School of Mining Engineering

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

STRATEGIES TO ENHANCE ZIMBABWE'S COMPETITIVENESS TO ATTRACT MINING INVESTMENTS

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A research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science in Engineering.

Johannesburg, 2020

DECLARATION

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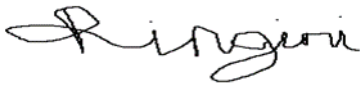

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ABSTRACT

The purpose of this study was to develop multiple strategies that can be used to enhance Zimbabwe's competitiveness in attracting more mining investments. According to the Fraser Institute (2019) Zimbabwe has a mediocre ranking in terms of its perceived mineral potential, with an average, in the last 3 years, at the 50th-percentile ranking. Zimbabwe has a very poor ranking in terms of policy perception, with its global policy perception ranking at the 96th-percentile, in the same period. Thus, Zimbabwe's poor policy perception can therefore be described as the biggest constraint to the country's competitiveness to be able to attract mining investments.

The research is based on analysing data mainly from the World Bank, World Economic Forum, and the Fraser Institute in making its arguments. Reports from these institutions, written from 2009 to 2020, were analysed in order to identify patterns that can be used to explain the salient constraints limiting Zimbabwe's mining competitiveness.

A SWOT analysis method was used to holistically analyse the factors that are perceived to be affecting Zimbabwe's mining competitiveness. Strategies that can be used to enhance Zimbabwe's mining competitiveness were then explored through suggesting solutions to each of the factors identified to be affecting the country's competitiveness in the mining sector.

The internal factors that were identified to be negatively affecting Zimbabwe's ability to be competitive in attracting mining investments (weaknesses in the SWOT analysis) are the political and policy instability in the country, the country's macroeconomic instability and the foreign exchange crisis in the country. Zimbabwe also has an inefficient government bureaucracy, and there are high levels of corruption in the country. There are also difficulties in accessing financing in the country, and there is an inadequate supply of infrastructure in the country. Zimbabwe

also charges relatively high mining royalties as compared to its neighbours, and there is a history of a lack of property right in the country.

The external factors identified as posing a threat to Zimbabwe's ability to become competitive in attract mining investments (threats in the SWOT analysis), are the targeted economic sanctions on the country, the limited access to international lines of credit, and brain-drain. The volatile mineral commodity prices also present a threat to the competitiveness of Zimbabwe's mining sector. The negative image the country also presents a threat to the country's competitiveness to attract mining investments. Zimbabwe's dependency on other countries for mining inputs and markets also creates its own risks.

To improve the country's policy perception, Zimbabwe needs to implement steps to resolve the political instability in the country. Dialogue between Zimbabwe's major political players can help resolve this current political crisis. To improve the country's business environment, Zimbabwe needs to find ways to resolve the country's macroeconomic instability and foreign exchange crisis. Structural reforms in the country's economy and prudent fiscal management, including measures to reduce the government budget deficit, need to be implemented to ensure macroeconomic stability.

To enhance the country's business environment, Zimbabwe also needs to find ways to deal with the high levels of corruption in the country, as well as the inefficient government bureaucracy. There should also be limited political interference in the running of government bureaucracy, such as in the issuance of mining permits.

To enhance the business environment in the country, in order to attract more mining investments, Zimbabwe needs to find ways to tackle its inadequate supply of infrastructure. Funding of these infrastructure development projects can be done using a combination of financing sources, which include funds from the fiscal budget, state-owned enterprises, local authorities, donors, and the private industry.

To improve the country's policy perception, Zimbabwe also needs to relook at lowering its gross revenue-based royalties to a level lower or at par with other African countries. As an alternative, Zimbabwe can instead increase the tax forms dependant on profitability, such as corporate tax.

To improve the country's policy perception, Zimbabwe also has to find ways to deal with the country's perceived lack of property rights. One way to achieve this is through the use of 'Investment Promotion Agreements", as a means to stabilise the regulation system to protect investments.

To enhance its competitiveness to attract mining investments Zimbabwe also has to find ways to deal with brain-drain and retain its skilled and experienced mining professionals. Zimbabwe's government also has to find ways to incentivise mining companies to set up processing facilities in the country. Zimbabwe's government also has to find ways to encourage the development of the country's local mining suppliers. This can be achieved through offering tax incentives to mining companies which opt to process their minerals locally, and through incentivising companies that purchase their supplies from local sources.

To enhance Zimbabwe's mining competitiveness to attract mining investments, the country also needs to increase its capacity to develop home-grown mining technological solutions which are better suited to its unique geological conditions. This can be achieved by promoting innovation in the country and investing in R&D.

Though there were a wide set of strategies recommended to help Zimbabwe enhance its competitiveness to attract mining investments, Zimbabwe's political and policy instability were identified as the biggest problems affecting Zimbabwe's business environment. To enhance Zimbabwe's competitiveness to attract mining investments, it is therefore critical to prioritise the implementation of strategies that can help resolve the political and policy instability in the country.

DEDICATION

I dedicate this Research Report to my family, notably:

My life partner Dr Mukani, my father, Prosper and my mother Venancia.

ACKNOWLEDGMENTS

I would like to thank my supervisor, Prof H. Mtegha, for agreeing to be my supervisor when I reached out to him. His patience, guidance, and supervision has been pivotal in ensuring that I successfully complete this research project. He has helped me develop into a creative researcher, and the research skills he has imparted will prove invaluable in my career.

I am grateful to my current employer, Royal Bafokeng Platinum, for funding my studies. Without their financial assistance, I would not have been able to complete this qualification. I would like to thank the management of Styldrift mine for approving all the study leaves I needed in order to pursue this Master's degree.

I would also want to thank my father for his moral support that ensured that I pursue this Masters' research and my mother for her spiritual support and constant prayers.

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LIST OF SYMBOLS

Kilometres	km
Metres	m
Tonnes	t
United States Dollars	US$
Percent	%

LIST OF ABBREVIATIONS

AfDB…… African Development Bank
CIDA……. Canadian International Development Agency
DRC……. Democratic Republic of Congo
EU……. European Union
FDI……. Foreign Direct Investments
FTLRP……. Fast Tracked Land Reform Program
GDP……Gross Domestic Product
GNU……. Government of National Unity
IANRA……. International Alliance on Natural Resources in Africa
IMF……. International Monetary Fund
IRR……. Internal Rate of Return
M0……..Physical paper and coin currency in circulation
NPV……. Net Present Value
N/A……. Not Applicable
PEST……. Political, Economic, Social and Technological
PGM's……. Platinum Group Metals
R&D……. Research and Development
RBZ……. Reserve Bank of Zimbabwe
SADC……. Southern African Development Community
S&P……. Standard and Poor
SWOT…… Strengths, Weaknesses, Opportunities and Threats
UK……. United Kingdom
USA……. United States of America
VAT……. Value Added Tax
WEF……. World Economic Forum
ZEPARU..…. The Zimbabwe Economic Policy Analysis and Research Unit

GLOSSARY

Comparative Advantage

The ability of a country to produce a particular good at a lower marginal cost than another country due to the certain factors of endowment it poses (U.S. Bureau of Labor Statistics Division of Information Services, 2008). In mining factors of endowment include the natural costs, in particular, the quality of a country's mineral reserves. In the context of this report, the comparative advantage is aligned with "traditional view" of mining competitiveness.

