed in 2014/2015 financial year also contributed to the BEE and SMME mandate of the AIDC in the following ways:

- **Nissan South Africa Investment Support Programme**
 - **Learning Centre** – The training classroom facility, of the GALC was handed over to the AIDC and Nissan South Africa. A 12month learnership programme commenced in response to the needs identified by Nissan, aligned with the capacitation plan for the production of the new generation pickup truck. Over 157 learners were recruited from previously disadvantaged areas within the City of Tshwane. During the 2014/2015 financial year, a 144 learners successfully completed their learnership and have now been deemed competent.
- **Automotive Incubation Programme**
 - The AIDC provides support in the form of HR, financial and management support to six BEE SMME companies (within the Ford Incubation Centre). Over time the budget which supports this programme will be reduced as the business owners assume more responsibilities for their operations. The six BEE SMME companies have benefited by way of receiving administrative and technical support. Moreover, technical agreements were reached with a Tier 1 company and a secure customer was represented with FMCSA. During the 2014/2015 financial year a total of 74 jobs have been created and 163 people were trained by various training interventions at the Incubation Centre.
- **Supplier Efficiency Programme**
 - AIDC assisted 5 BEE companies to obtain certification for their quality and environmental management systems in June 2013 and again in May 2014. During the current year under review the AIDC EDD focussed on transferring knowledge and ownership of the respective management systems to the BEE business owners. In addition, a total of 20 companies were impacted and a total of 296 individuals were trained.
- **Auto-Sector Skills Development in Dubai**
 - The programme initially aimed to assist a total of 100 female youth trainees from Gauteng that come from a previously disadvantaged background. A total of 21 associates were registered with UNISA to further their studies in Production/Operations and Productivity Management. Of the 21 associates, all received their qualifications, and 19 out of the 21 received two years of work placement experience, with Motherson Sumi Systems Limited.

- **Mentorship Programme for body repair shops and auto mechanics**
 - Only SMME/BEE companies have been included in the mentorship programme. Each company received business and financial management training, while technical training was also offered to allow companies to offer new products, or keep up to date with industry standards. During the 2014/2015 financial year, a total of 20 new mentees joined the program, while 40 existing mentees completed the mentorship programme.

- **Winterveld Enterprise Hub**
 - The Winterveld Enterprise Hub aims to give BEE SMME's access both to higher value vehicle repairs and also for artisans to access employment in the formal sector. During the 2014/2015 financial year, 5 SMME's were enrolled in the upskilling process and a total of 8 jobs were created. The AIDC have established that quotation skills were lacking behind the industry norm, as such a quotation system is being procured to assist the SMME's.

The results from the all the AIDC interventions listed above suggest that the AIDC has made a considerable effort to promote the establishment and ongoing sustainability of BEE SMMEs. As such, the AIDC has been a strong driver for equality in economic opportunity within South Africa.

6. Synopsis and Conclusion

6.1. Synopsis

The 2014/2015 AIDC economic impact assessment (EIA), aimed to determine the socio-economic impact of the various AIDC interventions, upon the province of Gauteng, and South Africa as a whole. The EIA study forms part of National Treasury's prescribed Performance Monitoring Process (PMP), whereby the qualitative and quantitative impacts of the various AIDC interventions have been evaluated and discussed.

The EIA establishes the development context of the South African automotive industry, while highlighting the history and purpose of the AIDC within Gauteng's automotive industry. In particular, the AIDC's strategic objectives and current key project focus areas have been discussed in detail. However, in order to determine the external factors impacting upon the AIDC's strategic direction and long term goals, the EIA has included an analysis of prominent global macroeconomic trends, and their effect upon the local and international automotive industry, (see Annexure 1).

