An assessment of factors influencing the valuation of retail petroleum companies

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ABSTRACT

The valuation of a firm differs from stakeholder to stakeholder. The valuation method and outcome of an economist, accountant, investor and owner will differ. Valuations are based on either historical data or forecasts made from historical data and do not contain a comprehensive set of elements other than financial factors to evaluate a company. The current climate in which the retail petroleum companies operate is highly competitive and is regulated by certain laws and regulatory organisations. As this sector is so competitive retail companies change hands quite a lot either through buy and sell transactions, registering of new sites by franchising or white sites. Because of this the need arose to do an evaluation on the valuation factors of these companies. Retail petroleum companies are very specialised and therefore other non-financial factors may have just as much influence on the valuation as financial factors.

This paper sets a framework to incorporate non-financial factors such as strategic and operational factors into the valuation of retail petroleum companies to deliver a more compressive valuation outcome.

Numerous studies were done on either the petroleum industry or specific companies within the industry and their valuations, but a gap in the literature existed on the crucial factors influencing retail petroleum companies. A similar framework was developed by Cassone in 2005 but for production companies in the United States. This study provides a step by step framework to managers and valuators of retail petroleum companies to include non-financial factors into the valuation process.

This study consists of 5 chapters. Chapter 1 provides the nature and the scope of the study as well as the research problem and objectives. Chapters 2 and 3 provide a literature review on the retail petroleum industry in South Africa, valuation and lastly assess both financial and non-financial factors that may influence the valuation outcome. Chapter 4 entails a content analysis and provides steps to the new framework for

valuations based on the discounted cash flow model and lastly Chapter 5 includes a summary of the study and recommendations for future research.

KEYWORDS:

Business valuation, key factors, petroleum retail, fuel price, white sites, valuation approach, valuation framework

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LANGUAGE EDITING

15 November 2017

RE: CONFIRMATION OF LANGUAGE EDITING

I, A Geldenhuys, hereby confirm that the language editing of "*An assessment of factors influencing the valuation of retail petroleum companies*" by S Smith (21157154) was done by myself.

For any further queries please feel free to contact me.

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Kind regards

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ABBREVIATIONS

AMEF	African Mineral and Energy Forum
B-BBEE	Broad-Based Black Economic Empowerment
BFP	Basic Fuel Price
BP	British Petroleum
CEE	Capital Employed Efficiency
CEF	Central Energy Fund
DME	Department of Minerals and Energy Resources
DOE	Department of Energy
EBIT	Earnings before interest and taxes
FCF	Free Cash Flow
FOB	Free On Board
FRA	Fuel Retailer Association of Southern Africa
HCE	Human Capital Efficiency
IBLC	In Bond Landed Cost
IEA	International Energy Agency
IFRS	International Financial Reporting Standards
IP	Illuminated Paraffin
KPI	Key Performance Indicator

NPASA	National Ports Authority of South Afi\rica
OPEC	Organisation of Petroleum Exporting Countries
PASA	Petroleum Agency of South Africa
PETROSA	Petroleum Oil and Gas Corporation of South Africa
PPI	Producer Price Index
PPM	Parts Per Million
RAF	Road Accident Fund
SAFDA	South African Fuel Dealers' Association
SARS	South African Revenue Services
SCE	Structural Capital Efficiency
SFF	Strategic Fuel Fund
TFN	Truck Fuel Net
ULP	Unleaded Premium
USD	United States Dollar
VAIC	Value Added Intellectual Coefficient
WACC	Weighted Average Cost of Capital
WPC	World Petroleum Council
ZAR	South African Rand

CHAPTER 1: NATURE AND SCOPE OF THE STUDY

1.1 Introduction

The retail petroleum industry is a highly competitive industry and therefore the main focus shifted to generating optimal profits and creating wealth for the involved stakeholders (Van Eeden, 2005:1). There is currently a very high number of role players in the market which leads to a lot of retail petroleum companies changing hands due to a suppliers' price war in the market. In order for companies to evaluate their ability to create growth and value, it is no longer sufficient for companies to measure their growth and value creation using basic and accounting orientated performance indicators (KPI's) such as growth in sales, net profit and net asset value (Cassone, 2005:1). Owners and management of companies need a more comprehensive valuation of companies to indicate their true value. As the accounting oriented KPI's are no longer sufficient as a measure of value of the company on their own, more emphasis is placed on triple bottom line reporting and Broad-Based Black Economic Empowerment (B-BBEE) compliance in South Africa (Ntim, 2015:8). These two factors add to the value creation and market value of the company as stated by Ntim, (2015:4). A formal process of business valuation is therefore required by the companies to determine a reasonable value of their business (Modica, 2006:187).

In order to establish a reasonable value for these companies' in the process of general management, measuring the true growth or value of a business, business valuations are of the utmost importance. According to Stanvliet (2012:1) the need for business valuations arise as a result of buy-sell transactions, litigation claims, taxation calculations and the measuring of company value to name but a few. There are currently a few valuation methods available when determining the value of a company, however these methods mainly focus on the financial and monetary information of a company to determine the value and not on other non-financial factors (Cassone, 2005:2).

1.2 Problem statement

There are many other factors that may influence the valuation of companies that are not financial or monetary of nature but rather strategic and operational in nature (Cassone, 2005:1). These non-financial factors may influence the value of a company in a very competitive industry such as the retail petroleum industry and this need to be considered in the valuation process. By including these strategic and operational factors into the valuation framework it will enable owners and managers of retail petroleum companies to make a more comprehensive and accurate informed decision based on industry specific factors influencing valuations. By analysing a company's strengths and opportunities within the market, critical information can be obtained about the future value of the entity.

Some of the non-financial factors that will be researched and assessed within the industry will include but is not limited to:

- Ownership,
- B-BBEE scorecard and compliance,
- Key persons,
- Leadership and management,
- Client base and loyalty,
- Client service,
- Product quality and availability,
- Purchase and supply agreements,
- Key strategic partnerships and alliances,
- Intellectual capital.

To incorporate these factors into an industry specific valuation framework, new methodologies and valuation processes are required. In order to incorporate these factors into a new valuation framework, the valuation methods available was researched and assessed to identify possible areas of improvements and adjustments to account for the non-financial factors.

From above it can be determined that there is a need for an industry specific valuation framework for the retail petroleum industry.

1.3 Objectives

The outcome of this study will be led by a primary as well as secondary objectives.

1.3.1 Primary objective

The establishment of a valuation framework based on critical factors influencing the value of retail petroleum companies.

1.3.2 Secondary objectives

The secondary objectives of this research study were to:

- Determine which critical factors are industry specific.
- Determine the reliability of these critical factors.
- Determine the measurability of these critical factors.
- Draw conclusions on these factors.

1.4 Research questions

The purpose of this study is to research and determine the critical financial and non-financial factors influencing the business valuation of petroleum retail companies in South Africa and the effect that these factors have on the valuation models and valuation of such companies. The research questions asked to determine the above mentioned are as follows:

- How do factors influencing business valuations differ from industry to industry?
- Which of these factors are critical to the retail petroleum industry?
- What are the critical financial and non-financial factors influencing the business valuation of petroleum retail companies in South Africa?
- How do these critical factors influence the valuation of petroleum retail companies?
- What are the current valuation models/methods available for business valuations?
- Which valuation model/method is most suitable for the petroleum retail industry?
- How does this model/method need to be adjusted to account for industry specific critical factors identified?

1.5 Research methodology

In order for the researcher to achieve the objective set out above, an empirical investigation and literature review will be done.

1.5.1 Literature review

The literature review conducted will study the theoretical aspects of the factors influencing business valuations as well as the models and methods available to conduct business valuations. These theoretical aspects will be obtained and compared from published academic journals to ensure reliability of information gathered. Key words used and for the gathering of information were “business valuation”, “valuation models” “petroleum industry”, and “valuations”.

1.5.2 Empirical investigation

This research study made use of a literature review and empirical study to gather information. The empirical study consisting of qualitative content analysis will be done.

The empirical study will include the analysis and assessment of factors that influence the valuation of companies in general and through the assessment determining factors which are critical in the establishment of an industry specific valuation framework. These critical factors will then be analysed in the established framework for valuations of retail petroleum companies by using the financial and non-financial factors of a specific company within the industry.

1.6 Expected contribution of the study

There are numerous studies and research available on the factors influencing the valuation of businesses in general as well as on the relevant models used to perform business valuations. The factors included in these studies performed on business valuation are mainly based on financial factors. The petroleum industry is a specialised and unique industry and therefore this study is specifically aimed to investigate the specific factors influencing the valuation of retail petroleum companies. Furthermore, this study is aimed to establish a valuation framework and to test and evaluate the critical factors identified on a valuation model for retail petroleum companies.

1.6.1 Contributions to organisations

The establishment of a valuation framework based on critical factors influencing the value of retail petroleum companies should serve as a basis for owners of retail petroleum companies in determining a reasonably fair value for their organisation when decisions on mergers, acquisitions and selling of petroleum retail companies are made. This framework and factors influencing the value could also contribute in the valuation of such companies by financial institutions, auditors, business valuators and consul-tants.

1.6.2 Contributions to literature

The establishment of a sector specific valuation framework should contribute to the current literature to provide academics with sufficient literature to conduct industry specific company valuations.

1.7 Limitations of the research

The retail petroleum industry is a highly competitive industry in South Africa with a lot of different key role players in the market. With the competitive nature of this specific industry, owners of such companies are very secretive about their companies in general, as well as the factors that contribute towards their successes and downfalls. The competitive and secretive nature of the industry, along with the absence of a public platform where these companies are required to report or disclose their information, could result in an inaccurate or a complete absence of quantitative figures in the study. The full reliability and accurateness of the outcomes of valuations are extremely dependent on the assumptions made by the valuator.

1.8 Layout of the study

The layout of this study will consist of five chapters in total and will contain the following:

CHAPTER 1: NATURE AND SCOPE OF THE STUDY

Chapter 1 will serve as the introduction chapter of the mini-dissertation. The background on valuations will be discussed along with the need for industry specific valuation factors and models. This chapter will also contain the problem statement, research objectives and the research methodology.

CHAPTER 2: PETROLEUM RETAIL OUTLETS AND VALUATIONS

Chapter 2 contain the review of literature on the retail petroleum industry, factors influencing business valuations and valuation models. The literature review will focus on current business valuation literature and the integration thereof in business practices.

CHAPTER 3: CRITICAL FACTORS INFLUENCING VALUATION

In chapter 3, the critical factors influencing valuations of retail petroleum companies are identified and the impact of these factors is discussed based on results obtained from qualitative research methods.

CHAPTER 4: EFFECTS OF CRITICAL FACTORS ON THE VALUATION OUTCOMES

In chapter 4, the results of the empirical study evaluate the effect the critical factors, identified in chapter 3, has on the valuation model of petroleum retail companies.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

This chapter concludes the study with a review of findings based on set out objectives in chapter 1 and recommendations for future research.

CHAPTER 2: PETROLEUM RETAIL OUTLETS AND VALUATIONS

2.1 Chapter introduction

The purpose of this chapter is to give and overview of the retail petroleum industry and to assess business valuations and the different approaches available for business valuations. This chapter consists of a literature review and assessment of a wide and comprehensive range of published research of valuation methods and factors influencing the valuation methods.

2.2 The retail petroleum industry

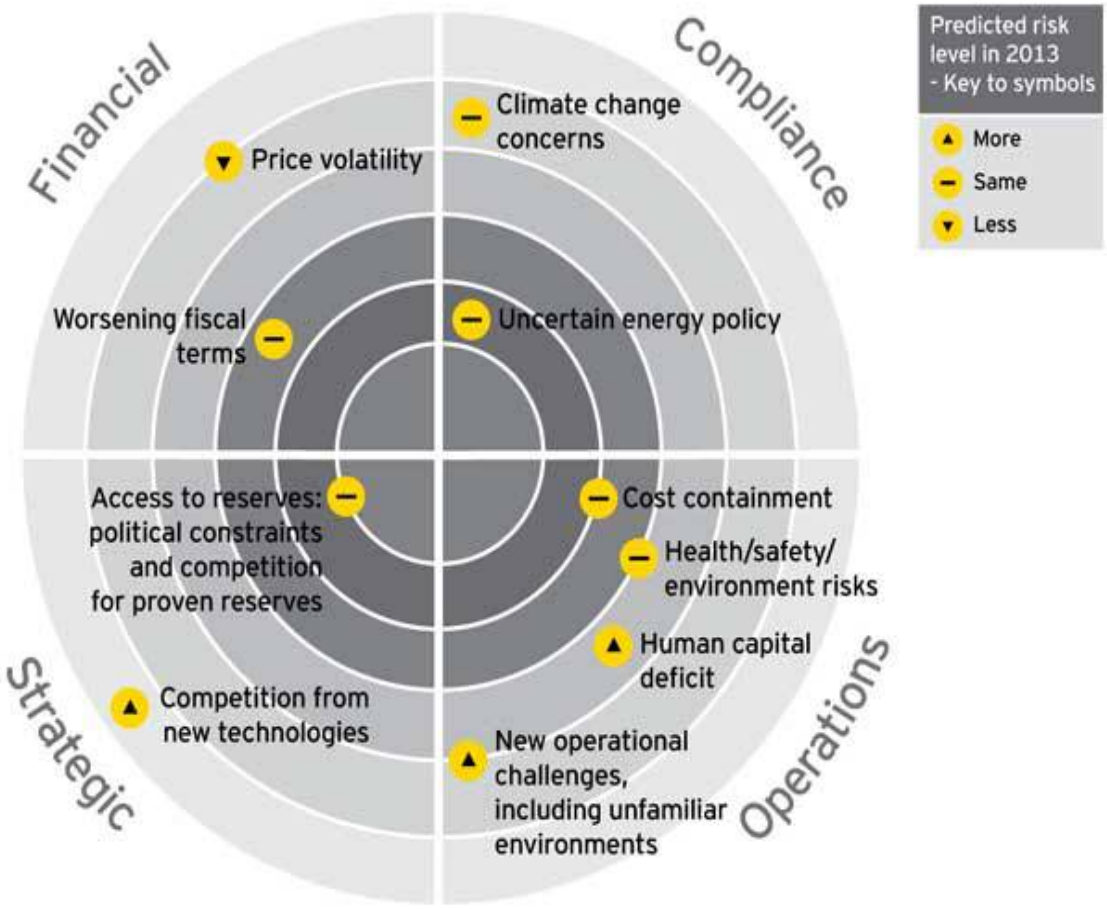
The retail petroleum industry is a specialised and competitive industry not only in South Africa but worldwide. The success and failure in this industry is based on the ability to make operational and strategic decisions.