Competitive Advantage

The competitive advantage is a country's capability to develop core competencies that give it a trading advantage over other countries. These core competencies may include having specialised knowledge or technology (Alexander & Martin, 2013). In the mining context it includes the country having a good business environment for mining companies to operate. In the context of this report, the competitive advantage is aligned with the alternative view of mining competitiveness.

Percentile

In statistics a percentile is a score at or below which a given percentage of scores falls. Percentiles are used as a way to express where an observation is falling within a range of other observations. "Every score is in the 100^{th} percentile, the 25^{th} percentile is also known as the first quartile (Q1), the 50^{th} percentile as the median or second quartile (Q2), and the 75^{th} percentile as the third quartile (Q3)" (National Institute of Standards and Technology, 2009). In this report the percentiles were used to provide comparative ranking between Zimbabwe and other countries on a wide set of indicators.

Exchange Controls

Exchange controls are government-imposed limitations on the purchase or sale of currencies" (Pascrischa, 2020)

Public goods

"In economics, a public good is a good that is both non-excludable and non-rivalrous. For such goods, users cannot be barred from accessing or using them for failing to pay for them." (Razzolini, 2003)

1 INTRODUCTION

1.1 Mining competitiveness

Countries operate in an environment where they are constantly competing globally to market and sell their products. Thus, competitiveness is measured by the country's share of global markets (Spence & Karingi, 2011). While other sectors gain their market share through delivering better quality products to the market, in the mining sector, competitiveness is consolidated based mainly on the production costs, as the mineral commodities which they produce are usually of a uniform standard and homogenous (Tilton, 1992).

There is a lack of consensus on how competitiveness is defined in the mining sector. There are two main schools of thought of what constitutes a country's mining competitiveness, namely the traditional view and the alternative view of mining competitiveness. The traditional view emphasises the significance of natural costs, that is the high-grade and low-cost reserves. On the other hand, the alternative view of mining competitiveness emphasises the importance of the country's investment climate (Jara, 2017).

Countries' desire to attract mining investments has led policy makers and private companies to analyse the factors that affect mining competitiveness (Jara, et al., 2020). Jara (2017) used an empirical analysis on Chile's econometric models of the year 2014 to investigate the factors affecting mining competitiveness. The results of his studies added support to the alternative view of mining competitiveness.

The traditional view argues that without low-cost, high grade reserves, it is virtually impossible for a country or mining company to become competitive (Tilton, 1992). It argues that if a country has high quality, low-cost deposits,

other factors such as skilled workforce, socio-political stability, adequate infrastructure, are less relevant.

The alternative view argues that, despite a country's mineral endowments, the implication of bad public policies is a gradual loss of the country's competitiveness in phases. Tilton (1992) proposed that the first phase signalling loss of mining competitiveness is a decline in the jurisdiction's ability to attract greenfield exploration projects. The second phase in the loss of a country's competitiveness is a decline in the country's ability to attract capital to expand existing mining operations. The last phase, in a country's loss of mining competitiveness, is the failure to attract adequate capital to maintain operational mining facilities (Tilton, 1992).

According to Jara, et al. (2020) the implication of globalisation is that nowadays, mining countries must compete globally to attract international mining investments to exploit their mineral resources. How competitive a mining jurisdiction is thus can be measured by the amount of mining investment it attracts in comparison with other mining jurisdictions.

According to Standard and Poor (S&P) Global Market Intelligence (2020), the total world exploration expenditure has been in decline in the 2018/2019 financial year. In 2019, the total world exploration expenditure, for non-ferrous metals, was estimated to be $US9.8 billion (United States dollars), which was a 3 percent decline from the previous year. This annual decline in global exploration expenditure signalled an end to the two-year upsurge in exploration expenditure that had been experienced globally between 2017 and 2018 (S&P Global Market Intelligence, 2019).

The implication of a decline in global exploration expenditure is a decrease in the number of new deposits that can potentially be discovered, and resultantly fewer mines being developed. If this global trend of decreasing global exploration expenditure persists, the result is that there will be fewer

mining projects in the pipeline to replace existing mines nearing the end of their “Life of Mine” cycle. This will lead to an overall decline in the global mining industry over time.

Africa as a continent had the second largest decline in exploration expenditure in the world in 2019. Africa’s exploration expenditure decreased by US$156 million from the previous year, to US$1,122.1 million. In 2019, Africa’s market share of the global exploration budget declined from an average of 23 percent in 2013, to an all-time low average of 12 percent in 2019. A comparison of the annual exploration expenditure of the African continent and other regions in the world is illustrated in Figure 1 below (S&P Global Market Intelligence, 2019).

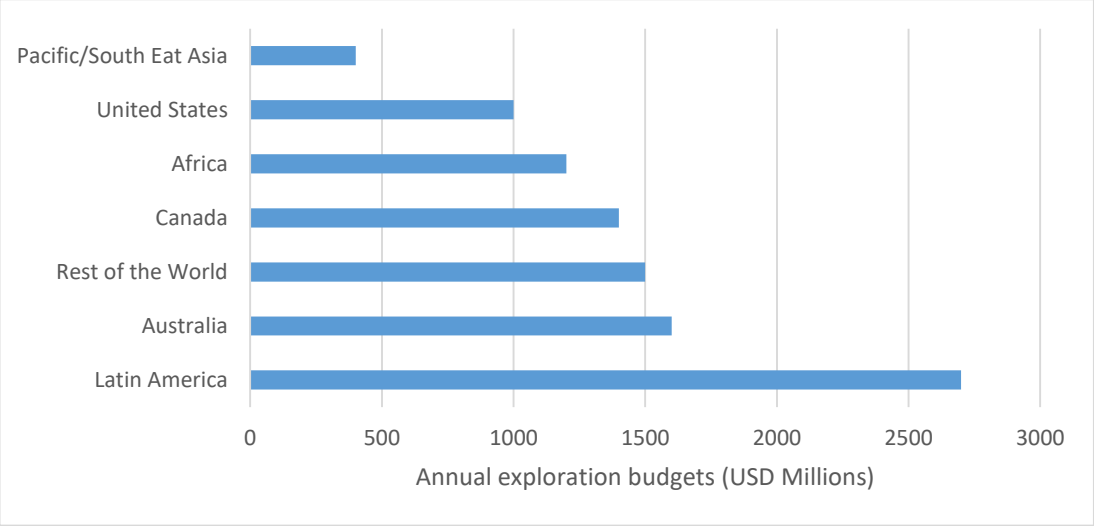

Figure 1: Annual exploration budgets by region for 2019 (S&P Global Market Intelligence, 2019)

As illustrated in Figure 2 below, since 2012, exploration expenditure on the African continent has been on the decline. Africa’s annual exploration budget peaked at approximately US$3.5 billion in 2012 and, as of 2019, declined to an annual budget of approximately US$1.1 billion (S&P Global Market Intelligence, 2019). This is a decline of approximately US$2.4 billion within a period of 8 years. This significant decline in exploration expenditure on the African continent, and the reduction on Africa’s market share of the

global exploration budget indicates an overall loss of mining competitiveness on the continent.