A baseline profile was established in order to quantify the pure economic and the socio-economic aspects of the delineated areas. The pure economic and socio-economic sections, have each included a summary of key findings, relating to the delineated areas. Subsequently, the impact analysis has focused on pure economic aspects such as; production and GDP, and socio-economic aspects such as employed individuals and employment income. Each project was evaluated on its 2014/2015 impact and its previous impact performance. Most differences in quantitative impact were caused by differences in absolute expenditure, although in certain instances, differences were down to the efficiency of expenditure distribution.

The EIA analysis further assessed the various AIDC interventions with regard to their qualitative impacts, and the contribution to BEE SMME business support and development. Qualitative impacts of the projects, and their contribution to the GPG's 10 pillar objectives, as outlined by Premier David Makhura, were evaluated and recorded. The last section of the EIA focuses on the AIDC's impact upon BBBEE employment and training, over the 2014/2015 financial year.

6.2. Conclusion

Through its various interventions the AIDC has managed to have a substantial qualitative and quantitative effect upon automotive industry, within the Gauteng economy. Duly, the 2014/2015 financial year, has seen the AIDC perform admirably in their long term strategic objectives as set out in section 2.1. In this regard, the AIDC has through its various interventions;

- Supported the development of small enterprises in the Gauteng automotive industry.
- Drove the implementation of Broad-Based Black Economic Empowerment (BBBEE)
- Contributed massively to skills development and technology transfer among previously disadvantaged individuals
- Constructed infrastructure platforms, in order provide ongoing support to automotive SMME's.
- Through strategic projects, including the Supplier Efficient Improvement Programme, the AIDC increased the competitive capabilities of Gauteng's automotive suppliers.
- Strengthened partnerships between the Gauteng Government and the private sector.

Indeed, despite the current economic climate, the AIDC managed to accomplish each of its strategic objectives, during the 2014/2015 financial year. Moreover, the consistency and focus of the various AIDC projects have led to an impressive qualitative impact upon BBBEE training and employment. While the increase in total AIDC expenditure, led to a greater quantitative impact upon production, GDP, employment and income. Overall the impact of the AIDC over the 2014/2015 financial year, was consistent with the AIDC mandate and effective in terms of its strategic direction.

The AIDC has successfully achieved its strategic objectives, for the 2014/2015 financial year. The AIDC's combined qualitative and quantitative impacts, according to project closeout reports and the SAM impact evaluation are given below:

- BBBEE Employment: 87
- BBBEE Training: 684
- BBBEE Companies Impacted: 29
- Expenditure Employment Creation: 890
- Expenditure Production Creation: Rm 419
- Expenditure Income Creation: Rm 72
- Expenditure GDP Creation: Rm 157

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8. Annexure 1: Global Economic Trends

The world economy is gradually making a recovery from the 2007 subprime financial crisis. However, despite this, there are still fears over the health of the global economy. Currently there are four major factors shaping the global economic landscape. These factors include:

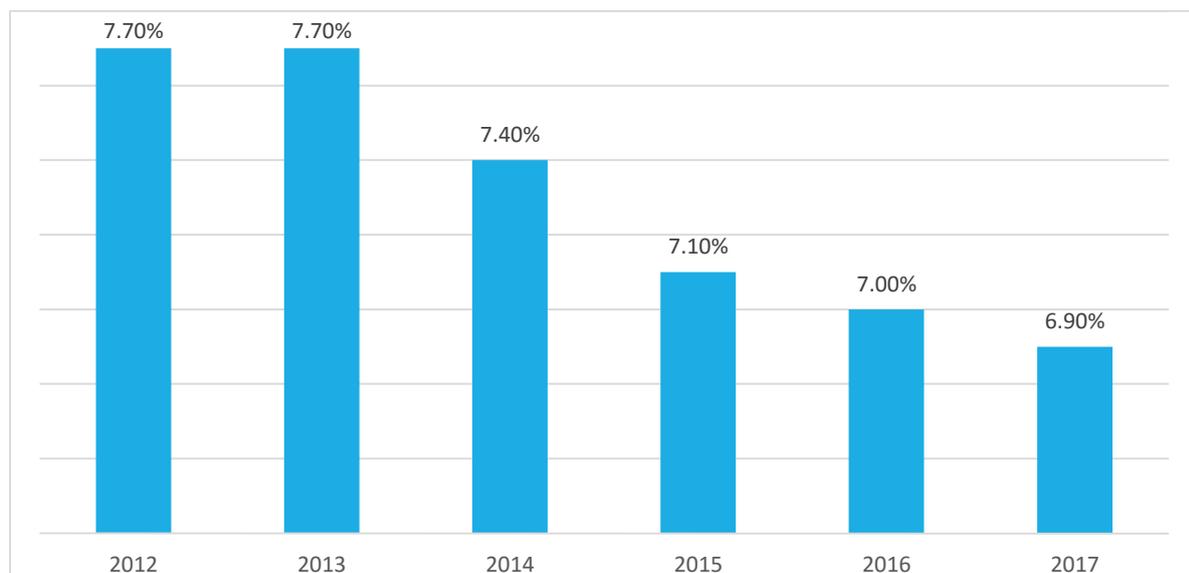
- ***The Slowdown in China's economic growth***
- ***Oil Supply Glut***
- ***The US Federal Bank's Quantitative Tightening Cycle***
- ***Uncertainty in the European Union***

The effect of these factors will be varied across development levels, with the majority of developing nations experiencing tough growth conditions in the short to medium term. The possible impacts of these factors, upon South Africa's automotive sector, have been explained below:

THE SLOWDOWN IN CHINA'S ECONOMIC GROWTH

The Chinese economy has had a growth rate of 10.09% for the last 24 years (The World Bank, 2015). By taking advantage of their seemingly endless domestic demand, China has been able to develop at rapid speeds, in a manner reminiscent of the European industrial revolution. However, since 2010 the Chinese economy has started to cool down to a present GDP growth rate of around 7.1%. Part of the reason for this deceleration of growth is explained by the relatively simple concept of large numbers. Which essentially implies that as an economy gets larger, it becomes increasingly more difficult to receive high returns on investment. This same effect is experienced in stock markets where blue chip stocks are normally out performed on percentage growth by small and mid-capitalization stocks. In China's case, the three factors of long run growth, namely; capital, labour and productivity have all either reached their maximum or are in a period of contraction. China's working age population peaked in 2012, while capital flows in the country have seemed to peak at 49% of GDP, (The Economist, 2015). Furthermore, the technological gap between China and the rest of the world has decreased, which logically has also decreased the rate of productivity improvements. Figure 8-1, below indicates the China's actual and predicted GDP growth from 2012 to 2017.

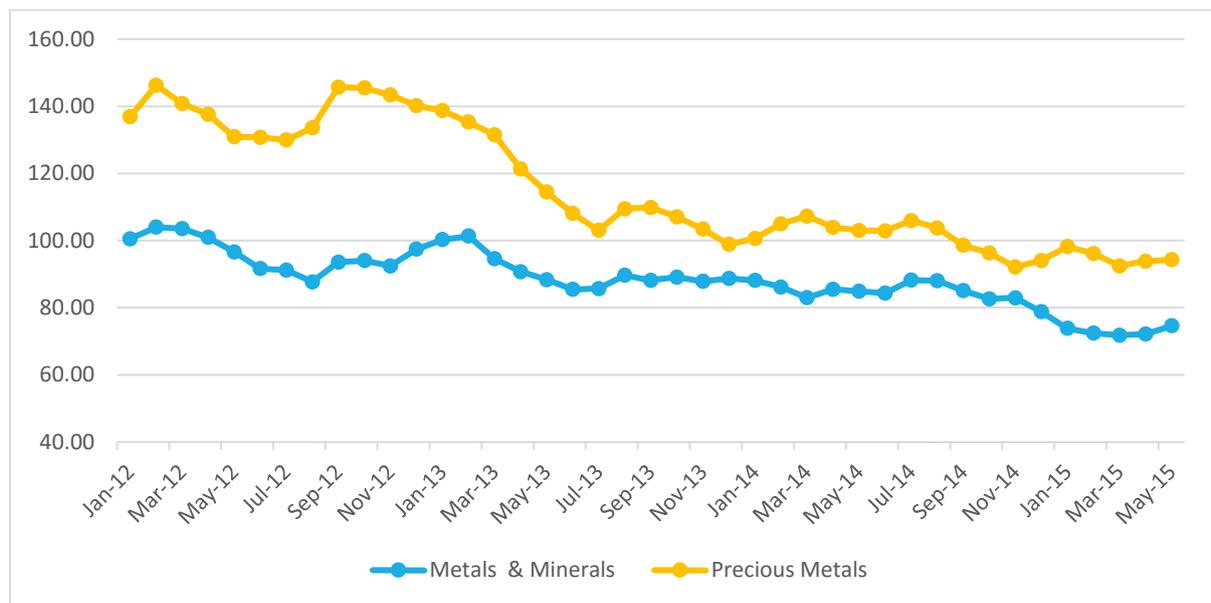
Figure 8-1: Gross Domestic Product (GDP) Growth Rate, China, (2012 - 2017)