2.2.1 Introduction to the petroleum industry

The growth of the internet and globalisation over the last decade led to a major expansion in all economic sectors and thus leading to more competition in all sectors including the retail petroleum industry (Cebanov & Mattsson, 2014:1). As the petroleum industry is such a specialised industry, there are many factors influencing not only the valuation of such companies but also the day to day operations and decision making by managers. The petroleum industry consists of unique factors and characteristics that sets valuations and operations within this industry apart from other industries (Cebanov & Mattsson, 2014:2, Bhaskaran & K Sukumarna, 2016: 91). These factors are illustrated in Figure 1 and include but are not limited to availability, exploration and production of fossil fuels, economic growth, price volatility, energy policies, oil prices, exchange rates competition, technological advances, human capital deficit, cost containment, health, safety and

environmental risks, buying power and the availability of reserves and capital (Cebanov & Mattsson, 2014:2, Bhaskaran & K Sukumarna, 2016: 92, F Aliyeva, 2012, J.L Smith, 2005:53-54).

Figure 1: Business risks for oil and gas companies



Source: F Aliyeva, (2012)

According to Lenzner, (2012) oil is one of the most prominent factors influencing the stock exchange, producers, wholesale and retail suppliers, consumers, financial investors, traders and hedge funds. The main oil companies operating in South Africa (excluding

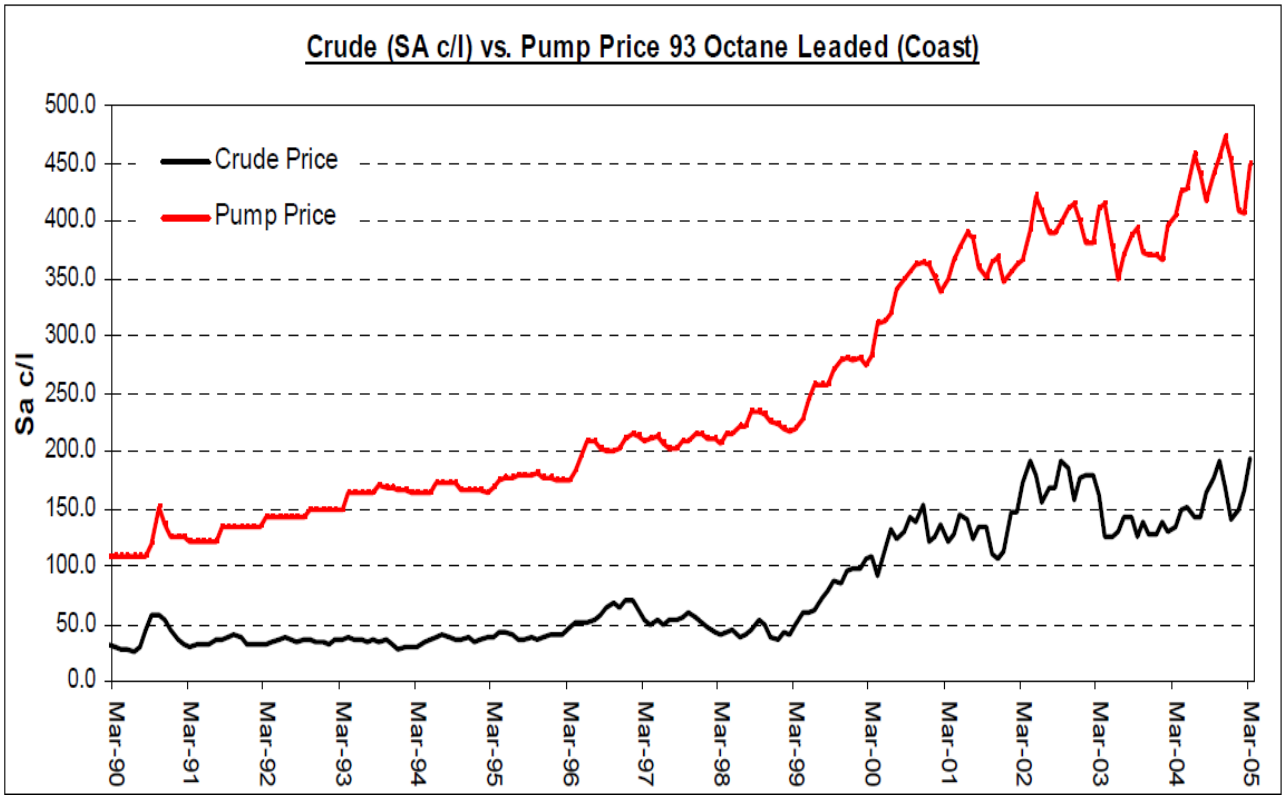
“white sites and smaller private wholesalers) are SASOL, Total, British Petroleum (BP), Shell, Chevron, PetroSA, Engen and Afric Oil (SAPIA, 2017).

The petroleum sector is dependent not only on the amount of oil produced but also on how many reserves are extracted. According to Cebanov and Mattsson, (2014:1) renewable energy growth has an effect on the value of individual retail petroleum companies as it is a threating substitute product.

The retail petroleum company is highly competitive and regulated and trades mainly in diesel (500 ppm, 50ppm and 10ppm), petrol (ULP 93 and ULP 95), illuminated paraffin (IP) and lubricants by way of filling stations. The selling price of petrol is regulated by government where the selling price of diesel is dependent on the buying power of each company as well as the competition in the specific area in which it trades. The fuel industry in South Africa is divided into specific zones (Appendix A and B) from which a base price (grid price) and pump price is determined.

Petrol prices in the retail industry is fixed and regulated by the Central Energy Fund on behalf of the Department of Minerals and Energy on a monthly basis. South African refineries are price takers as the BFP (internationally linked) is used to determine retail prices for petrol and recommended wholesale and retail prices for diesel. This results in South African refineries having to compete with international refineries which do not have to adhere to such strict and costly labour laws. Even though supply and demand has an influence on the retail prices, the crude oil prices affects the petrol prices substantially. The petrol and crude oil prices have a direct influence on one another as seen in Figure 2, as crude oil is international refineries’ biggest input costs and the crude oil is USD based, thus a weakening of the ZAR will result in an increase of the South African petroleum prices.

Figure 2: Crude price c/p vs. Pump Price c/l



Source: Department of Energy, (2007)

2.2.2 Regulation and laws in the petroleum industry

The petroleum industry in South Africa is governed and regulated by law. These regulations which control retail petrol prices differ from the deregulated environment in which Western countries trade (Matsho, 2010:38). Barriers of entry to market and competition is extremely high, therefore the need for regulation and laws.

The most common acts regulating the industry are as follows:

- Petroleum Products Act of 1977,
- Central Energy Fund Act of 1977,
- Customs and Excise Act of 1964

- Mineral and Petroleum Resources Development Act, No 28 of 2002,
- National Energy Act, 2008 ,
- National Environmental Management Act, 1999,
- Petroleum Pipelines Act, 2003 and
- Petroleum Pipelines Levies Act.

International governing organisations involved in the petroleum industry:

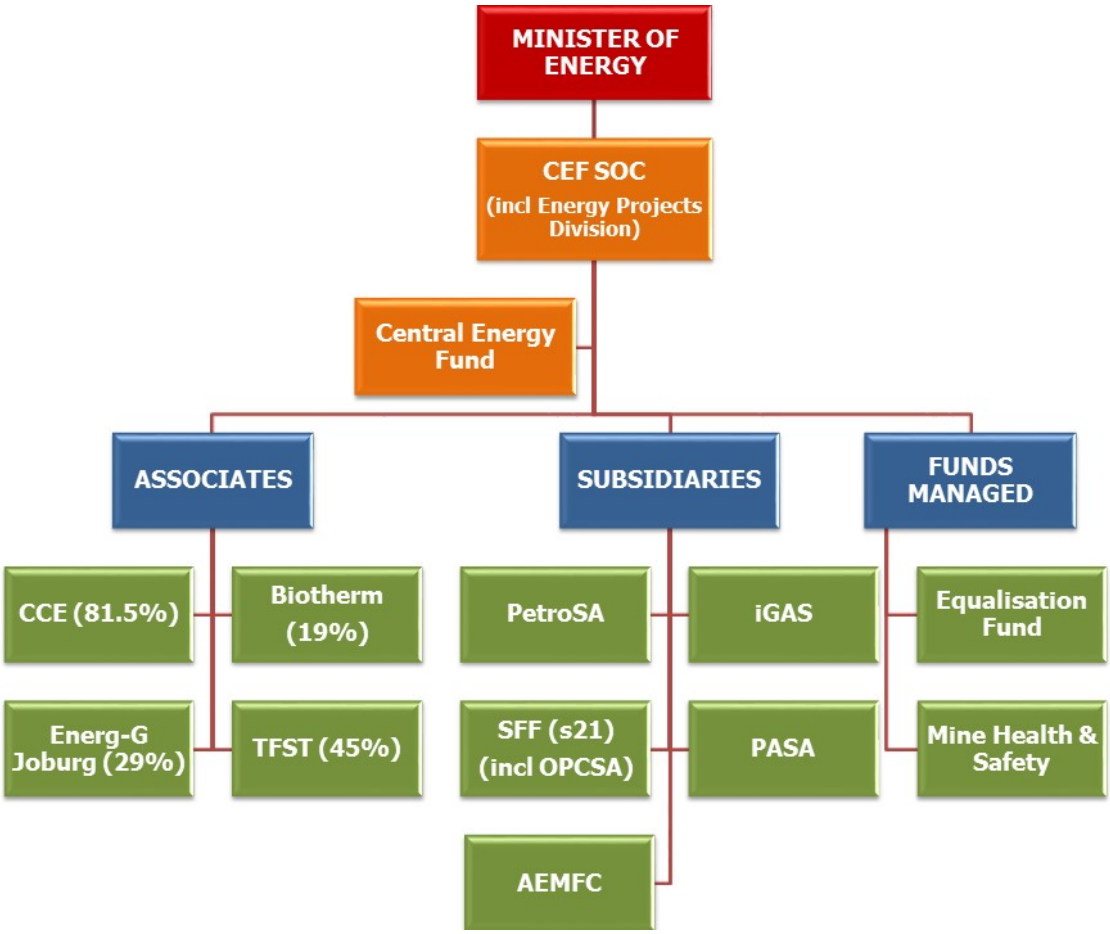
- Organisation of Petroleum Exporting Countries (OPEC) – The main objective of OPEC is to unify petroleum policies and to ensure stability to the oil market (OPEC mission) (OPEC, 2017).
- International Energy Agency (IEA) – The main focus of the IEA is energy security, economic development, environmental awareness and engagement worldwide by ensuring reliable, clean energy. South Africa is not currently a member but countries from which imports are done forms part of the IEA (IEA. 2017).
- World Petroleum Council (WPC) – The WPC is a non-political, non-advocacy organisation promoting the sustainable management of the usage of petroleum resources worldwide.

National governing organisations involved in the petroleum industry:

- Central Energy Fund (Pty) Ltd (CEF) – The mission and vision of the CEF entails the financing, development and implementation of sustainable energy within Africa. As seen in Figure 3, PetroSA, PASA, SSF forms part of the CEF structure. These organisations aim to effectively develop oil and petroleum resources in South Africa and promote the exploration of natural oil and manage crude oil trading and storage (CEF, 2017).
- South African Petroleum Industry Association (SAPIA) – SAPIA aims to promote the petroleum industry in South Africa by adding value to industry as well as insuring economic growth (SAPIA, 2017).

- Fuel Retailer Association Of Southern Africa (FRA) – The association aims to monitor and govern all aspects of fuel distribution and sales in South Africa (FRA. 2017).
- South African Fuel Dealers' Association (SAFDA) – The main aim of SAFDA is to act as a liaison for new and existing retailers in South Africa for legal, pricing, labour, supply and B-BBEE requirements (SAFDA, 2017).
- National Ports Authority of South Africa – Regulates and determines the cargo margin payable for the import of petroleum products.

Figure 3: Group structure of CEF



Source: SAPIA, (2017)

2.2.3 Fuel price structure

Petroleum prices are calculated based on international and domestic elements.

The first element, the international element, is known as the Basic Fuel Price (BFP). (Department of Energy, 2017). In the early 1950's the first South African refinery was established and with this came the "In Bond Landed Cost" (IBLC). The BFP replace the IBLC in 2003 as the IBLC lost credibility as it could not track the international market on a consistent basis. The BFP formula is used to calculate the most realistic price for which a South African importer can import a liter of fuel with similar quality from an international refinery on a sustainable basis. The BFP is revised on every first Wednesday of the month based on previous month's exchange rate fluctuations and international price movements. The price fluctuations for 2017 are reflected in Table 1.