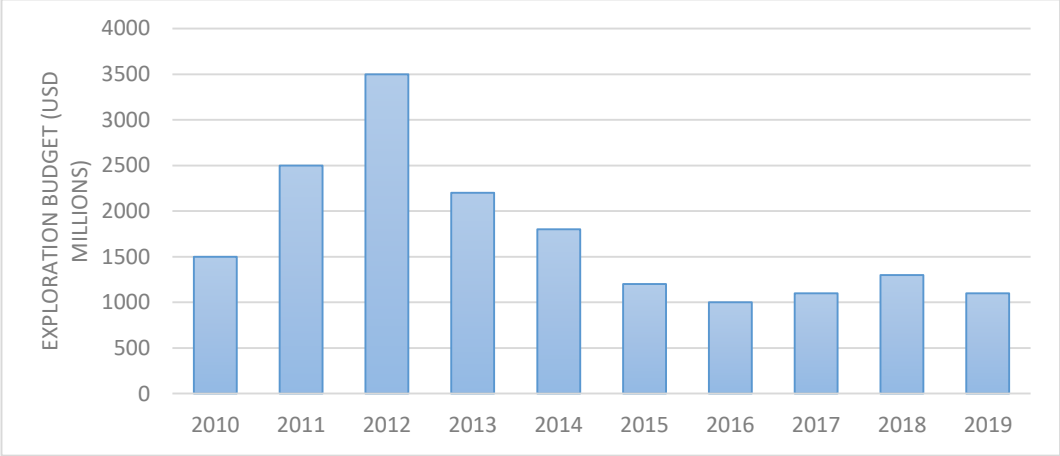

Figure 2: Africa's exploration budget trends (S&P Global Market Intelligence, 2019)

As illustrated in Figure 3 below, the DRC (Democratic Republic of Congo) has been the leading destination in terms of exploration expenditure. Amongst the top African countries in terms of attracting exploration investments, in 2019, DRC had an exploration budget of US$174.2 million, followed by Burkina Faso, which had an exploration expenditure of US$134.2 million. Ghana was in third place with an annual exploration expenditure of US$100.3 million and South Africa was in fourth place, attracting exploration expenditure of US$97,4 million (S&P Global Market Intelligence, 2019).

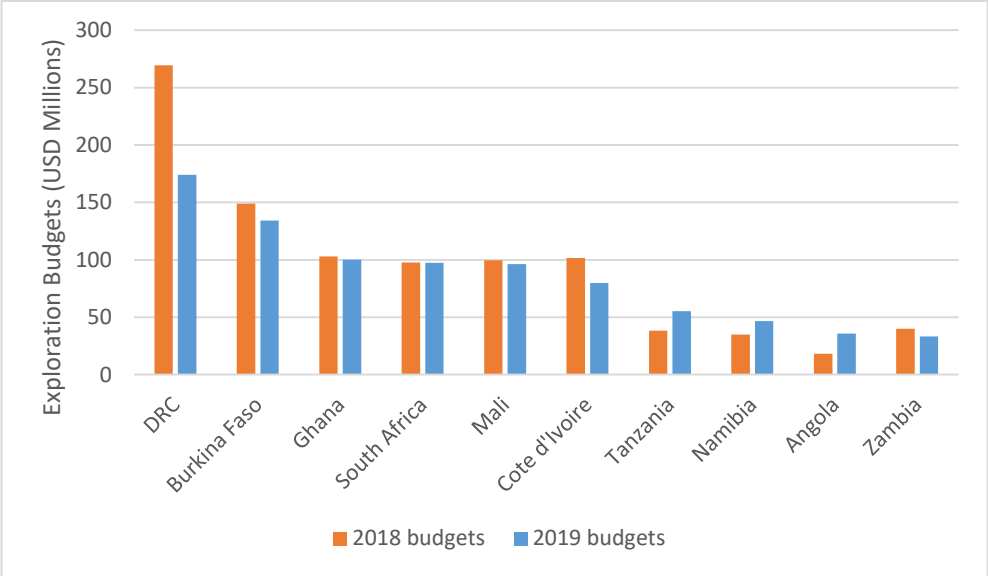

Figure 3: Top exploration budgets in Africa by country (S&P Global Market Intelligence, 2019)

1.2 Strategies to enhance countries' mining competitiveness

There have been various studies that have been done on strategies that can be used to enhance countries' competitiveness to attract mining investments. Jara et al. (2020) argues that for a country to attract mining investments, it should have a good mineral endowment and must also have a good investment climate.

Eggert (2010) proposed that governments can take the initiative of developing their jurisdictions' geoscientific infrastructure to act as a catalyst for greenfield exploration. This is because few private companies are willing to take the risk associated with investing in doing regional geophysical surveys and developing of geological maps. However, once this basic geological information is available, more exploration companies will be attracted into the jurisdiction, as the prospecting or exploration risk will be reduced.

To attract mining investments, the United Nations Economic Commission for Africa (2004) emphasised the importance of a stable political and macroeconomic environment. It recommended that, to attract mining

investments, the tax rates and forms of tax should be internationally competitive. The United Nations Economic Commission for Africa (2004) report highlighted the negative effects of exchange controls in discouraging mining investments, including exchange controls leading to foreign currency shortages and resulting in the formation of black markets for currencies.

The United Nations Economic Commission for Africa (2004) recommended that to improve the competitiveness of SADC countries to attract mining investments, there must be harmonisation of mineral policies and regulatory frameworks in the Southern African region. It then proposes a benchmarking framework for SADC member states based on international best practices. This benchmarking framework includes aligning stable mineral policies in SADC countries based on stakeholder engagements, transparency, and the management of expectations.

1.3 Zimbabwe's lack of mining competitiveness

Zimbabwe does not feature in the top 10 African countries that attract the most exploration budgets on the continent. In the Southern African region, Zimbabwe ranks near the bottom, in terms of mining competitiveness, as illustrated in Figure 4 below. In 2019, Zimbabwe was only able to attract between US$10.1-25.0 million in total exploration expenditure. In the Southern African region only Malawi, Swaziland and Lesotho attracted less exploration expenditure than Zimbabwe (S&P Global Market Intelligence, 2019).