Source: (The World Bank, 2015)

As per Figure 8-1, China's GDP growth rate decrease from 7.7% in 2012 to approximately 7.1% in 2015. The World Bank have expected this trend to continue to 2017, where China's GDP growth has been projected to decrease to 6.9%. While this doesn't seem like a significant drop in GDP growth, one has to remember that the sheer size of China's economy, combined with its developmental stage of growth, means that the seemingly negligible 0.8% decrease in GDP growth will have a massive effect worldwide. Commodity markets, which have enjoyed stable, inflated prices, will now face uncertainty and lower margins, of the back of China's lower resource demand. Figure 8-2, below indicates the Metals and Minerals and Precious Metals Index as supplied by the World Bank.

Figure 8-2: The World Bank's Metals & Precious Metal Index, (January 2012 – May 2015)



Source: (The World Bank, 2015)

Per Figure 8-2, the highlighted Metals and Minerals index includes items such as, Aluminium, iron, lead, and nickel, while Precious Metals include consists of Gold, Platinum and Silver. Both index's decrease from the 2012 to the 2015, which is in line with China's GDP trends. This is unsurprising given the high level of commodity demand created by China's developing economy. Noticeably the Precious Metals index decreases from 136.91 to 94.27 (January 2012 – May 2015), which is a significantly greater decrease than the Metals and Minerals index which decreases from 100.50 to 74.60 (January 2012 – May 2015). The difference in the two may be indicative of the higher price elasticity of demand which is generally placed on precious, luxury goods (i.e. jewellery, automobiles etc.). Thus China's continued slowdown will negatively impact metal commodity exporting nations, with particular damage being done to those nations which export large amounts of precious metals.

Automotive Implications

China's economic slowdown will primarily impact commodity exporting nations. In an African sense nations such Botswana, Angola and Zambia rely heavily on China as an export partner, however nations such as Nigeria, Ghana and Kenya should be relatively unscathed, (Minto, 2015). Without the foreign currency inflows, Botswana, Angola and Zambia may feel a slight contraction in new car sales.