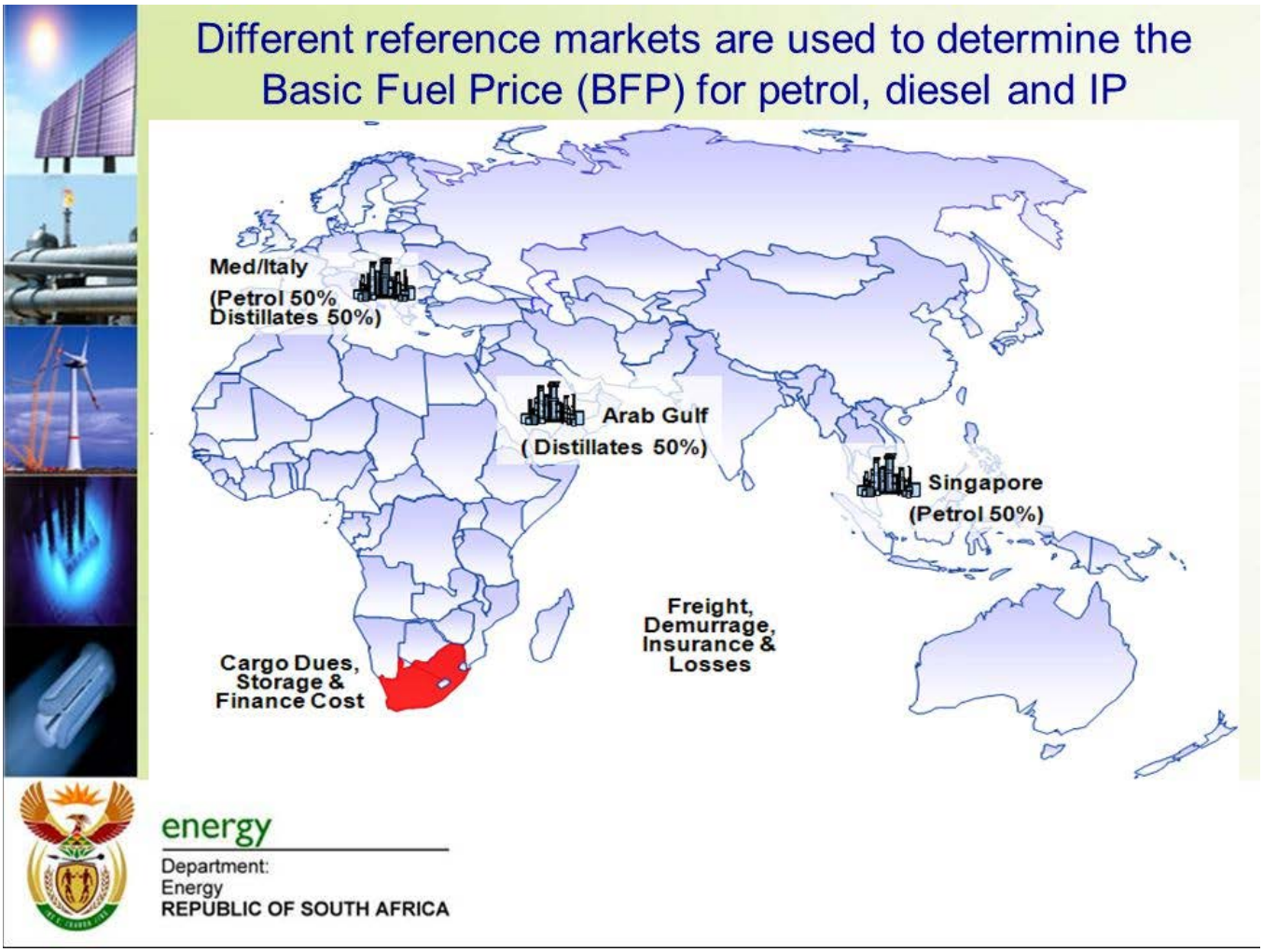
Table 1: Basic fuel price for 2017

	BASIC FUEL PRICE							
2017 RSA c/litre	Petrol 93 Unleaded	Petrol 95 Unleaded	Diesel 0.05% Sulphur	Diesel 0.005% sulphur	Illum Paraffin	Maximum Refinery gate price (MRGP)	Exchange Rate Rand/US$	Average Dated Brent Crude
JAN	577.870	591.870	569.630	572.030	574.128	772.323	13.8687	53.45
FEB	606.870	620.870	590.630	593.030	591.128	788.416	13.5813	54.61
MAR	598.870	612.870	588.630	591.030	583.128	786.821	13.2899	54.99
APR	536.670	548.670	538.630	541.030	531.128	709.771	12.9148	51.52
MAY	585.670	597.670	568.630	573.030	565.128	782.495	13.5105	53.21
JUN	560.670	572.670	545.630	550.030	543.128	723.884	13.2587	50.06
JUL	491.670	504.670	485.630	490.030	486.128	654.229	12.8756	46.48
AUG	510.670	523.670	514.630	520.030	512.128	6 84.649	13.1500	48.23
SEP	573.070	586.070	558.630	564.030	561.128	750.192	13.2152	51.66
OCT	598.070	615.070	600.630	606.630	600.128	779.684	13.1317	55.99
NOV	602.070	619.070	623.630	633.030	621.128	792.428	13.6210	56.86
DEC								

Source: Department of energy, (2017)

Elements that affect the BFP is shown in Figure 4 and include elements a-g discussed below:

Figure 4: Different reference markets used to determine the BFP



Source: Department of Energy, (2017)

a) International market spot prices

The component that has the most influence on the BFP is the price that a South African importer would pay for importing physical product on international markets. The FOB prices differ as the product quality and availability from different locations worldwide has an influence on these prices. The FOB price of petrol is calculated

as 50% of the Singapore spot, 95 octane unleaded petrol and 50% of the spot price for premium unleaded petrol from the Mediterranean. The FOB price of diesel is calculated as the quoted spot price market premiums, plus 50% of the price of Mediterranean gas oil and 50% of the price of Arab Gulf gas oil.

b) Freight costs

Costs for freight are published by the World Scale Association. These costs include the transportation of refined petroleum products to the South African coastal ports from the Mediterranean, Singapore and the Arab Gulf in a 50:50 ratio. Also included in freight costs is 15% premium for the transportation of fuels.

c) Insurance costs

Include in the BFP is insurance costs equal to 0.15% of the FOB and freight costs of importing fuel.

d) Cargo dues

This cost is calculated in terms of ruling National Ports Authority of South Africa. This is a contract tariff for petroleum and related products ranging between R18-R19 per kiloliter for the 2017 calendar year (NPASA, 2017.)

e) Coastal storage

This cost is included in the BFP, which include costs for handling and storage facilities at the coastal terminals and is escalated annually in June based on the movement of the producers price index (PPI).

f) Ocean loss allowances

The generally accepted percentage of normal evaporation and leakage loss is 0.3% of petroleum products, shipping and insurance costs. These losses cannot be insured against and is absorbed financially by the buyer.

g) Lastly included in the BFP is a finance charge of 2 percentage points below the prime rate of Standard Bank of South Africa for financing 25 days stock.

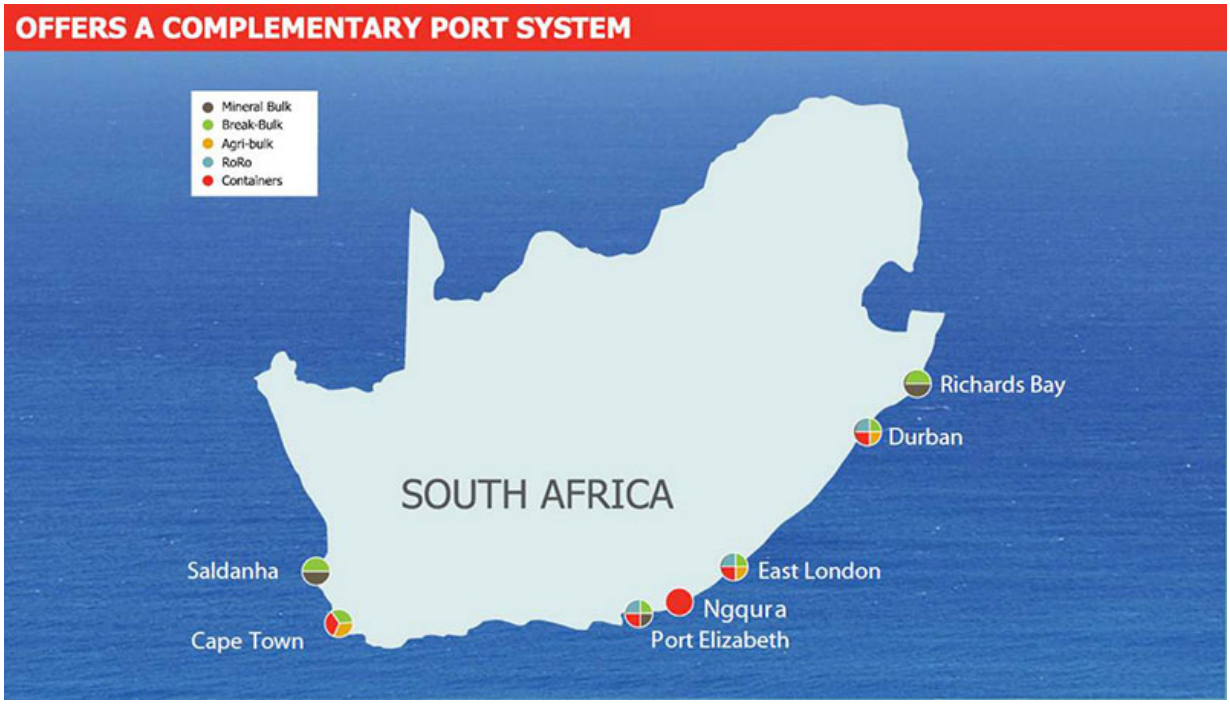
In conclusion the BFP is calculated by considering the above mentioned elements and converting it to South African cents per liter according to the ZAR/USD exchange rate.

The second element, namely domestic elements, are considered to arrive at a final pump and grid price for petroleum product in each different pricing zone (Appendix A). The following are elements that influence the domestic wholesale and retail prices of petroleum products:

a) Cost of transportation

Transportation costs recover the cost of transporting these products from the nearest coastal harbor to the specific inland depot for serving a specific zone. The major ports used for shipping of petroleum products are Cape Town, East London, Port Elizabeth and Durban as seen in Figure 5. The most economical way of transport to a specific pricing zone from the ports are used: Zone A use mainly railroads, Zone B use mainly roads and Zone C use mainly pipelines for transportation. This element is the most influential in the determining of petroleum prices and explains why regulated petrol prices differ throughout the country. This cost is also known as the “zone differential”.

Figure 5: Port map of South Africa



Source: Transnet, (2015)

b) Delivery costs

Delivery costs or service differentials absorbs the actual costs of storage and handling at the different depots and includes the costs of distribution to the end users at either retailers or other wholesalers. Within South Africa there are a number of refineries as indicated in Figure 6.

Figure 6: South African Refineries

Source: SAPIA, (2017)

c) Wholesale margin

The costs associated with this element are paid to oil companies for usage of their branded pumps through which products are sold and is regulated by government. The wholesale margin is calculated by a chartered accountancy firm through a thorough cost and financial investigation into the profitability of wholesales. The margin is calculated on an industry wide level and is not entity specific. The norm for return on investment of wholesales is 15% before interest and taxes.

d) Retail margin

The Department of Minerals and Energy (DME) determines this fixed margin on the basis of actual costs incurred for the distribution of fuel by a filling station. The DME takes into consideration all costs incurred in running the driveway like overheads, rent, labour, etc. This margin was introduced as an incentive for filling stations to strive for efficiency.

e) Fuel taxation, customs and excise levies

Fuel taxation is determined by the minister of finance and is announced in the annual budget speech. These taxes take effect yearly during the April price increase (SARS, 2017). The current fuel levy on all petroleum products is 315 cent per liter and all taxes and levies are payable by manufacturers to SARS.

f) Road accident Fund (RAF)

A fixed rate of 163 cent per liter is payable to the RAF for third party compensation to victims in case of motor vehicle accidents.

g) Equalisation fund levy

The equalisation fund levy is statutory as regulated by the Minister of Mineral and Energy Affairs in cooperation with the Minister of Finance (Central Energy Fund Act, No 38 of 1977). This levy is used to fund and smooth out price fluctuations of liquid fuels and crude oil.

h) Slate levies

Motorists pay this levy according to the Petroleum Products Act, 1977, No 120 of 1977) as a recovering of funds owed to oil companies as a result of time delay in the adjustments of pump prices.

i) Demand side management levy (ULP95)

This specific levy was introduced in 2006 to decrease the usage of the higher octane petrol in the inland as this leads to higher and unnecessary octane waste.

j) IP tracer dye

IP tracer dye is injected in to illuminated paraffin to detect the unlawful mixing of paraffin into diesel products.

k) Pipeline levy

According to the Petroleum Pipelines Levies Act, No 28 of 2004 a special levy is raised for the usage and expansion of pipelines.

Table 2 shows the 2017 petroleum prices after all above-mentioned factors have been taken into consideration.