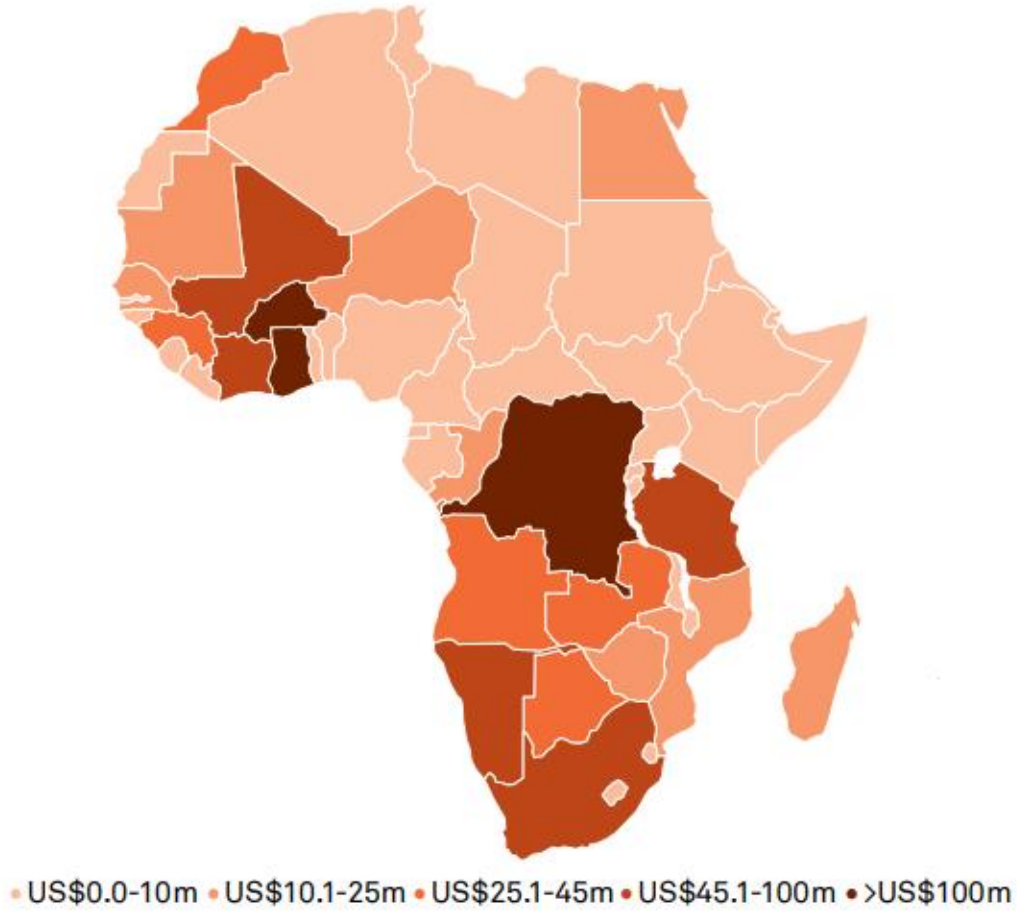

Figure 4: African exploration budgets by country (S&P Global Market Intelligence, 2019)

It is therefore important to investigate why Zimbabwe has been unable to be competitive in attracting mining investments as compared to its other Southern African counterparts. Investigating the factors affecting Zimbabwe's lack of mining competitiveness and developing strategies to improve Zimbabwe's competitiveness to attract mining investments, will be the primary aim of this research.

Zimbabwe needs to improve its mining competitiveness because Zimbabwe's mining sector is a significant contributor to the nation's economy (United States of America International Trade Administration, 2020). According to the United States of America International Trade Administration (2020) Zimbabwe's mining sector contributes around 12 percent of Zimbabwe's gross domestic product (GDP). According to the

Chamber of Mines of Zimbabwe (2018) mineral commodity exports generate over 50 percent of Zimbabwe's foreign earnings. Most of the infrastructure that has been established in the country such as roads and railways is attributed to the mining sector. A significant number of towns in Zimbabwe today including Marondera, Hwange, Kadoma and Kwekwe were established around mining areas.

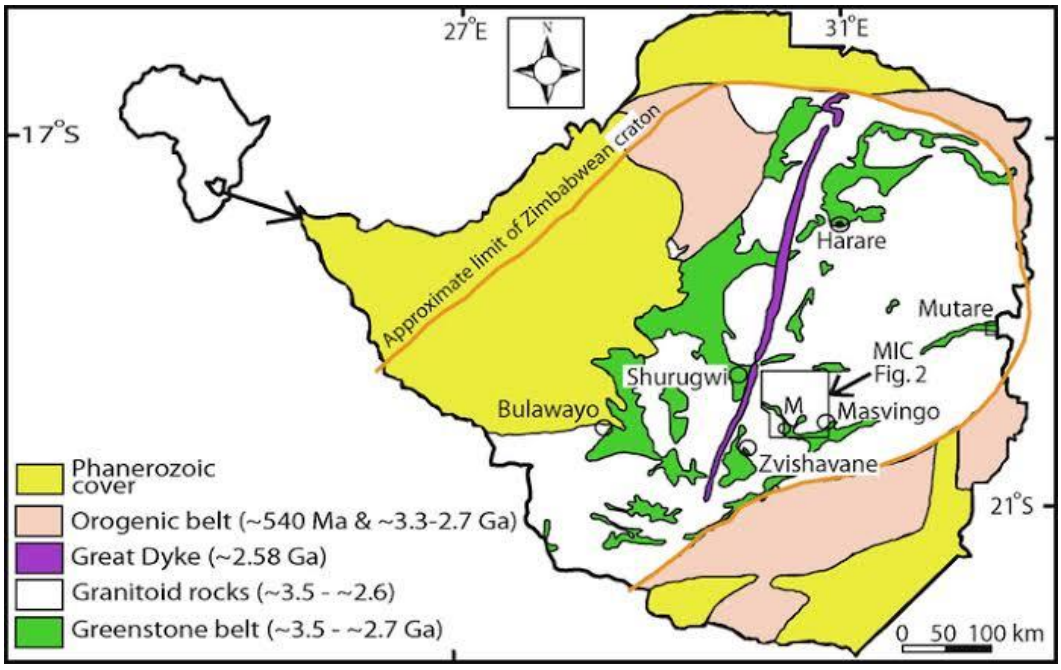

Figure 5: Simplified Geological map of Zimbabwe ***(Chaumba, 2019)***

Figure 5 above illustrates the geology of Zimbabwe. Zimbabwe's major geological formations are mainly comprised of the Zimbabwean Craton which extends beneath nearly 70 percent of central Zimbabwe. According to Mugumbate (2016) the Zimbabwean Craton is primarily comprised of igneous granitic rocks and metamorphic gneisses with portions of volcanic-sediment greenstone belts scattered between the granite and gneiss bodies. These greenstone belts are some of the most gold-enriched in the world, hosting over 4000 gold deposits.