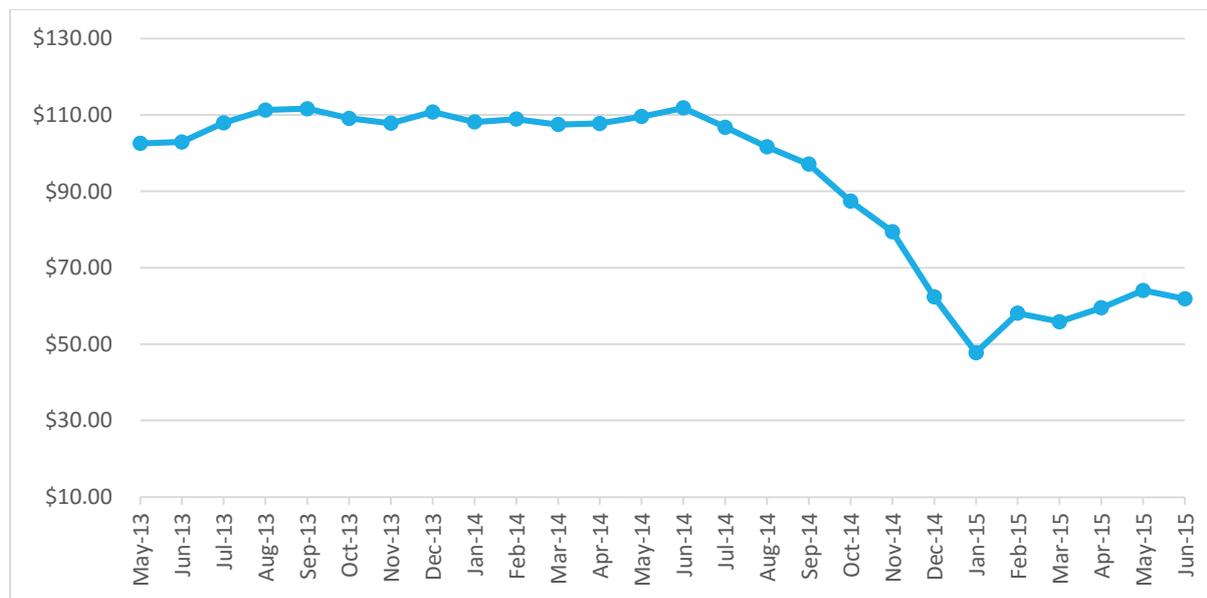
China is South Africa's biggest trade partner, and as such China's economic slowdown will have telling effect upon South Africa's exports. Low demand for South African exports, will negatively impact South Africa's GDP, and will thus put further pressure on South Africa's domestic car sales. Furthermore, a significant number of

South Africa's automotive export partners will also be negatively impacted by the decreased commodity demand, and the slowed foreign exchange inflows. Which many decrease demand for South Africa's automotive exports. Thus China's economic slowdown will indirectly hinder automotive sales both in South Africa and abroad.

OIL SUPPLY GLUT

The emergence of largescale emerging economies, such as India, Brazil and China, resulted in a massive global increase in freight and passenger transport demand, which ultimately led to the record high oil prices experienced in 2008¹⁵. However, the subprime financial crisis of 2007 created massive uncertainty in the health of the global business environment. The effects of which led to a sharp drop in global investment and production levels. Concurrently, the drop off in production led to a severely low oil price of \$33.73 by the end of 2008 (US. Energy Information Administration, 2015). Expansionary fiscal and monetary policies adopted by many governments, helped the global production recover to levels similar to those experienced before the crisis. This in turn caused the price of oil to rise yet again, to what seemed to be a sustainable level of over \$90 a barrel¹⁶. However, the constantly high price of oil, encouraged the exploration of alternative oil production techniques, (i.e. hydraulic fracking). Moreover, the revolutionary Arab Spring that took place from 2010 to 2011, caused fears over global oil security. The confluent effect of these two situations led to an increase of new entrants into the oil production market. Figure 8-3 below, highlights the effect these new entrants had upon the Brent Crude Oil price.

Figure 8-3: Brent Crude Oil Price, (May 2013 – June 2015)



Source: (US. Energy Information Administration, 2015)

As can be seen above, the oil price suffered a dramatic decrease of \$71.04 dollars a barrel from June 2014 to January 2015. The oil price dropped for several reasons firstly the new entrants into the market boosted supply, while war torn regions such as Libya were able to keep a sustainable level of production. China's economic slowdown further increase the oil oversupply and subsequently all these factors caused the oil price to drop.