Table 2: 2017 Petroleum prices

2017 petroleum products prices in cents per litre

YR2017	04-Jan-17	01-Feb-17	01-Mar-17	05-Apr-17	03-May-17	07-Jun-17	05-Jul-17	02-Aug-17	06-Sep-17	04-Oct-17	01-Nov-17
COASTAL											
95 LRP (c/l)	1285.00	1314.00	1306.00	1281.00	1330.00	1305.00	1237.00	1256.00	1323.00	1352.00	1356.00
95 ULP (c/l)	1285.00	1314.00	1306.00	1281.00	1330.00	1305.00	1237.00	1256.00	1323.00	1352.00	1356.00
Diesel 0.05% (c/l)	1103.43	1124.43	1122.43	1111.63	1141.63	1118.63	1058.63	1087.63	1131.63	1173.63	1196.63
Diesel 0.005% (c/l)	1105.83	1126.83	1124.83	1114.03	1146.03	1123.03	1063.03	1093.03	1137.03	1179.03	1206.03
Illuminating Paraffin (c/l)	686.988	703.988	695.988	644.188	678.188	656.188	599.188	625.188	674.188	713.188	734.188
Liquefied Petroleum Gas (c/kg)	2019.00	2040.00	2038.00	1937.00	2032.00	1955.00	1864.00	2092.00	1990.00	2028.00	2045.00
GAUTENG											
93 LRP (c/l)	1309.00	1338.00	1330.00	1308.00	1357.00	1332.00	1263.00	1282.00	1349.00	1374.00	1378.00
93 ULP (c/l)	1309.00	1338.00	1330.00	1308.00	1357.00	1332.00	1263.00	1282.00	1349.00	1374.00	1378.00
95 ULP (c/l)	1333.00	1362.00	1354.00	1330.00	1379.00	1354.00	1286.00	1305.00	1372.00	1401.00	1405.00
Diesel 0.05% (c/l)	1141.83	1162.83	1160.83	1150.33	1180.33	1157.33	1097.33	1126.33	1170.33	1212.33	1235.33
Diesel 0.005% (c/l)	1144.23	1165.23	1163.23	1152.73	1184.73	1161.73	1101.73	1131.73	1175.73	1217.73	1244.73
Illuminating Paraffin (c/l)	741.588	758.588	750.588	702.088	736.088	714.088	657.088	683.088	732.088	771.088	792.088
Liquefied Petroleum Gas (c/kg)	2207.00	2228.00	2226.00	2125.00	2221.00	2144.00	2053.00	1904.00	2178.00	2217.00	2234.00

Source: SAPIA, (2017)

Table 3 indicates the domestic elements in cent per liter that affects the 95 octane unleaded petrol prices in South Africa.

Table 3: Elements affecting the ULP 95 petrol price 2017

		2017 (RSA c/litre)												
		PETROL LEVIES, TAXES AND MARGINS 95 OCTANE (UNLEADED PETROL)												
2017(RSA c/litre)	BFP	Fuel tax	Customs &excise	Equalization fund levy	Road accident fund	Transport cost	Petroleum Products levy	Whole-sale margin	Secondary Storage	Secondary distribution	Retail margin	Slate levy	Deliv-ery cost	DSML
Jan	591.870	285.000	4.000	0.000	154.00	41.000	0.330	35.600	17.900	17.300	176.400	0.000	0.000	10.00
Feb	620.870	285.000	4.000	0.000	154.00	41.000	0.330	35.600	17.900	17.300	176.400	0.000	0.000	10.00
Mar	612.870	285.000	4.000	0.000	154.00	41.000	0.330	35.600	17.900	17.300	176.400	0.000	0.000	10.00
Apr	548.670	315.000	4.000	0.000	163.000	41.500	0.330	35.600	17.900	17.300	176.400	0.000	0.000	10.00
May	597.670	315.000	4.000	0.000	163.000	41.500	0.330	35.600	17.900	17.300	176.400	0.000	0.000	10.00
Jun	572.670	315.000	4.000	0.000	163.000	41.500	0.330	35.600	17.900	17.300	176.400	0.000	0.000	10.00
Jul	504.670	315.000	4.000	0.000	163.000	41.500	0.330	35.600	17.900	17.300	176.400	0.000	0.000	10.00
Aug	523.670	315.000	4.000	0.000	163.000	41.500	0.330	35.600	17.900	17.300	176.400	0.000	0.000	10.00
Sep	586.070	315.000	4.000	0.000	163.000	41.500	0.330	35.600	17.900	17.300	181.000	0.000	0.000	10.00
Oct	615.070	315.000	4.000	0.000	163.000	41.500	0.330	35.600	17.900	17.300	181.000	0.000	0.000	10.00
Nov	619.070	315.000	4.000	0.000	163.000	41.500	0.330	35.600	17.900	17.300	181.000	0.000	0.000	10.00
Dec														

Source: Department of Energy, (2017)

Table 4 indicates the domestic elements in cent per liter that affects the 500 ppm diesel prices in South Africa.

Table 4: Elements affecting diesel 500 ppm price 2017

2017 (RSA c/litre)	DIESEL (0.05% SULPHUR) LEVIES, TAXES AND MARGINS											
	BFP	Fuel tax	Customs & excise	IP Tracer Dye Levy	Pipeline Levy	Road accident fund	Transport cost	Wholesale margin	Secondary Storage	Secondary Distribution	Slate Levy	
Jan	569.630	270.000	4.000	0.010	0.330	154.00	41.000	67.660	17.900	17.300	0.000	
Feb	590.630	270.000	4.000	0.010	0.330	154.00	41.000	67.660	17.900	17.300	0.000	
Mar	588.630	270.000	4.000	0.010	0.330	154.00	41.000	67.660	17.900	17.300	0.000	
Apr	538.630	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000	
May	568.630	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000	
Jun	545.630	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000	
Jul	485.630	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000	
Aug	514.630	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000	
Sep	558.630	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000	
Oct	600.630	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000	
Nov	623.630	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000	
Dec												

Source: Department of Energy, (2017)

Table 5 indicates the domestic elements in cent per liter that affects the 50 ppm diesel prices in South Africa.

Table 5: Elements affecting diesel 50 ppm price 2017

2017 (RSA c/litre)	DIESEL (0.005% SULPHUR) LEVIES, TAXES AND MARGINS										
	BFP	Fuel tax	Customs & excise	IP Tracer Dye Levy	Pipeline Levy	Road accident fund	Transport cost	Wholesale margin	Secondary Storage	Secondary Distribution	Slate Levy
Jan	572.030	270.000	4.000	0.010	0.330	154.00	41.000	67.660	17.900	17.300	0.000
Feb	593.030	270.000	4.000	0.010	0.330	154.00	41.000	67.660	17.900	17.300	0.000
Mar	591.030	270.000	4.000	0.010	0.330	154.00	41.000	67.660	17.900	17.300	0.000
Apr	541.030	300.000	4.000	0.010	0.330	163.000	41.500	67.660	17.900	17.300	0.000
May	573.030	300.000	4.000	0.010	0.330	163.000	41.500	67.660	17.900	17.300	0.000
Jun	550.030	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000
Jul	490.030	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000
Aug	520.030	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000
Sep	564.030	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000
Oct	606.030	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000
Nov	633.033	300.000	4.000	0.010	0.330	163.00	41.500	67.660	17.900	17.300	0.000
Dec											

Source: Department of Energy, (2017)

2.2.4 Franchising versus “White sites”

Currently there are approximately 4600 retail filling stations registered in South Africa (SAPIA, 2017). These filling stations are either company owned or dealer owned. Licensing of retail and wholesale sites are regulated by the Department of Energy. The DOE prohibits a manufacturer and wholesaler from holding a retail license. Wholesalers and manufacturers are allowed to franchise retail sites to independent dealers and only supply these franchised sites with products. Throughout South Africa there are independent, unbranded filling stations known as white sites.

White sites are becoming more popular and prominent in South Africa because of the wholesale and marketing margins added by wholesales while franchising and branding a filling station as well as the B-BBEE requirements when obtaining a franchise site. When a retailer enters into a franchising and supply agreement with a wholesaler, a high level B-BBEE certificate is required and a premium is added to the purchasing price per liter fuel bought from them for branding costs and equipment replacement. Contracts are signed forcing the retailer to only buy from the specific wholesaler at a higher margin to absorb advertising, branding, interest and contract costs. When signing these contracts, white sites are obtaining the bigger market share in the industry especially in the retail of diesel products. Selling prices of petrol is regulated but the selling prices of diesel are not. This gives the white sites the opportunity to draw more clients with lower prices on diesel as they do not have to pay the wholesale margin and they are free to buy from which ever wholesaler offers the best price at a specific time. The buying power of white site is extremely important in all products, the lower the diesel purchase price the lower the selling price, the more customers. As the petrol selling price is fixed, the lower the purchase price, the higher the gross profit. As a result of this, white sites are highly profitable when owners/managers manage to buy the best quality product, at the best possible price at the correct time.

Franchised retail includes but is not limited to: BP, Exel, Engen, Sasol, Shell and Total.

White site retail brands include but are not limited to: Econo Petroleum, Forever Fuels, MBT Petroleum, Puma Energy, Q4 Fuels, Quattro Fuels, Quest Petroleum and Viva Energy.

2.3 The need for valuations

The main purpose of a business valuation is for owners, managers and investors of businesses to determine an overall value or worth of the business (Cassone, 2005:6). Knowing the value of one's business is not only important when it comes to actions such as selling the business, the death/illness of an owner, litigation, estate planning or in divorce cases of owners, but also in the day to day decision making processes in the business (Vorster, 2013:42, Durham, 2016:24, Morris, 2015:9). Owners and managers of businesses have a broad understanding of business valuations and methods but do not have the necessary skill set to understand all the aspects and concepts involved in business valuations (Durham, 2016:24). Managers making business decisions that requires any form of resource allocation does an analytic financial calculation to determine the worth or value of such a decision (Luehrman, 1997:132). These calculations are a form of valuations of certain areas of a business that contribute to the total valuation of the business.

The most popular way to determine the worth of a business is to calculate the value per share issued in the business (Cassone, 2005:6). This value is determined by the selection of a specific method of valuation. According to Cassone (2005:10) the key to making successful strategic decisions is in determining an accurate valuation for the business. Every valuation has the same key factors even though the valuation itself differs (Morris, 2015:9). The three main factors identified by Morris (2015:9) includes the economic outlook of the business, the nature of the business as well as the history of the business.

The need for business valuations is becoming more evident and crucial in small businesses (Barson, 2017:98). It is important for owners and managers of businesses to keep the emotion and expectations out of the valuation process and focus on the actual financial and economic factors involved in the valuation process to ensure an accurate outcome. According to Barson (2017:99) the valuation of businesses is partially art, partially science. This statement means that different valuators may have different outcomes as their methods differ as well as the factors used in the valuation process. Barson (2017:99) also states that even though the valuations may differ, they will not differ materially. With the current economic situation in South Africa and the world, valuations have become a very important factor in any business and this has led to valuations becoming a very specialised field (Vorster, 2013:42).

According to Bhaskaran and Sukumarna (2016: 92), cash flow, risk characteristics and growth determines the value of a company. To create value, managers has to identify and manage financial, efficiency and growth drivers in the company. Bhaskaran and Sukumarna (2016:92) also states that growth and profitability are two of the major considerations and determinants of the value of a company. The wealth created by the value drivers for stakeholders is reflected by market value of the company's shares.

2.4 General aspects of valuations

In the process of evaluating a business there are certain areas that needs to be addressed to ensure that the correct valuation approach is followed (Vorster, 2013:42). It is important to note that these areas differ in each company and therefore different areas needs to be investigated and assessed (Van Eeden, 2015:7).

Every retail petroleum company in the world differ in size, ownership, earnings, financial structures, reserves, diversity of products offered and investment portfolio, and this effects the valuation model used as well as the outcome (Bhaskaran and Sukumarna, 2016:91). The primary value of a company depends on the quality and quantity of product

available, the sales price as well as the cash flow and earnings of a company. Value creation for stakeholders lies in the ability of a company to distribute funds to its owners through the cash flow generated by operations and external fundraising.

2.5 Sensitivity analysis

For the purpose of valuations of businesses, determining if a business can maintain its operating and profit margins over a five year period is important. Therefore a sensitivity analysis is important (Van Eeden, 2005:54). As all valuations are reliant on certain inputs a valuation is extremely sensitive to the reliability and appropriateness of inputs used (Cebanov & Mattsson, 2014:101). Sensitivity analysis are done on inputs of valuations to ensure accurate and reliable outcomes and to show which inputs and assumptions has the greatest effect on the valuation.

2.6 Valuation methods and models

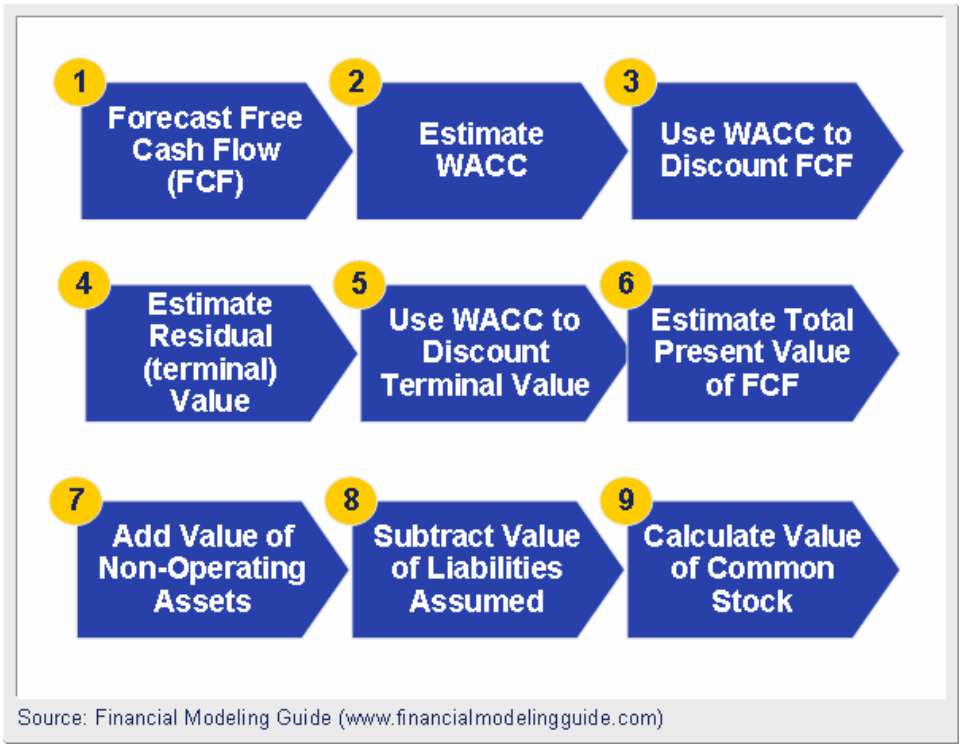
Valuation methods and factors influencing the outcomes of valuations differ as there are different methods and models available. Different accounting principles and procedures may lead to different values of similar businesses (Cassone, 2005:3). Even though there are numerous valuation methods available, only the most effective and popular will be discussed briefly.