In addition to the greenstone belts, one of the most prominent geological features located in the Zimbabwean Craton is the Great Dyke of Zimbabwe which spans across the length of the Zimbabwean Craton. The Great Dyke is comprised of NNE-striking ultramafic layered intrusions, 550 km long and 3-12 km wide. The Great Dyke is host to the second largest deposits of platinum group metals (PGM's) in the world after South Africa's Bushveld Igneous Complex (Mugumbate, 2016). The Great Dyke also hosts significant chromite deposits and other base metals like nickel, iron, and copper (Oberthur, et al., 2012). Due to Zimbabwe's geological formations, the country has potential for the discovery of world-class mineral deposits.

However, according to Mugandani (2017) little exploration has been undertaken outside known deposits and Zimbabwe remains under-explored. In fact, according to Mlambo (2016) the number of exploration projects has been on a decline particularly in the past two decades as is evidenced by the significant reduction and virtual cessation of greenfield exploration expenditure as illustrated in Table 1 below.

Table 1: Status of mineral resource exploration in Zimbabwe (Systematic exploration expenditures). (Mugandani, 2017)

Year	Total number of exploration titles (Exclusive Prospecting Orders and Special grants)	Annual exploration expenditure (US Dollars)
2009	33	107 731
2010	16	2 066 172
2011	23	19 901 285
2012	27	11 850 368
2013	11	29 323 969
2014	22	1 017 593
2015	24	112 182
2016	27	46 6145

Compared with other countries, Zimbabwe's mining industry has consistently lagged in terms of attracting exploration expenditure. This highlights its loss of mining competitiveness. For instance, between 2012 and 2019, while the DRC attracted on average around US$250 million per annum in exploration expenditure, in the same period, Zimbabwe only managed to attract on average around US$12 million per annum (Deloitte, 2015; S&P Global Market Intelligence, 2017-2020). It is important to

investigate why Zimbabwe has lagged behind other SADC countries like DRC in attracting exploration expenditure.

1.4 Objectives of the Study

The purpose of this study was to develop strategies that can be used to enhance Zimbabwe's competitiveness in order to attract more mining investments as measured through exploration expenditure. This report aimed to answer the following questions: What are the factors affecting Zimbabwe's competitiveness to attract mining investments, and what strategies can be used to enhance Zimbabwe's competitiveness to enable it to attract more mining investments?

1.5 Research Methods

This research was done through analysing a wide range of data including mining investment statistics, geological potential rankings, financial systems indices, and macroeconomic indicators. An empirical analysis was conducted to evaluate the relationship between mining investment flows in Southern African countries and the factors that affect mining competitiveness, with a focus on Zimbabwe, using the above-mentioned datasets. The SWOT analysis method, as illustrated in Table 2 below, was then used for strategic analysis, to evaluate these factors that were identified to be affecting Zimbabwe's competitiveness in the mining sector.

Table 2: SWOT Analysis Model

	Helpful in making Zimbabwe more competitive in the mining sector	**Harmful in making Zimbabwe competitive in the mining sector**
Internal origin (characteristics of Zimbabwe)	Strength	Weaknesses
External origin (characteristics of the global environment)	Opportunities	Threats

The strategies to enhance Zimbabwe's competitiveness to attract mining investments were then be developed by suggesting solutions to each of the factors identified to be affecting Zimbabwe's competitiveness in the mining sector. These strategic recommendations depended on how each factor was categorised in the SWOT analysis.

This research relied mainly on analysing data from institutions such as the World Bank, World Economic Forum, and the Fraser Institute in making its arguments. Reports from these institutions were analysed over a period of at least a decade in order to identify patterns that could be used to explain the biggest constraints limiting Zimbabwe's competitiveness to attract mining investments.

The study used variables based on the following datasets: To measure the country's exploration expenditure, Deloitte and S&P Global Market Intelligence reports were used. To measure the country's policy perception

and geological potential, the Fraser Institute's Annual Survey of Mining Companies was used. The World Bank's "Ease of Doing Business Reports" and the World Economic Forum's "Global Competitiveness Reports" was also used in this report to measure Zimbabwe's investment climate.

1.6 Importance of Study

The importance of the study is that it aimed to develop strategies which can be used to enhance Zimbabwe's mining competitiveness using a SWOT analysis methodology. The SWOT analysis approach used in this report, in the strategy development process, enables a more detailed and holistic analysis of both the internal factors (strengths and weaknesses), and the external factors (opportunities and threats) affecting Zimbabwe's competitiveness to attract mining investments.

1.7 Limitations

This study limited its scope on investigating the determinants of mining competitiveness and on developing strategies to attract mining investments in Zimbabwe. There were challenges in attaining the most recent exploration expenditure figures from the authorities in Zimbabwe. There was no response from the geological society of Zimbabwe on a request to access the latest exploration expenditure data on the country. Thus, this research had to rely on public data from reports published by S&P Global Market Intelligence (2017-2020) and Deloitte (2015).

The researcher only found S&P Market Intelligence reports with data on African exploration expenditure from 2016 to 2019. The report by Deloitte (2015) only had comparable exploration expenditure data for African mining countries from 2012-2014. Thus, no source could be found by the

researcher with comparable African exploration expenditure figures for the year 2015.

1.8 Structure of the Research Report

The structure of this research report will be as follows, in **Chapter 1** a background is given on the subject of mining competitiveness including the global exploration expenditure trends. There is also a brief discussion on what other researchers have said about the subject of mining competitiveness. This chapter includes the identification of the need for the study, stating of the research questions, scope of study and the aim of the study. In **Chapter 2** a literature review is conducted, in the area of mining competitiveness with the aim of identifying research gaps.

In **Chapter 3,** an expanded description and analysis of the methodology used in this report is undertaken. In **Chapter 4,** an empirical analysis of the relationship between mining investments and the determinants of mining competitiveness is presented based on the Southern African region with a focus on Zimbabwe. A benchmarking analysis is also done to evaluate Zimbabwe's mining environment.

In **Chapter 5** a SWOT analysis of Zimbabwe's mining sector is conducted in order to identify, describe, and categorise the factors affecting the country's competitiveness in attracting mining investments. In **Chapter 6** strategic options that can be used to enhance Zimbabwe's mining competitiveness are explored by suggesting solutions to each of the factors identified to be affecting the country's competitiveness in the mining sector. In **Chapter 7** conclusions are given as a summary of the key finding from the research. **Chapter 8**, then gives a summary of the recommendations made in this report.

2 LITERATURE REVIEW

2.1 Introduction: The Economics of Mining Investments

The first stage in the life of a mine is greenfield exploration. This presents the highest risk to an investor as is illustrated in Figure 6 below. However, the mineral exploration stage can also present an opportunity for an investor to gain the highest reward in the mining value chain. A successful exploration project can lead to the finding of a high-quality ore deposit that can in turn be developed into a highly profitable mine (Campbell, 2018).