¹⁵ Brent Crude, \$139.38 a barrel

¹⁶ Brent Crude Oil remained at over \$90.00 a barrel, from 2010 to 2014

Ordinarily OPEC would respond to an oil glut, by reducing their supply levels, in order to keep oil prices artificially high. However, in this case OPEC opted to keep production their production levels constant, banking that the sustained lower oil price would force new entrants out of oil production market, due to their higher costs of production. The oil price will continue at low levels for as long as OPEC continues their aggressive overproduction approach, and/or demand for oil remains low.

Assuming that an oil glut is sustainable, the effects of the low oil price will be twofold. On The one hand nations that are traditional oil exporters will have experienced a sharp decrease in revenue. This will mostly effect nations that have an unhealthy dependency on oil exports, these would include; Russia, Iraq, Nigeria and Venezuela (Northam, 2015). However, for net oil importers the picture is far rosier. Developing nations such as China and India should all benefit from the lower oil price with lower inflation, budget and trade deficits levels (The Economist, 2015).

Automotive Implications

The impact of a lower oil price will impact the African automotive industry in different ways. Large net oil exporters, such as Equatorial Guinea, Nigeria and Angola will be negatively affected by the decreased oil price. However large net oil importers, such as South Africa, Kenya and Tanzania will be positively affected by the decrease oil price. Hence net importing nations can expect to see a greater expenditure on vehicles, as disposable incomes increase, while net exporters may experience a decrease in vehicle sales, as foreign currency inflows decrease.

Furthermore, bar the net oil exporting nations, the lower oil price should stimulate the economies of Africa most nations, (i.e. the low oil price should have a similar effect to monetary stimulus). The increased economic activity will further increase demand for new vehicle purchases.

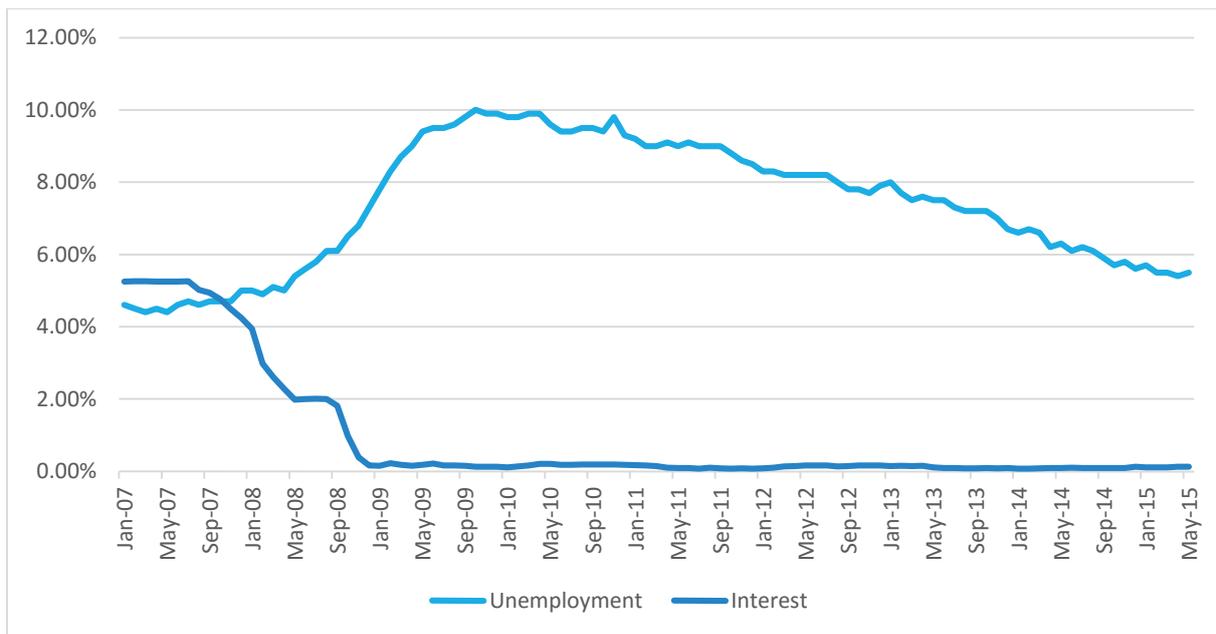
With regards to the South African automotive industry, the low oil price will:

- Positively simulate the economy, and hence stimulate domestic automotive demand.
- Increase global demand for vehicles, and hence increase demand for South Africa's automotive exports to nations such as Namibia, Germany and the United States of America.

THE US FEDERAL BANK'S QUANTITATIVE TIGHTENING CYCLE

The United States of America economy currently contributes an estimated 24.31% to the nominal GDP of the world, (International Monetary Fund, 2015). Hence impacts that occur within the US have a knock-on effect worldwide. In this way the USA acts as a leader economy, which is often analysed to determine which direction global economic growth is trending. Figure 8-4, below highlights the unemployment rate present in the USA between January 2008 and May 2015.

Figure 8-4: US Unemployment & National Interest Rate, (January 2007 – May 2015)



Source: (US Bureau of Labor Statistics, 2015); (US Federal Reserve Bank, 2015)

As can be seen above in Figure 8-4, the US economy suffered a large increase in unemployment rates following the 2007 sub-prime financial crisis. Indeed, from January 2007 to October 2009 the unemployment rate increased by around 5%. In order to correct this decrease and stimulate the investment, the US Federal Reserve Bank conducted open market operations, (OMO's) to lower the national effective interest rate from 5.25% in January 2007 to 0.16% in December 2008, (i.e. quantitative easing). However now that the US unemployment rate has recovered to around 5.5% there is an expectation that the US will begin increasing their effective interest rate (i.e. quantitative tightening). Nonetheless while an interest rate hike is likely, persistently low US inflation levels and uncertainty in the European Union, may encourage authorities to delay an interest adjustment well into 2016.

A US interest rate change will affect both high income and developing nations, however there is an expectation that developing nations will be more severely affected as investors look to more established markets for stable returns, (higher return/risk ratio). In order to counteract the capital flight that may occur, developing nations will have to accordingly increase their own effective interest rate. Thus, as the US Federal Reserve Bank proceeds onto its quantitative tightening cycle, there will be a negative impact upon investment and growth levels worldwide, specifically in developing nations.