2.6.1 Discounted Cash Flow Method

The discounted cash flow method is based on the theory that a company's worth is equal to future cash flows, discounted to a net present value by a factor equal to the weighted average cost of capital of the company (Van Eeden, 2005:43). The discounted cash flow method is suitable for all companies if all assumptions are brought into consideration

when determining the required rate of return and the weighted average cost of capital rate. The steps for the discounted cash flow method are:

Table 6: Steps to determine discounted cash flow



Source: Anon, (2008)

Where:

Free Cash Flow (FCF) = EBIT x (1- tax rate) + depreciation – capital expenses – change in working capital- change in other assets

EBIT = Earnings before interest and taxes

And

$$\textbf{Discounted WACC} = R_d(1\text{-tax})*(D/V)+R_e(E/V)$$

Where:

R_d = Cost of debt

D = Market value of total debt

V = Total value of capital

R_e = Required rate of return (Cost of equity)

E = Market value of equity

E/V = Percentage of capital that is equity

D/V = Percentage of capital that is debt

WACC accounts for the risk free rate, cost of debt as well as the risk premium.

This method of valuation is recommended for most companies as it relates the present value of assets, to the expected cash flows generated from these assets in the future (Cebanov & Mattsson, 2014:85). The discounted cash flow method establishes a net present value for a company based on projections of cash flows after taxes, dividends, net operating profits and gross profits (Cassone, 2005:14).

2.6.2 Asset approach

The net asset value approach indicated the market value per share by calculating the value of the adjusted book value of a company's assets and liabilities (Stanvliet, 2011:4). This method will be most suitable in situations where the company is an investment holding or property holding company, the company has an extremely volatile earnings history or where the company is no longer able to continue as a going concern (Van Eeden, 2005:61). An important consideration when using this method is to adjust the balance sheet from accounting value to the true market value of asset and liabilities as

this method's main focus is not the income statement but the balance sheet (Reilly, 201:70). The accounting value of assets and liabilities is based on historical costs and depreciation and is not a true representation of actual value of assets and liabilities in the valuation process (Cassone, 2005:15). The asset approach is summed up as the company's asset at market value, minus the market value of the company's liabilities and is most suitable for companies that are tangible asset intensive in nature.

Reilly (2017:75) states that it is important to note that value obtained from this method is not the liquidation value of the company as assets are not normally sold at market value during the liquidation process of a company.

2.6.3 Market Approach

The market approach is based on the concept of replacement or substitution value of comparable publically traded companies (Durham, 2016:24). Valuations in this method calculates the market value per share of a company by the comparison of the company to listed entity that is directly comparable (Modica, 2006:195, Stanvliet, 2011:4).

2.6.4 Income Approach

The income approach discounts future expected cash flows (FCF calculation) to calculate the market value per share of a company and includes option pricing for measurement of asset value ((Stanvliet, 2011:4, Reilly, 2017:94). The capitalisation rate is a critical factor in the discounting of cash flows in the income approach (Barson, 2017:100). The income approach is best in situations where the company's future earning ability looks similar to their current performance.

2.7 Summary

During the literate review done on the retail petroleum industry as set out in this chapter, certain key role-players and factors where identifies that made this industry very unique. These role-players and factors influence the performance of a company. The literature study also focused on the most common valuation methods available and the factors to consider during the different valuation methods of companies. The literature made it evident that valuations of companies and industries differ and the need exists to develop a framework to follow for specific industries.

CHAPTER 3: CRITICAL FACTORS INFLUENCING VALUATIONS

The true value of a company lies not only in its financial performance but in its strategic and operational decision making capabilities. In order for professionals to determine the true value of a company, the internal as well as the external environment needs to be assessed (Li & Yu, 2017:3). It is evident that not only financial factors influence a company's value but other financial factors has a significant influence as well. The financial and non-financial factors influencing retail petroleum companies will be discussed in term of the effect on franchised sites and white sites. Not only does the retail petroleum industry on its own have unique operating characteristic, but so does white sites and franchised sites.

3.1 Financial factors influencing valuations

Professionals determining the true value of a company and its various business activities must establish the value of specific business capabilities and functions within the business (Goldman, 2002:55). To determine this value certain financial factors are considered.

3.1.1 Reasonability test of financial statements and reports

The analysis of the financial performance and key performance indicators will have a substantial effect on the valuation process and outcomes according to Cebanov and Mattsson (2014:43), thus the reliability of data obtained from financial statements and other financial reports are of the utmost importance. Different accounting approaches and procedures, grouping of accounts and inclusions may lead to different outcomes of valuations of petroleum companies (Cassone, 2005:3). Even though projected cash flows are used in the valuation process, valuators consider externally audited/reviewed financial statements as a sufficient measurement of the reliability of base year figures used. The

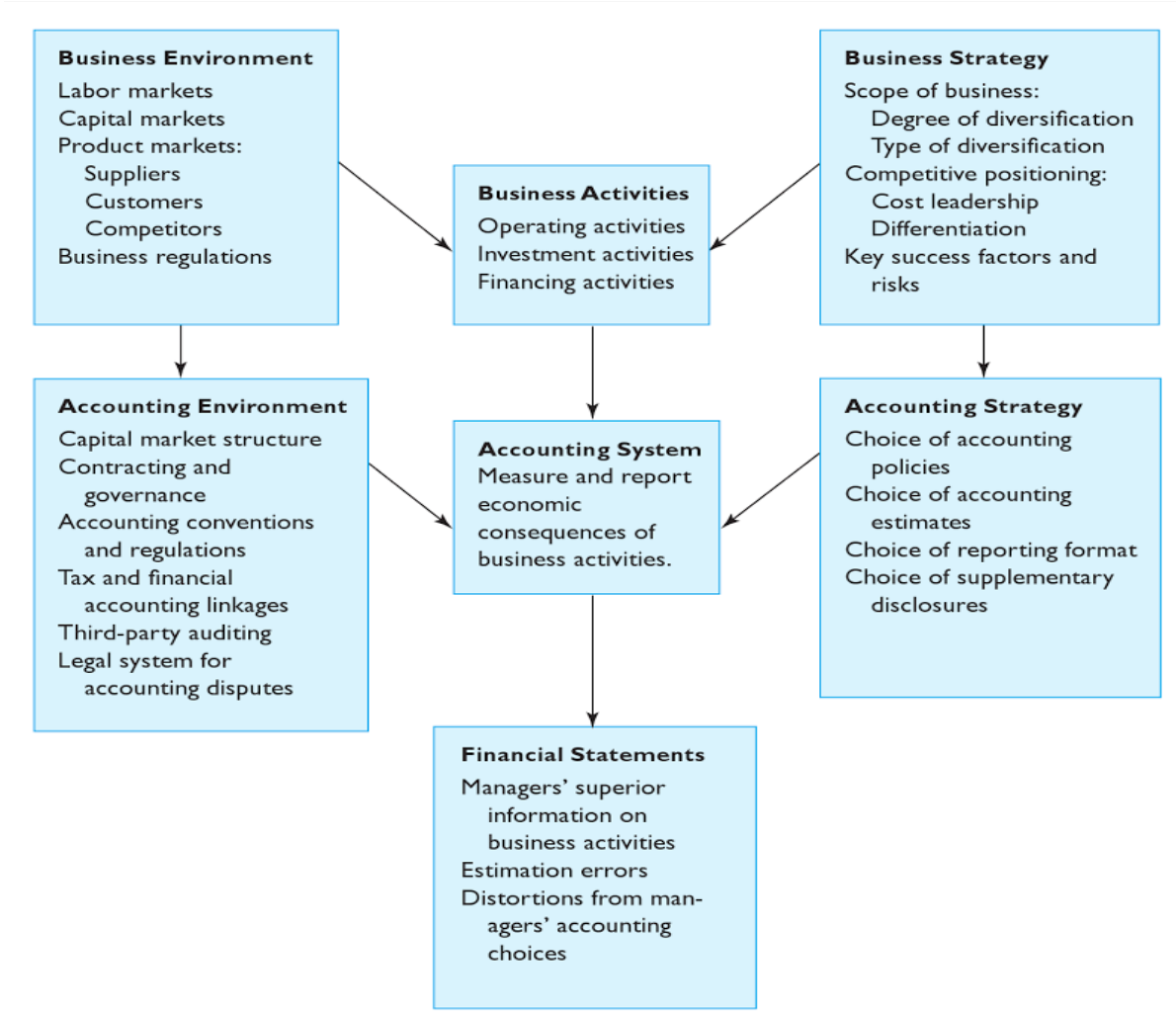
same quality and standards are applicable for financial statements and reports used for peer company analysis. Franchised sites in the retail petroleum industry require annually financial statements that have been externally audited

The basis of all balance sheets is based on the basic accounting principle that:

Total assets = Total liabilities + Equity

Figure 7 indicates the different business processes and how it affects the financial statements used for valuation processes.

Figure 7: Business activities to financial statements



Source: Healy & Palepu, (2012:7)

Included in the reliability of the financial statements the following areas needs to be considered as this has an effect on the outcome of the valuation:

- The dividend policy of company.
- The investment decision making.
- The value of assets, are they shown at accounting value or at market value?
- Capital structures financing policies of the company.

3.1.2 Measuring of goodwill

As set out in IFRS goodwill is recognised in the intangible assets section of the financial statements. Goodwill is calculated in the balance sheet of a company during the process of business combinations or in the acquiring of a business (IFRS 3: Business combinations). The amount of goodwill recognised is calculated as follows:

Goodwill = Consideration received + Amount of non-controlling interests + Fair value of previous equity interests - Net assets recognised

Where:

Consideration received = The value offered and accepted for the purchase of a business.

Non-controlling interest = Minority shareholding

Fair value of previous equity interests = Fair value of all previously owned equity instruments

Net assets recognised = Fair value of assets acquired minus liabilities acquired

The goodwill amount accounted for in the accounting reports need to be revised and amortized each year. In many cases this is not done on a yearly basis and therefore the

valuator needs to adjust, for this write down during the valuation process if it was not done.

3.1.3 Compensation adjustments

Firms around the world have started to adopt an economic value adding approach which integrates economic value added accounting and managerial incentive compensations (Arzac, 2005:8). One of the biggest areas taking into consideration in the valuation process is reasonable compensation to key persons (Barson, 2017:99). In most instances the controlling shareholder or managing director does not receive a salary from the company, but rather takes compensation in forms such as income distribution, dividends or profit sharing (Miller & Blalock, 2017:3). For the purpose of valuations the reasonability of compensation paid to top management needs to be determined. According to Miller and Blalock (2017:3) factors to consider in this specific reasonability test are the individual's qualifications for the job, nature and extend of the work performed, nature and size of the entity, economic conditions and performance of company, company's dividend policy, comparable industry salaries and the salary history of the specific company. If the salary is deemed to not be reasonable in comparison with the market and peer companies, the valuation analyst needs to adjust the financial statement item for the compensation paid as this could either lead to the company being over or undervalued. Inaccurate or overstated compensation lead to lower economic value and therefore a lower valuation outcome (Barson, 2017:99). Special attention needs to be place on the fact that in a family owned company, non-family member CEO's are paid more than family member CEO's as the latter's compensation is not linked to performance (McConaugby, 2008:130).

3.1.4 Key performance indicators

Companies collects large amounts of data during the different business processes of which they only use about 10% in decision making and analysis (Cassone, 2005:26). Key performance indicators are those crucial ratios and indicators that analyse the performance of a company such as net operating profits, gross profits, growth and return on equity to name but a few.

3.2 Non-financial factors influencing valuations

Value creation within a firm is the function of identifying and managing the value drivers that makes a company great (Bhaskaran & Sukumaran, 2016:92). Managing these value drivers entails the soft skills and issues within a company which impact the financial factors during valuations.

3.2.1 Availability and quality of products

The availability and quality of petroleum products has an influential outcome on the valuation of a company. Customers tend to buy from a company which always has sufficient amounts of quality product available to the public. In the case of franchised versus “white sites” this is one of the most important factors. A franchised site is bound by contract to only buy from the franchised supplier. If this franchised site is scheduled for a delivery but they run out of fuel, they are obligated to still wait for the contracted supplier even though this could lead to customer loss, due to absence of products. In the case of “white sites”, management is free to source the best product at the best possible price at any given moment. If a site is without product, even for an hour, they could suffer loss of customers which in effect influence their valuation.

3.2.2 Risk

Barson (2017:100) states that risk is reflected by the capitalisation rate determined by the valuator. The higher the capitalisation rate, the higher the risk related to the company. Table 7 shows the business factors and risk premiums associated with them for unlisted companies.

Table 7: Business factors and risk premiums

Category	Risk Premium	Factors
1	6-10%	Established business, strong second-line management, history of stable earnings, predictable future.
2	11-15%	Established business in a more competitive environment, good second-line management, stable earnings, and more or less predictable future.
3	16-20%	Business in a highly competitive industry that requires small capital investment to enter, good performance in past years, but uncertain future.
4	21-25%	Small business that depends on the skill of one or two people, or larger businesses that are highly cyclical, very uncertain future.
5	26-30%	Small “one-man” business of a personal service nature where the continuity of income is doubtful.