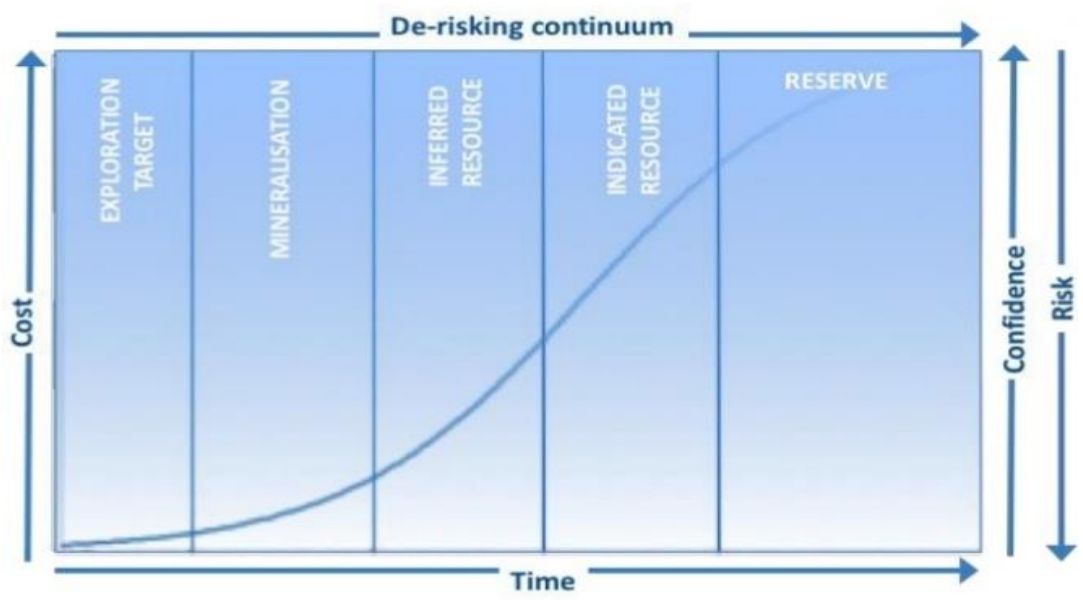

Figure 6: mining project risk profile ***(Campbell, 2018)***

From an investor's perspective, the focus is on maximising the net present value (NPV) of the mining project. In pursuit of this, the investor can opt to enter the mining value chain at any stage in the life of mine. For example, a private firm can decide to specialise in greenfield exploration projects and in the case of a successful mineral discovery, the company can opt to conduct further exploration to improve the confidence levels or sell the rights

to another entity for the further development (Jara, 2017). Ultimately, how an investor firm makes investment decisions between these alternatives depends on its investment strategies, risk appetite and future expectations. Many investors have an investment portfolio with allocations to projects at different stages in the mining value chain (Otto, 1992).

In the mining value chain, initially, the investors have much flexibility in how and where they can allocate their capital. However, once they have made an investment decision and already sunk costs into a mining project, the balance of power shifts to the host government. This is because once a mine has been developed, the company cannot freely or cheaply re-allocate these assets to another location or country. “Once a shaft is sunk, it is sunk.” Thus, in the “life of mine” cycle, greenfield mineral exploration is the quickest and easiest to relocate to another location or country if conditions become unfavourable. This is because the costs involved in exploration are relatively lower, compared to other stages in the mining value chain (Jara, 2017).

Ultimately, greenfield exploration and mine development projects are investments, where companies aim to get an acceptable return on their investment. Investments in mineral extraction projects are also competing for capital with other investment projects both within and outside the mineral industry. As the aim of the companies is to maximise the NPV of their projects when making investment decisions, the projected costs and revenues must be adjusted to time and risk. Thus, a more profitable mining project that is less risky and has a shorter waiting time before the investors can get a return on their investment is ultimately more attractive, as a mining investment opportunity (Eggert, 2010).

To the local community and host country, successful mining projects can lead to job creation and infrastructure development. In general, the government objectives in the mining sector will encompass the following:

- Maximising the NPV of the benefits of the mining projects to the country;
- Minimising of negative health and environmental impact of the mining projects and getting adequate compensation for damages incurred due to the mining activities;
- The formation of upstream and downstream linkages between mines and other industries in the economy, including job creation, investments in local beneficiation, buying from local suppliers and the transferring of technology and skills; and
- The need for sensitivity for the cultures and social needs of the surrounding communities, including these communities' sustainability after mine closure (Otto & Cordes, 2002).

Because of the difficulties by the host governments in realising these above-mentioned objectives from mining projects during the 1960's and 1970's, there was a wave of increased state participation in the mining industry. This wave occurred through nationalisation and the formation of state-owned mining enterprises. However, in the decades that followed, most of the state-owned mining entities collapsed as they were not being managed efficiently and had failed to exploit the country's minerals profitably. Thus, many of these countries settled to privatise their mining ventures and invite private capital, mostly in the form of foreign direct investments (FDI), to engage in developing mining projects in their jurisdictions (Jara, 2017). Thus today, most mining projects across the globe, are run by private companies. The implication is that, nowadays countries must compete globally to attract expertise and FDI in order to develop their mining industries.

For instance, when the Anglo-American mining operations in Zambia were nationalised by the Zambian government in 1969, the production of copper decreased from 750,000t to 275,000t by the year 2000. This represented a production decline of over 60 percent in the 30 years since the mines were nationalised. In addition, these nationalised operations' contribution to

Zambia's GDP decreased from 35 percent in 1970, down to 10 percent in 1995. In the same period, these copper mines' contributions to the Zambian state, in terms of revenue, eventually shrank, from 57 percent in 1970, down to zero in 1995, as is illustrated in Figure 7 below. Consequently, the government of Zambia decided to re-privatise these mines (Forrest, et al., 2010).

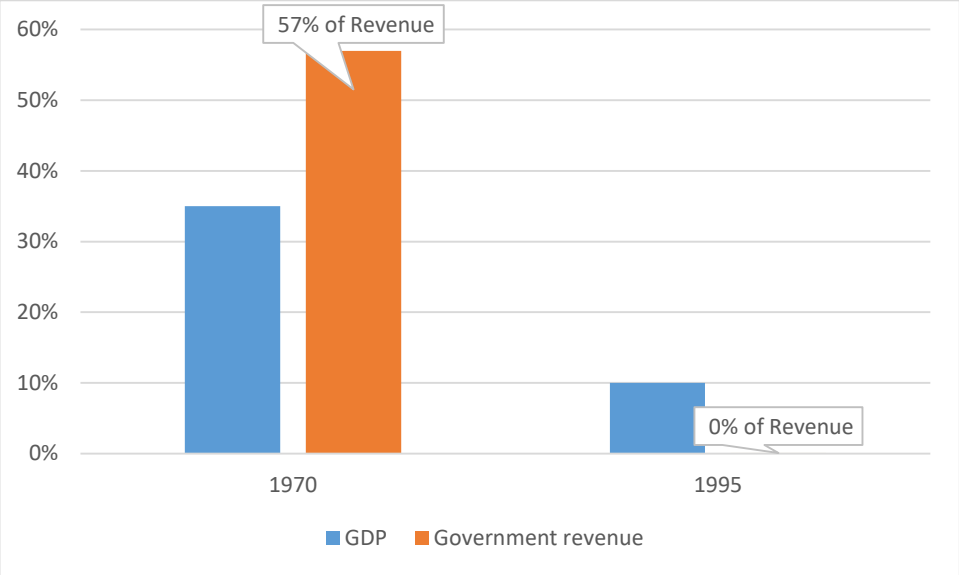

Figure 7: Copper's contribution of Zambia's GDP and to Zambia's government revenue ***(Forrest, et al., 2010)***