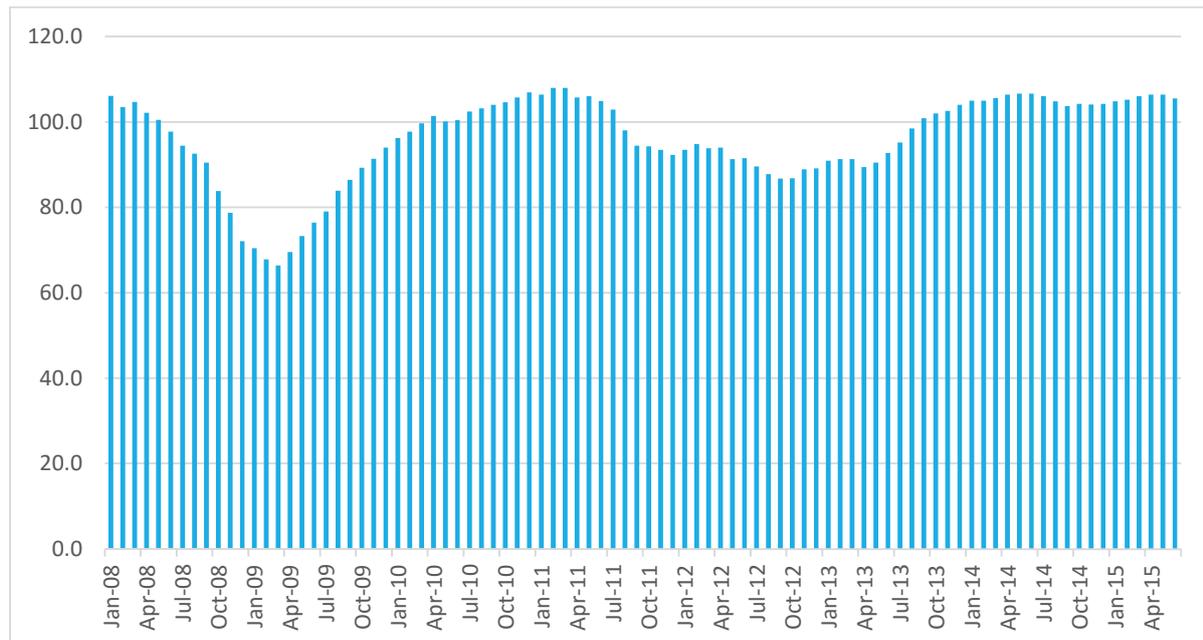
Automotive Implications

Higher US interest rates, will in turn lead to interest rates in developing nations. The contracting monetary climate in developing nations will negatively impact investment expenditure, consumer purchasing power and economic growth. While these factors will not stop growth rates entirely, they will mitigate the demand for luxury goods transport goods. As such the demand for new vehicles in South Africa and other developing nations, will be put under pressure, as consumers increasingly seek more price sensitive options.

UNCERTAINTY IN THE EUROPEAN UNION

The European Union has struggled to regain their strong growth levels as experienced before the subprime crisis, and had a growth rate of around 0.85% from 2010 – 2013. Part of the weak performance of the EU is due to the uncertainty surrounding debt repayments by certain member states, including; Portugal, Spain and Greece. Moreover, this uncertainty has manifested itself in business confidence levels, which has deterred investment expenditure. Figure 8-5 below, indicates the EU Business Sentiment (EBS) index from January 2008 to May 2015.

Figure 8-5: European Union Business Sentiment Index, (2008 – 2015)



Source: (European Commission, 2015)

As can be seen in Figure 8-5 above, following the sub-prime crisis the EBS index had fallen to 66.4, by March 2009, which was indicative of extremely low business confidence. However, even with gradual economic recovery, the EU has not recovered to its pre-crisis growth rates. Rather the EU has continued to struggle with oscillating confidence levels and low investment expenditure. These issues have both reinforced each other and have stagnated economic recovery. Thus, despite having an effectively negative interest rate, the European economy is still struggling to overcome its chronic demand deficiency.

Automotive Implications

A demand deficient European economy, will decrease Europe's demand for imports, which may in turn cause a supply glut among Europe's main trade partners. As the European Union is one of South Africa's biggest trade partners, a struggling Europe will decrease demand for South African products. Thus, *ceteris paribus*¹⁷, a decrease in European demand will lead to a decrease in South African automotive exports to Europe.

Moreover, Europe's low business confidence, has a wide reaching impact on the developing world. Low confidence in an economic recovery, and increased fears over sovereign debt defaults, have led Europe's risk

¹⁷ Latin phrase meaning, "all other things being equal" (Oxford Dictionaries, 2015).

sensitive investors to seek more established markets¹⁸. This, may cause a repatriation of European investment into South African markets. The effect of which will lead to lower levels of investment and growth, as well as a higher exchange rate. Whereby, higher interest rates and a low growth environment may lead to a further decrease in domestic new vehicle sales.

In the long run a weaker Rand is expected to increase demand for South African exports. As such, although the weaker Rand may initially hurt South Africa's domestic automotive sales, it will increase demand for South Africa's automotive exports in the long run.

¹⁸ As Europe's risk profile increases, investors have to reinvest their traditional risk based assets, in countries such as South Africa, into national which appear to have lower risk, (i.e. United States)