Source: Van Eeden, (2005:52)

According to Table 7, companies in the petroleum retail sector would be in category 2 and 3 as it operates in a highly competitive environment with a more or less predictable future.

3.2.3 Ownership, leadership and management

In today’s turbulent and complex markets, it is difficult to achieve strategic advantages and competitiveness (Habbershon *et al*, 2003:452). The study done on family firms by Habbershon *et al*, (2003) it shows that business run by families generates unique resources and capabilities contributing to creating economic value to the firm. In an

expansion of the work done by Habbershon *et al* (2003), Chrisman *et al* (2003:471) found that by incorporating the vision, intention and behavior of the family throughout a family firm, the value creation motive can be increased. The difference between a good business and an extraordinary business lies in the strategic direction and operational decision making of those in managerial positions (Cassone, 2005:4). Family management succession within a company directly relates to the performance of a company (Smith, 1999:366). Key persons within a company forms part of the management team more often than not. These key persons hold either the relationships that sets the company apart from others, the knowledge base or the skill set necessary. These key persons has a significant effect on the operations of said company and should be adjusted for in the risk rate used during the valuation process.

3.2.4 B-BBEE scorecard and compliance

B-BBEE is becoming an extremely important and evident factor in the South African business environment (Kleynhans & Kruger, 2014:1). The South African government has developed Employment Equity and Affirmative action in the mid-nineties with the enhancement of productivity, the increase of black ownership and management in the private sector, the empowerment of rural communities and skills development of previously disadvantaged groups as their main objectives (Burger & Jafta, 2010:9, Chimhandamba. 2007:18-19). Kleynhans and Kruger (2014:4) states that the B-BBEE scorecard measures and indicates the company's compliance levels with B-BBEE requirements. The different categories involved in the B-BBEE scorecard are:

- Ownership,
- Management control,
- Employment Equity,
- Skill development,
- Preferential Procurement,
- Enterprise Development and
- Socio-Economic Development.

B-BBEE does not have the same effect on the profitability and competitiveness of all companies in all sectors. There is not a direct correlation between the level of B-BBEE obtained and the performance of all companies (Kleynhans & Kruger, 2014:8). However, this correlation is industry and target market related. For example: If a company's main target market for clients are government or mine related, B-BBEE and performance are directly correlated as all government procurement and mining industry are obligated to spend at B-BBEE compliant suppliers. The compliance with B-BBEE has a positive effect on most business within South Africa as it holds the opportunity and possibility for new contracts and clients. Therefore it can be said that in the retail petroleum industry in South Africa a B-BBEE compliance certificate is not required but it is most definitely beneficial.

- White sites: A B-BBEE certificate is not required for white sites in South Africa as these companies are in most cases owner managed and operated. There are no B-BBEE requirements for the obtaining of white site. However, B-BBEE compliance for a white site can have a substantially positive effect on the value of such a site as it give the white site the opportunity to tender for contracts of government departments, Universities, transporters as well as mining contractors.
- Franchised sites: Within South Africa companies such as Shell and Total requires black ownership to obtain a franchising contract (Shell, 2017, Total 2017).

3.2.5 Client loyalty and service

Client loyalty can make or break any company but even more so in the fuel industry. It often happens in the industry that a retailer signs one or two big clients that makes up a large percentage of their total sales. This is a significant risk as clients tends to jump fence for a few cents per liter difference in price. One of the major clients for especially retail white sites is Truck Fuel Net (TFN). TFN is a fuel distribution network within South Africa with a contract in most of the districts in South Africa. When TFN either withdraws from a specific site or opens a new site within a certain radius from the current site, sales drop significantly. This is a major business risk.

Customer service, key persons, product quality and availability are the major factors influencing client loyalty in the retail industry.

3.2.6 Intellectual capital

Intellectual capital within a company not only refers to inventions and designs but also to knowledge, approaches, computer programs, relationships and decision making capabilities (Tripathy *et al*, 2014:47). Intellectual capital is of the utmost importance to gain a competitive advantage within a competitive market. Tripathy *et al* (2014:47) that the absorption of said intellectual capital in the company leads to a higher valuation outcome of the company. Companies, such as petroleum retail where extensive knowledge is required, faces a challenge in the accounting and recognition of intellectual capital within their firms (Purohit & Tandon, 2015:9). The traditional measurement of performance does not succeed in the measurement of intellectual capital as customer and supplier relationships, efficient management and decision making and knowledge is impossible to measure reliably. Purohit and Tandon (2015:10-11) suggests that intellectual capital be added into the valuation equation by means of a value added intellectual coefficient (VAIC). They further indicate that the VAIC measures the intellectual capital imbedded in corporate success. The equations suggested for VAIC is as follows:

$$\mathbf{VAIC = HCE + SCE + CEE}$$

Where:

- HCE represents human capital efficiency as a measure of corporate value added,
- SCE represent structural capital efficiency as a measure of corporate value added and
- CEE represents the capital employed efficiency as measure of corporate value added.

3.3 Summary

During the literature review performed, certain financial and non-financial factors were identified that may influence the valuation outcome of companies within the retail petroleum industry. These factors are influential in the business valuation process and need to be accounted for in a specific framework during the valuation process.

CHAPTER 4: EFFECTS OF CRITICAL FACTORS ON THE VALUATION OUTCOMES

4.1 Methodologies used in the establishment of a framework

The intended framework will be established by a combination of existing and new theories and techniques in the valuation process. The existing theories were identified during the literature study in chapter 2 of this study. Qualitative content analysis was performed on the literature identified during the literature review. Literature reviewed in Chapter 2 and 3 was systematically analysed to identify replicable and valid inferences. Summative content analysis was used to identify key themes and factors that influence valuations. This was then converted into qualitative data.

4.2 Basic objective of study

The primary objective of this study is:

The establishment of a valuation framework based on critical factors influencing the value of retail petroleum companies.

4.3 Sample selection

The sample of text was selected by researching the key phrases “business valuations”, “valuations”, “petroleum industry” and valuation models.

4.4 Possible themes identified from objective and content analysis

This study is only limited to the retail fuel industry of South Africa but can be expanded to other industries. The following parameters are important for the selection of industry or company:

- Uniformity – To narrow the field of analysis, companies that specialise in only one field of either products or services is used. In this study companies specialising in the retail of fuel.

- Established industry – Each industry is different and changes as it develops over a period of time. Industries such as technological or research and development companies changes too often. The retail fuel industry in South Africa is not a new industry and was established over the years with specific rules and regulations monitoring and regulating the industry.

- Companies with an interest level – For this study the interest level is the highly competitive industry of fuel retailing. These companies are not operated and managed on a similar basis due to key partnership, franchising models and the introduction of white sites over the years.

- Availability of data – Even though financial data of these companies are not easily available industry information, rules and regulations are easily accessible.

- Knowledge of the industry – Additional insight and information through first-hand knowledge from working in this industry on a day to day basis provides additional insight into the operations of the industry.

4.5 Possible factors identified from objective and content analysis

The criteria used to identify possible factors were the valuation of companies and the retail petroleum industry themes. Ownership, B-BBEE scorecard and compliance, key persons, leadership and management, client base and loyalty, client service, product quality and availability, purchase and supply agreements, key strategic partnerships and alliances and intellectual capital were identified as possible key factors from the state hypothesis.

4.6 Selection of the best valuation model for industry based on literature review

Based on the literature study done on the retail industry as well as the valuation methods available, the discounted cash flow model was selected for the assessment based on the following factors:

- The retail petroleum industry is driven by volume and gross profit percentages.
- The industry is established with relative sustainable growth rates.
- The retail petroleum industry is not highly seasonable with different cash flow cycles.
- Capital expenditure is this industry remains fairly consistent through the year.

4.7 Selection of the most influential factors on the industry based on content analysis

A content analysis was done on the retail petroleum industry cased on Chapter 2 and on the main factors influencing the industry in Chapter 3. Based on this, the following areas where identified as key inference areas influencing the valuation of retail petroleum companies:

- Ownership, leadership and management,
- B-BBEE scorecard and compliance,
- Client loyalty and service,
- Intellectual capital and
- Key performance indicators.

4.8 Difference between the old valuation framework and new framework

Table 8 shows a comparison between the old framework used for valuations and the proposed approach in this research. The key difference is the potential to calculate the

current value of a business by including non-financial factors into the traditional framework such as management, client loyalty and B-BBEE compliance. The new framework allows management to compare business models and operations with that of the industry. The strategic and operational environment can be defined and analysed by management to better their decision making process as the impact thereof can be determined. The new framework can also be used to determine weaknesses and strengths within the company and to set a benchmark for future growth.

Table 8: Difference between old and new framework

Traditional Framework	**New Framework**
Purpose: To determine the economic value of a company based on past financial performances.	Purpose: To determine the economic value of company based on past financial performance as well as non-financial factors.
Analysis the financial performance.	Analyses operational and strategic processes as well as financial performance.
	Factors included: Family owned and managed, attributes of key personnel, client loyalty and B-BBEE compliance.

4.9 Defining the problem

Areas such as decision making abilities, relationship management and B-BBEE compliance are not easily measured in terms of the contribution made to the valuation of companies. These factors may contribute to the profit generation capabilities of the company, but the contribution is not known.

4.10 The business valuation process

The integration of the steps proposed by the research will be discussed in this section.

4.10.1 Step 1: Identify all areas relating to the industry

Information gathered for the step may be gathered from different sources and mediums to ensure a detailed analysis of the industry. A checklist of areas to gather information for the retail petroleum company are:

- History of the industry.
- Current economic factors influencing the industry.
- B-BBEE compliance regulations for the industry.
- Role players in the market.
- International news that may affect the industry.
- Research and development in the industry.

4.10.2 Step 2: Identify all key areas and aspects of the business

Information in this step is gathered internally from key personnel at the entity:

- Determine the ownership of the company.
- Obtain the organisational structure of the entity.
- Identify the different management tiers in the company.
- Analyse the B-BBEE need in the company as well as the compliance status and compliance planning for the future.
- Identify key personnel not included in management (representatives etc.)
- Obtain a full history of the company (financial and non-financial).
- Obtain audited financial statements, management reports as well as budgets.
- Obtain compensation structures of all employees.
- Discuss competition
- Discuss key clients and contracts held.
- Obtain knowledge of key partnership within the company as well as with external parties (suppliers, financing institution etc.)
- Obtain supplier and customer list.
- Obtain list of doubtful debts.

- Discuss any pending and possible litigation.
- Obtain expansion plans.
- Interview key internal and external parties to identify possible risks, weakness and opportunities.
- Obtain restraint of trade agreements.
- Obtain a list of assets and inspect the assets for value.

4.10.3 Step 3: Analyse information gathered

During this step the information gathered in step 1 and 2 is reviewed and analysed to identify areas (financial and non-financial) that may influence the valuation outcome in any way. During this step the reliability and completeness of information gathered needs to be assessed. Key areas identified in this step are now assigned with a score that will be used to alter risk premium in the determination of value. The difference between the traditional framework and the proposed alteration are evident in this step as non-financial factors are included as score (either negative or positive) in the risk premium used to determine the value of a company.

4.10.4 Step 4: Determine the value with the Discounted Cash Flow Method

During this step the actual value of the company is determined after all financial and non-financial factors have been taken into consideration. For the purpose of retail petroleum companies, the Discounted Cash Flow Model is recommended after the risk premium was adjusted as discussed in step 3.

4.10.5 Step 5: Conclude on the valuation

In this step the entire valuation is presented in a structure report that includes all factors considered, assumptions made, valuation model used, adjustments made and the outcome of the valuation.

4.11 Summary

An introduction to the new framework developed is presented in this chapter as well as the methodologies used to arrive at the new framework. The steps to the new framework is set out with a description of each step. The proposed framework include qualitative as well as quantitative factors influencing the valuation of retail petroleum companies.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The main objective in this study was to establish a valuation framework based on the critical factors that influence the value of retail companies. This framework includes the non-financial factors identified that is not included in the current framework and will be discussed in this chapter. Non-financial factors or soft data can be used in the valuation framework to obtain more relevant and reliable valuations for companies.

This study started with an introduction to study and the set research problems, where after a literature study was performed to give insight on the retail petroleum industry as well as the valuation process and methods available. The South African retail petroleum industry is highly affected by international and local economic performances such as exchange rates and crude oil prices. This specific industry is highly regulated. The retail petroleum industry is extremely competitive and requires constant attention to stay competitive.

5.2 Study findings

Not only financial factors influence the valuation of a company but also non-financial factors such as ownership, B-BBEE, management, intellectual capital and customer loyalty to name a few. It is evident from the literate review that there is a need to analyse industry specific factors that influence the valuation outcomes and to adjust current valuation models to accommodate these factors. The content analysis performed showed certain themes and key factors that needs to be addressed during the valuation process.

5.3 Limitations of the study

The following limitation to the study existed;

- Competitors in the industry are hesitant to make their information available for studies as this is an extremely competitive industry.
- Outcomes of valuations are dependent on information made available to the valuator as well as the assumption made by them.
- No public platform exists for the gathering of information of the petroleum industry.

5.4 Recommendations for future research

Various areas within this research area can be enhanced by further research studies.

- It would be beneficial to extend this study to other specific industries within the retail and wholesale industry as well as in the services industry. The extension of this study into other industries might indicate additional financial and non-financial factors influencing valuation outcomes.
- A case study based research paper can indicate the numeric influence that these factors have on the different valuation methods.
- The development of a petroleum retail industry specific valuation method will be beneficial to not only owners but also to investors and financial institutions.