2.2 Defining a country's mining competitiveness

The concept of competitiveness has been widely studied in academic literature and has been a subject of economics and policy debates since the 1980's and the early 1990's. The opposing views of what constitutes competitiveness have never really been resolved, and up to today no real consensus has been reached (Ketels, 2016). Given this lack of consensus, it is important to unpack the two main differing views on how competitiveness is defined in the mining sector.

2.2.1 The traditional view

According to Tilton (1992), in determining competitiveness, the traditional view emphasises the significance of natural costs, particularly high-grade and low-cost reserves. The traditional view argues that without such reserves, it is virtually impossible for a country or mining company to become competitive (Tilton, 1992). It argues that if a country is endowed with high quality, low-cost deposits, other factors such as skilled workforce, socio-political stability and adequate infrastructure are less relevant.

According to Tilton (1992) the rationale of this traditional view is that while the other factors of production can be re-allocated, mineral endowment is not mobile. This implies that in order to get these mineral commodities, the market has no choice than to source them from those geological locations where these mineral deposits are found (Tilton, 1992). Therefore, the jurisdictions endowed with a higher quality of these mineral resources will inevitably attract more investments and once these higher quality resources are exhausted, the competitiveness will shift to the jurisdiction with the next best mineral resources.

The traditional view of countries' competitiveness to attract mining investments thus implies that countries can only rely on natural resources and can do nothing more to encourage their mineral sectors to be developed. According to Jara (2017) this traditional view is supported within the international trade literature by the "theory of comparative advantage" which states that a country's ability to attract investment is mostly based on the natural endowments of its jurisdictions.

According to Jara (2017) the traditional view implies that there is nothing much management and workers can do to enhance a mine's competitiveness. There is little that managers and the workforce can do to lower the mining costs or extend the "life of mine" on their operations. This

implies that once a mine has exhausted its reserves, it will close (Jara, 2017). The traditional view also implies that the government has a limited ability for promoting and enhancing their mining sector's competitiveness (Tilton, 1992). For mining companies to maintain their competitiveness in the long term, these depleting reserves must be replaced through exploration led discovery of new deposits or through acquisition of new deposits from other entities.

2.2.2 The alternative view

The opposing view to the traditional view of countries' competitiveness to attract mining investments is called the alternative view. It gained prominence from the mid-1980's due to various adverse experiences encountered by some mining jurisdictions. In the decades preceding this period, mineral rich host countries had increasingly taken to actively participate in mining themselves through setting up state owned mining entities. However, by the 1980's most of these state-owned mining entities had collapsed as they were inefficiently run and had failed to profitably exploit their mineral resources (Jara, 2017). In the process to enable this, it emerged that the mining competitiveness of countries is influenced by both its perceived mineral potential and its investment climate (Jara, 2017).

Studies by Johnson (1990), Tilton (1992) and the Fraser Institute (1997-2020) have substantiated this assertion of the alternative view. The implication of bad public policies, Tilton (1992) argued, is a gradual loss of the countries' competitiveness in phases. The first phase signalling loss of competitiveness is a decline in the jurisdiction's ability to attract greenfield exploration projects. The second phase in the loss of a country's competitiveness is a decline in the country's ability to attract capital to expand existing mining operations, and the last phase is the failure to attract adequate capital to maintain operational mining facilities (Tilton, 1992).

If these declines occur despite the country's geological potential, it highlights the presence of bad government policies which are discouraging a conducive investment climate. According to Jara (2017) the investment conditions that are essential to enable a favourable business operational climate include adequate infrastructure, affordable and reliable electricity, availability of a socio-political stability, skilled workforce, reliable and independent institutions; and clear, well-defined, regulatory frameworks and appropriate tax regimes. According to Otto and Cordes (2002), the primary desires of international mining investors usually encompass the following objectives:

- A well-defined security of tenure, and ability to transfer exploring and mining rights, including being given first right of issue upon mineral discovery;
- A stable, predictable policy and business climate that is transparent and is backed by the "rule of law", which is unbiased and can be confidently relied on;
- Minimum interference over managerial operational control; and
- Business friendly policies including not having restrictions to repatriate profits and service debt (Otto & Cordes, 2002).

The Fraser Institute has helped propagate this alternative view of countries' competitiveness to attract mining investments through the "Annual Survey of Mining Companies" reports. The institution has been publishing these reports annually for the past 23 years. These reports assess how a country's mineral endowment and its public policies affect the country's investment attractiveness in the mining sector.

2.2.3 Other factors that influence mining competitiveness

2.2.3.1 Technological innovation and operational efficiency, and mining competitiveness

In addition to geological potential and public policy, Tilton (2002) also argued that technological innovation, and mining companies' operational efficiency systems, are pivotal in determining mining competitiveness. Putting this into consideration, the set of public policy matters should therefore change. If wealth creation through mineral exploitation is more internally driven, the implication is that while there is still need for the state to capture rents from mining, mineral wealth is not a set gift from nature which mining companies and countries can effortlessly collect up. Mineral wealth, through mining profits, is instead created by mining firms that successfully compete globally to ensure the reduction of production costs (Tilton, 2002).

According to Tilton (2002) once the role of human ingenuity is recognised by the government, the state's policy agenda shifts from trying to maximise the rents it captures from mining, to how the state can create an enabling economic climate to encourage the innovation and entrepreneurial zest of private companies and individuals (Tilton, 2002). In other words, the state starts to focus more on formulating policies that ensure an optimisation of benefits flowing from mining to the greater economy and less on how to distribute the rents it captures from the sector.

2.2.3.2 Mining taxation and mining competitiveness

A country's mineral tax regime is a key factor when mining companies consider where to allocate their capital. Thus, designing an appropriate mining tax system should be a carefully well thought out process. According to Otto and Cordes (2002) in today's globally competitive environment, it is not easy to establish an effective tax system. This is because a good mining

tax regime should be underlined with profound knowledge on how different tax instruments can be integrated in order to influence investment decisions and achieve certain set objectives.