5.5. Conclusion

Valuations differ in outcome from company to company either because of the method used during the calculations, the assumptions made regarding the company or because of the factors identified that influence the valuation process. Not all companies in all sectors of the market are the same. Therefore it is of the utmost importance to identify the key factors within each company that leads to its success and failures to adjust for these factors during the valuation process. The research done in this study offers insight into some of the factors that influence the valuations of retail petroleum companies. It is

important to approach each valuation done with the knowledge that no two companies are the same and no to companies are influenced by the same factors.

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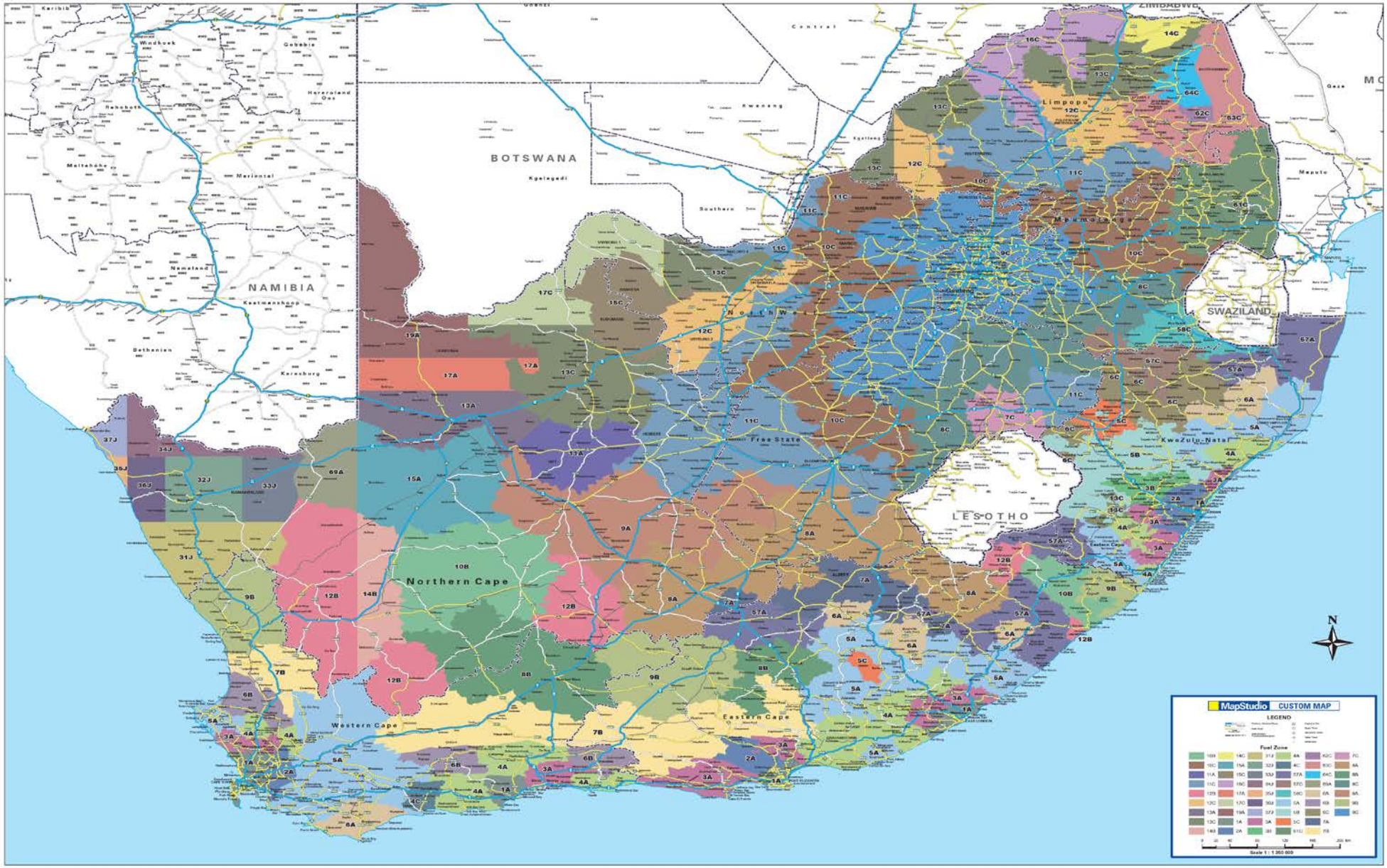
APPENDIX A: ZONE MAP OF SOUTH AFRICA



APPENDIX B: FUEL ZONE BY MAGISTERIAL DISRICTS

Fuel Zone Magisterial district Magisterial code Province

09B Aberdeen BA001 Eastern Cape

05A Adelaide BB004 Eastern Cape

04A Albany BC002 Eastern Cape

07A Albert BP005 Eastern Cape

09C Alberton TM008 Gauteng

04A Alexandria BD003 Eastern Cape

05A Alfred LA007 KwaZulu Natal

07A Aliwal North BF006 Eastern Cape

08C Amersfoort RA009 Mpumalanga

06A Babanango LB027 KwaZulu Natal

09C Bafokeng YA045 North West

09C Balfour TJ039 Mpumalanga

61C Barberton RB034 Mpumalanga

08A Barkly East BG022 Eastern Cape

11C Barkly West JA019 Northern Cape

05A Bathurst (Port Alfred) BH021 Eastern Cape

08B Beaufort West BJ017 Western Cape

05A Bedford BK023 Eastern Cape

10C Bela-Bela (Warmbad) SY406 Limpopo

10C Belfast RC033 Mpumalanga

01A Bellville BL015 Western Cape

09C Benoni RD028 Gauteng

06C Bergville LC026 KwaZulu Natal

09C Bethal RE040 Mpumalanga

07C Bethlehem PA038 Free State

08A Bethulie PB041 Free State

09B Bizana 2A024 Eastern Cape

11C Bloemfontein PC042 Free State

10C Bloemhof VC035 North West

13C Bochum 7A048 Limpopo

09C Boksburg RF029 Gauteng

63C Bolobedu 7B049 Limpopo

11C Boshof PD020 Free State

09C Bothaville NA037 Free State

11C Botshabelo NS470 Free State

09C Brakpan RG030 Gauteng

10C Brandfort PE043 Free State

06A Bredasdorp BM016 Western Cape

09C Brits RH031 North West

09A Britstown BN018 Northern Cape

09C Bronkhorstspruit RJ032 Gauteng

10C Bultfontein NB036 Free State

05A Caledon BS053 Western Cape

04A Calitzdorp BT054 Western Cape

14B Calvinia (east of 20o longitude) CB011 Northern Cape

12B Calvinia (west of 20o longitude) BU055 Northern Cape

02A Camperdown LD060 KwaZulu Natal

01A Cape Town BV050 Western Cape

10B Carnavon BW056 Northern Cape

10C Carolina RK062 Mpumalanga

05A Cathcart BX059 Eastern Cape

05A Centane 2C171 Eastern Cape

05A Ceres BY052 Western Cape

01A Chatsworth LJ473 KwaZulu Natal

10C Christiana VD063 North West

07B Clanwilliam CA051 Western Cape

08C Clocolan PF065 Free State

05A Cofimvaba (St Marks) 2D324 Eastern Cape

08A Colesberg CC057 Northern Cape

10C Coligny TT064 North West

08B Cradock CD058 Eastern Cape

05A Centane 2C171 Eastern Cape

05A Ceres BY052 Western Cape

01A Chatsworth LJ473 KwaZulu Natal

10C Christiana VD063 North West

07B Clanwilliam CA051 Western Cape

08C Clocolan PF065 Free State

05A Cofimvaba (St Marks) 2D324 Eastern Cape

08A Colesberg CC057 Northern Cape

10C Coligny TT064 North West

08B Cradock CD058 Eastern Cape

09C Cullinan TQ061 Gauteng

06C Dannhauser WC073 KwaZulu Natal

08A De Aar CE071 Northern Cape

11C Delareyville RL075 North West

09C Delmas RM076 Mpumalanga

11C Dewetsdorp PH077 Free State

12C Ditsobotla YB078 North West

06C Dundee LE074 KwaZulu Natal

01A Durban LF072 KwaZulu Natal

13C Dzanani Central (North of Makhado) 9E081 Limpopo

14C Dzanani North (East of Musina) 9F012 Limpopo

13C Dzanani South (West of Makhado) 9F013 Limpopo

01A East London CH083 Eastern Cape

08A Edenburg PJ090 Free State

10C Eerstehoek 6B067 Mpumalanga

08A Elliot CJ084 Eastern Cape

57A Engcobo 2F086 Eastern Cape

08C Ermelo RN089 Mpumalanga

04A Eshowe LG088 KwaZulu Natal

05B Estcourt LH087 KwaZulu Natal

10C Excelsior QC091 Free State

09A Fauresmith PK097 Free State

08C Ficksburg PL101 Free State

05A Fort Beaufort CM098 Eastern Cape

07C Fouriesburg PM102 Free State

08C Frankfort PN100 Free State

08B Fraserburg CN096 Northern Cape

15C Ganyesa YC116 North West

05A Gatyana (Willowvale) 2G399 Eastern Cape

05A Gcuwa (Butterworth) 2H025 Eastern Cape

03A George CQ108 Western Cape

09C Germiston RP113 Gauteng

64C Giyani 9R118 Limpopo

06A Glen Grey/Cacadu/Lady Frere 2B111 Eastern Cape

06C Glencoe WB112 KwaZulu Natal

01A Goodwood GP115 Western Cape

19A Gordonia (north of 27o30' latitude) QP014 Northern Cape

13A Gordonia (south of 28o latitude) HA110 Northern Cape

17A Gordonia Central (between 27o30' and 28o latJiHtu0d6e8d) Northern Cape

09B Graaffreinett CR109 Eastern Cape

10C Groblersdal RQ114 Mpumalanga

03A Hankey GJ123 Eastern Cape

08A Hanover CS125 Northern Cape

06C Harrismith PP135 Free State

11C Hartswater GM127 Northern Cape

11A Hay JB126 Northern Cape

09C Heidelberg (Gauteng) RR136 Gauteng

04A Heidelberg (W.Cape) CT121 Western Cape

08C Heilbron PQ133 Free State

09C Hennenman QT134 Free State

11C Herbert JC128 Northern Cape

05A Hermanus GD122 Western Cape

08A Herschel (Sterkspruit) 2J130 Eastern Cape

05A Hewu (Whittle Sea) 8A138 Eastern Cape

09C Highveld Ridge SG137 Mpumalanga

05A Hlabisa LK131 KwaZulu Natal

09C Heidelberg (Gauteng) RR136 Gauteng

04A Heidelberg (W.Cape) CT121 Western Cape

08C Heilbron PQ133 Free State

09C Hennenman QT134 Free State

11C Herbert JC128 Northern Cape

05A Hermanus GD122 Western Cape

08A Herschel (Sterkspruit) 2J130 Eastern Cape

05A Hewu (Whittle Sea) 8A138 Eastern Cape

09C Highveld Ridge SG137 Mpumalanga

05A Hlabisa LK131 KwaZulu Natal

13C Hlanganani 7J480 Limpopo

57A Hofmeyer CV207 Eastern Cape

10C Hoopstad ND132 Free State

05A Hopefield CW120 Western Cape

09A Hopetown HB129 Northern Cape

03B Humansdorp CX124 Eastern Cape

05A Idutywa 2E143 Eastern Cape

05B Impendle LM146 KwaZulu Natal

01A Inanda LL144 KwaZulu Natal

57A Indwe DA142 Eastern Cape

57A Ingwavuma 5C147 KwaZulu Natal

04A Ixopo LN145 KwaZulu Natal

11C Jacobsdal PR155 Free State

08A Jagersfontein QL156 Free State

07B Jansenville DB154 Eastern Cape

09C Johannesburg RS157 Gauteng

07B Joubertina GE153 Eastern Cape

04A Keiskammahoek 8B168 Eastern Cape

09C Kempton Park TN175 Gauteng

15A Kenhardt (east of 20o longitude) HC163 Northern Cape

69A Kenhardt (west of 20o longitude) PG069 Northern Cape

11C Kimberley JD164 Northern Cape

03A King Williams Town DE169 Eastern Cape

03A Kirkwood GG167 Eastern Cape

09C Klerksdorp RT177 North West

05C Kliprivier LP172 KwaZulu Natal

04A Knysna DG162 Western Cape

09A Koffiefontein QM165 Free State

03A Komga DF170 Eastern Cape

09C Koppies NE178 Free State

09C Koster TU176 North West

05A Kranskop LQ173 KwaZulu Natal

09C Kriel VL478 Mpumalanga

09C Kroonstad NF179 Free State

09C Krugersdorp RU174 Gauteng

15C Kudumane YM350 North West

01A Kuilsrivier GR180 Western Cape

17C Kuruman (north of 27o latitude) HF070 Northern Cape

13C Kuruman (south of 27o latitude) JE166 Northern Cape

10B Kwabhaca (Mount Frere) 2K217 Eastern Cape

10C Kwamhlanga TF477 Mpumalanga

06B Ladismith (Cape) DH185 Western Cape

08A Lady Grey DK187 Eastern Cape

08C Ladybrand PS197 Free State

07B Laingsburg DL186 Western Cape

11C Lehurutshe YD199 North West

13C Lephalale (Ellisras) VK474 Limpopo

63C Letaba RV194 Limpopo

57A Libode 2L188 Eastern Cape

10C Lichtenburg RW195 North West

08C Lindley PT196 Free State

03B Lions River LR190 KwaZulu Natal

03A Lower Tugela LS191 KwaZulu Natal

05A Lower Umfolozi LT192 KwaZulu Natal

62C Lulekani 7N481 Limpopo

10B Lusikisiki (PortStJohns) 2M189 Eastern Cape

10C Lydenburg RX193 Mpumalanga

63C Letaba RV194 Limpopo

57A Libode 2L188 Eastern Cape

10C Lichtenburg RW195 North West

08C Lindley PT196 Free State

03B Lions River LR190 KwaZulu Natal

03A Lower Tugela LS191 KwaZulu Natal

05A Lower Umfolozi LT192 KwaZulu Natal

62C Lulekani 7N481 Limpopo

10B Lusikisiki (PortStJohns) 2M189 Eastern Cape

10C Lydenburg RX193 Mpumalanga

08A Maclear DN212 Eastern Cape

10C Madikwe YE230 North West

06A Mahlabatini 4U224 KwaZulu Natal

64C Malamulele 9S434 Limpopo

03A Malmesbury (north of 33o30' latitude) DP204 Western Cape

01A Malmesbury (south of 33o30' latitude) DO082 Western Cape

57A Maluki (Matatiele) 2N214 Eastern Cape

10C Mankwe YF231 North West

61C Mapulaneng 7D437 Limpopo

03A Mapumulo 4V222 KwaZulu Natal

10C Marico SA226 North West

08C Marquard PU229 Free State

10B Maxesibeni (Mount Ayliff) 2P215 Eastern Cape

10C Mbibana TZ476 Mpumalanga

01A Mdantsane 8C431 Eastern Cape

10C Mdutjana (Siyabuswa) TW468 Mpumalanga

61C Mhala 9T435 Limpopo

57A Middelburg (E.Cape) DQ208 Eastern Cape

10C Middelburg (MP) SB227 Mpumalanga

04A Middledrift 8E211 Eastern Cape

01A Mitchells Plain BZ479 Western Cape

10C Mkobola TX469 Mpumalanga

16C Mokerong 1 (East of Lephalale) 7E514 Limpopo

11C Mokerong 2 (North of Mokopane) 7P438 Limpopo

11C Mokerong 3 (Zebediela area) 7Q513 Limpopo

16C Mokopane (Potgietersrus) (north of tropic of cTaVp1ri4c1orn) Limpopo

11C Mokopane (Potgietersrus) (south of tropic of cSaKp2ri8c1orn) Limpopo

11C Molopo YH210 North West

06A Molteno DS213 Eastern Cape

05A Montagu DT205 Western Cape

05B Mooirivier WA220 KwaZulu Natal

04A Moorreesburg GS475 Western Cape

09C Moretele 1 YJ234 North West

09C Moretele 2 YG232 Mpumalanga

01A Mossel Bay DV206 Western Cape

57A Mount Currie KF219 KwaZulu Natal

12B Mount Fletcher 2Q216 Eastern Cape

10C Moutse TY439 Mpumalanga

05A Mpofu (Stockenstroom)(Seymore) FB322 Eastern Cape

57A Mqanduli 2R218 Eastern Cape

05B Msinga 4W221 KwaZulu Natal

05A Mtonjaneni MG225 KwaZulu Natal

04A Mtunzini LX223 KwaZulu Natal

09B Murraysburg DY209 Western Cape

14C Musina (Messina) (East of 30o longitude) TS228 Limpopo

16C Musina (Messina) (West of 30o longitude) SQ095 Limpopo

14C Mutale 9B436 Limpopo

63C Namakgale 7N471 Limpopo

33J Namakwaland Aggeneys(east of 18o30' longitude an#dN n/Aorth of 30No olartthiteurdne C) ape

37J Namakwaland Alexander Bay (north of 29o latitude a#nNd/ Awest of 1N7oo rltohnegrnit uCdaep)e

32J Namakwaland Central (between 29o and 30o latitude# Nan/Ad betweeNn o1r7thoe3r0n' Canadp e18o30' longitude)

36J Namakwaland Kleinsee (between 29o and 30o latitud#eN /aAnd betweNeonr t1h7eorn a Cnda p1e7o30' longitude)

35J Namakwaland Port Nolloth (south of 29o latitude and# Nw/eAst of 17oN loonrtghieturnd eC)ape

31J Namakwaland South (south of 30o latitude) #N/A Northern Cape

34J Namakwaland Vioolsdrif (north of 29o latitude and ea#sNt /oAf 17o lonNgioturtdhee)rn Cape

63C Naphuno 7G250 Limpopo

14C Mutale 9B436 Limpopo

63C Namakgale 7N471 Limpopo

33J Namakwaland Aggeneys(east of 18o30' longitude an#dN n/Aorth of 30No olartthiteurdne C) ape

37J Namakwaland Alexander Bay (north of 29o latitude a#nNd/ Awest of 1N7oo rltohnegrnit uCdaep)e

32J Namakwaland Central (between 29o and 30o latitude# Nan/Ad betweeNn o1r7thoe3r0n' Canadp e18o30' longitude)

36J Namakwaland Kleinsee (between 29o and 30o latitud#eN /aAnd betweNeonr t1h7eorn a Cnda p1e7o30' longitude)

35J Namakwaland Port Nolloth (south of 29o latitude and# Nw/eAst of 17oN loonrtghieturnd eC)ape

31J Namakwaland South (south of 30o latitude) #N/A Northern Cape

34J Namakwaland Vioolsdrif (north of 29o latitude and ea#sNt /oAf 17o lonNgioturtdhee)rn Cape

63C Naphuno 7G250 Limpopo

02A Ndwedwe 4Y239 KwaZulu Natal

11C Nebo 7H251 Limpopo

61C Nelspruit SC246 Mpumalanga

03B New Hanover MB240 KwaZulu Natal

06C Newcastle MA244 KwaZulu Natal

57A Ngotshe MC245 KwaZulu Natal

09C Nigel SD247 Gauteng

05A Nkandla 5D241 KwaZulu Natal

61C Nkomazi (Kamhulshwa) 6A456 Mpumalanga

03C No MDZ #N/A

04C No MDZ #N/A

60C No MDZ #N/A

06A Nongoma 5E242 KwaZulu Natal

07A Noupoort GB236 Northern Cape

05A Nqamakwe 2T238 Eastern Cape

57A Nqueleni 2S237 Eastern Cape

06C Nqutu 5F243 KwaZulu Natal

61C Nsikazi (Kangwane) 6E466 Mpumalanga

09C Oberholzer SE254 Gauteng

09C Odendaalsrus NG255 Free State

09C Odi YK256 North West

04A Oudtshoorn ED253 Western Cape

02A Paarl EE262 Western Cape

09C Parys NH282 Free State

57C Paulpietersburg MH276 KwaZulu Natal

08B Pearston EF265 Eastern Cape

04A Peddie (Ciskei) 8F285 Eastern Cape

11C Petrusburg QN268 Free State

63C Phalaborwa VF472 Limpopo

09A Philipstown EH266 Northern Cape

08A Phillippolis PV284 Free State

58C Piet Retief VA278 Mpumalanga

03B Pietermaritzburg MJ275 KwaZulu Natal

06B Piketberg EJ261 Western Cape

61C Pilgrims Rest SH279 Mpumalanga

01A Pinetown MK272 KwaZulu Natal

05B Polela ML274 KwaZulu Natal

13C Polokwane (Pietersburg) (north of tropic of caVprGic1o4r0n) Limpopo

12C Polokwane (Pietersburg) (south of tropic of caSpFri2c8o0rn) Limpopo

01A Port Elizabeth EL263 Eastern Cape

04A Port Shepstone MM273 KwaZulu Natal

13C Postmasburg JG269 Northern Cape

09C Potchefstroom SJ283 North West

09C Pretoria SL277 Gauteng

09A Prieska HD267 Northern Cape

07B Prince Albert EN264 Western Cape

05A Queenstown EP290 Eastern Cape

57A Qumbu 2U291 Eastern Cape

09C Randburg RZ307 Gauteng

09C Randfontein SM301 Gauteng

08A Reddersburg PW306 Free State

08C Reitz PX304 Free State

03A Richmond (KZN) MN300 KwaZulu Natal

08A Richmond (N.Cape) ER299 Northern Cape

63C Ritavi 9U309 Limpopo

04A Riversdale ES298 Western Cape

05A Robertson ET297 Western Cape

57A Qumbu 2U291 Eastern Cape

09C Randburg RZ307 Gauteng

09C Randfontein SM301 Gauteng

08A Reddersburg PW306 Free State

08C Reitz PX304 Free State

03A Richmond (KZN) MN300 KwaZulu Natal

08A Richmond (N.Cape) ER299 Northern Cape

63C Ritavi 9U309 Limpopo

04A Riversdale ES298 Western Cape

05A Robertson ET297 Western Cape

09C Roodepoort SN302 Gauteng

08A Rouxville PY305 Free State

09C Rustenburg SP303 North West

09C Sasolburg NR325 Free State

11C Schweizer-Reneke VE330 North West

13C Sekgosese 7J336 Limpopo

11C Sekhukhuneland 7K337 Limpopo

08C Senekal QA331 Free State

12C Seshego 7L338 Limpopo

58C Simdlangentsha VA447 KwaZulu Natal

01A Simonstown GF312 Western Cape

09B Sipangeni (Flagstaff) 2V099 Eastern Cape

08A Smithfield QB333 Free State

07B Somerset East EU319 Eastern Cape

02A Somerset West EV313 Western Cape

09C Soshanguve VB335 Gauteng

13C Soutpansberg (central of 29o 30'and 30o 30' lToDng3i2tu9de) Limpopo

63C Soutpansberg (east of 30o 30' longitude) TD152 Limpopo

16C Soutpansberg (west of 29o 30' longitude) VH158 Limpopo

09C Springs SR326 Gauteng

08C Standerton SS332 Mpumalanga

02A Stellenbosch EW314 Western Cape

05A Sterkstroom EX321 Eastern Cape

07A Steynsburg EY320 Eastern Cape

07B Steytlerville FA318 Eastern Cape

02A Strand GC315 Western Cape

04A Stutterheim FC323 Eastern Cape

12B Sutherland FD317 Northern Cape

09C Swartruggens TP327 North West

05A Swellendam FE316 Western Cape

10B Tabankulu 2W343 Eastern Cape

05A Tarka FF342 Eastern Cape

11C Taung YO341 North West

12C Thabamoopo 7M351 Limpopo

11C Thaba'nchu YL349 Free State

12C Thabazimbi (east of 27o longitude) ST346 Limpopo

13C Thabazimbi (west of 27o longitude) VJ159 Limpopo

10C Theunissen NJ347 Free State

67C Thohoyandou (east of 31o longitude) 9G151 Limpopo

13C Thohoyandou (west 31o longitude) 9C328 Limpopo

08A Trompsburg QD348 Free State

57A Tsolo 2X344 Eastern Cape

05A Tsomo 2Y345 Eastern Cape

04A Tulbagh FJ340 Western Cape

57A Ubombo MP364 KwaZulu Natal

02A Uitenhage FK356 Eastern Cape

02A Umbumbulu 5P366 KwaZulu Natal

01A Umlazi 5Q359 KwaZulu Natal

06A Umtata 2Z357 Eastern Cape

05B Umvoti MR362 KwaZulu Natal

05A Umzimkulu 3A358 Eastern Cape

12B Umzimvubu 3B271 Eastern Cape

03A Umzinto MT360 KwaZulu Natal

05B Underberg MU361 KwaZulu Natal

06B Uniondale FM355 Western Cape

57C Utrecht MV363 KwaZulu Natal

02A Umbumbulu 5P366 KwaZulu Natal

01A Umlazi 5Q359 KwaZulu Natal

06A Umtata 2Z357 Eastern Cape

05B Umvoti MR362 KwaZulu Natal

05A Umzimkulu 3A358 Eastern Cape

12B Umzimvubu 3B271 Eastern Cape

03A Umzinto MT360 KwaZulu Natal

05B Underberg MU361 KwaZulu Natal

06B Uniondale FM355 Western Cape

57C Utrecht MV363 KwaZulu Natal

09B Van Rhynsdorp FP370 Western Cape

09C Vanderbijlpark TL378 Gauteng

08C Ventersburg NK385 Free State

10C Ventersdorp SU381 North West

08A Venterstad FQ374 Eastern Cape

09C Vereeniging SV379 Gauteng

04A Victoria East 8G387 Eastern Cape

12B Victoria West FR373 Northern Cape

09C Viljoenskroon NN383 Free State

09C Virginia NL382 Free State

57C Volksrust SW380 Mpumalanga

08C Vrede QE386 Free State

09C Vredefort NM384 Free State

05A Vredenburg GK372 Western Cape

09B Vredendal GH371 Western Cape

13C Vryburg (east of 24o longitude and north of 26NoT3106' 0latitude) North West

12C Vryburg (south of 26o30' latitude) JJ375 North West

17C Vryburg (west of 24o longitude) HG161 North West

06C Vryheid MW377 KwaZulu Natal

13C Vuwani 9D389 Limpopo

58C Wakkerstroom SX403 Mpumalanga

11C Warrenton JK397 Northern Cape

11C Waterberg TA407 Limpopo

10C Waterval-Boven TR404 Mpumalanga

05B Weenen MX400 KwaZulu Natal

09C Welkom NP410 Free State

02A Wellington FS393 Western Cape

08A Wepener QF411 Free State

09C Wesselsbron NQ409 Free State

09C Westonaria TK401 Gauteng

61C White River TH405 Mpumalanga

10B Williston FT395 Northern Cape

07B Willowmore FU396 Eastern Cape

10C Winburg QG412 Free State

09C Witbank TB402 Mpumalanga

07C Witsieshoek 9H416 Free State

07A Wodehouse CG398 Eastern Cape

10C Wolmaranstad TC408 North West

09C Wonderboom RY414 Gauteng

05A Worcester FX394 Western Cape

01A Wynberg GL392 Western Cape

07A Xalanga 3C418 Eastern Cape

57A Xhora (Elliotdale) 3D085 Eastern Cape

08A Zastron QH424 Free State

03A Zwelitsha 8H425 Eastern Cape