According to the International Monetary Fund (IMF) (2001) mining companies focus on the bottom line and are generally risk averse. However, by its nature mining is a high-risk industry, with significant levels of uncertainty relating to the geology, markets, and political risks. Thus, ideally given the choice between two potential projects with the same NPV, investors will choose the less risky project. Therefore, in order for a higher risk project to go ahead, an investor will expect a higher internal rate of return (IRR) on the project which causes a reduction in the amount of rent the state can tax without discouraging the project investment from occurring. Thus, the higher the perceived business climate and political risk in the host country, the higher the investor's risk premium (IMF, 2001).

Once the appropriate share of economic rent to be captured by the state from mining is determined, attention should be focused on how best to optimally collect it. According to the IMF (2001) the composition of the tax regime will also affect the investment potential of mining projects in terms of the investor's assessment of the viability of the project. Thus, the tax system needs to be carefully assessed in terms of its impact from both the investor and government's perspectives particularly with regards to risk sharing and timing of tax collection.

It can be noted that in the mining sector, the governments and investors often have mutually shared goals. For instance, both government and investors will want projects that are highly profitable, though they may disagree on how rent must be shared. Both the government and mining investors also want a stable socio-political environment that promotes a conducive business climate where mining companies can operate efficiently (Otto & Cordes, 2002). How the government shares risk between itself and

mining firms in terms of the taxation system is an important consideration when companies make their investment decisions.

There is no ideal tax regime. The choice of which combination of the various taxation instruments to use depends on the government's national objectives. Corporate taxation on the mining companies' net income enables sharing of the financial risks between the mining companies and the government. Royalties based on gross-revenue or production volumes shift financial risks toward companies. Upfront fixed fees and bonus payment moves all financial risks to the mining companies (Otto & Cordes, 2002).

In the past the main form of mineral taxation was through royalties but from the 1950's, composite tax systems that were a mixture of ordinary taxes and royalties became more popular. According to the IMF (2001) there was a gradual trend of an increase in the tax burden towards the mining sector throughout the 1970's and 1980's. There was also an increase in direct active involvement in mining operations by host governments through various methods such as equity-sharing arrangement. However, since the 1990s there has been a gradual shift towards implementing fiscal regimes that are investor friendly, such as offering tax incentives to lure foreign investors in the mineral sector, due to the realisation by many of the governments of the benefits of being globally competitive (IMF, 2001).

Some of the tax incentives given to attract investments into the mining sector include tax exemptions for exploration and mine development companies (Government of South Australia, 2019). According to the IMF (2001) the argument given for investor friendly tax structures is that investors need to be compensated for the high risks and capital costs involved in conducting exploration and mine development. Ultimately, mining investment decisions are based on the projected NPV. Thus, not only are the tax rates important but also the timing of these tax impositions.

According to Otto and Cordes (2002) when designing of a mining tax regime, consideration should be made to prudently weigh the NPV of the revenue flow into the fiscus versus the NPV generated from the project to the investor. This is a complex matter for government officials and legislators to unpack. Eventually, the question when designing a taxation system to attract mining investment into the country is less on whether it is fair, but more of whether it is globally competitive.

2.2.3.3 Security of tenure, and mining competitiveness

Setting up a mine is a capital-intensive process requiring a significant upfront capital investment with a long lead period before any return on investment can be realised. Thus, to attract mining investments, it is important to have a licensing and regulatory system in the country that provides guaranteed security of tenure, in terms of mining rights for the expected duration of the life of mine, as mining companies are generally risk averse. International investors want certainty, and to be guaranteed that all the rights granted in the issued mining license will be honoured and not terminated, or the terms of the agreement altered in an ambiguous way (World Bank, 2009).

In the first half of the 20th century, many countries in the developing world had no well-established functional commercial law system. Thus, most of the mining rights and regulatory requirements were developed through ad hoc negotiations of concession agreements (Otto & Cordes, 2002). These early contracts were often one-sided, disadvantaging the host country while giving the investor extensive rights and creating enclaves where the mining operations were exempted from complying with local laws (Lipton, 1980).

Soon after these developing countries had gained independence, there was a shift in the composition of the agreements, with a new emphasis on aligning them with the country's national objectives, due to the host

countries' dissatisfaction with the existing traditional mining agreements. This was often followed by nationalisation of key mines and experimenting with other alternative methods like creating state-owned mining enterprises (Zorn, 1986).

This shift during the post-colonisation period was due to the host governments' suspicious view of foreign investors. The host governments also had a need to gain more control and capture more rents from the extraction of their mineral resources. The result was an increasingly complex mining agreements system that tried to shift the benefits more towards the host country's interests. The consequence of this shift was that many of the foreign-owned mining companies gradually pulled out from investing in these jurisdictions, opting to refocus on investing more in their host countries or other "safe havens" like Australia and Canada (Otto & Cordes, 2002).

In these recent years there has been a trend in many of the mining countries to modernise their laws dealing with foreign investments, and other mining regulatory requirements. This is due to the well documented failures of the earlier experiments with the nationalisation of mines and creation of state-owned mining enterprises. The host governments have as a result realised an appreciation of the need to attract foreign investments to develop their mining sectors in a globally competitive environment (Otto & Cordes, 2002). Therefore, the use of ad hoc mining concession agreements has diminished, and in most countries the mining stakeholder can now rely on pre-set mining laws in making investment related decisions.

There are different ways to obtain this certainty when it comes to security of tenure for mining projects. For example, in Chile, a mining license is treated as any other property right covered by commercial law (World Bank, 2009). However, this is a controversial position as most governments view minerals within their jurisdiction as belonging to the state and thus might fail to adopt

this Chile way to mining concessions because of their constitution. Indonesia used legally enforceable contracts to guarantee the mining security of tenure while some Canadian provinces like Quebec use transparent and a well-defined licensing system to minimise arbitrariness in cancellation of mining licences (World Bank, 2009).

In some host countries, particularly in African countries such as Angola, DRC and Zimbabwe, there is still the practice of the use of presidential and ministerial discretion in granting mining rights rather than application of precise legal standards (IANRA, 2016). In these instances, powers are given to government agencies and officials to use their discretion when granting mining licences. According to the International Alliance on Natural Resources in Africa (IANRA) (2016) though these discretionary powers are incorporated within the law, the problem with them is that they increase the political risk for investors, as the government officials can make arbitrary decisions.

This hinders clarity and predictability and in turn affects certainty and investor confidence. Giving this discretionary power to government authorities can also create more opportunities for corruption by encourage rent seeking behaviour, especially as in most of these mining regimes there is no accompanying accountability mechanisms. Thus, when investors are considering investing in a country, one of the key questions they consider is, “to what extend does the main mining act allow for presidential or ministerial discretion when granting mining right?” (IANRA, 2016).

2.3 Literature review on studies that have been done on formulation of strategies to enhance Zimbabwe’s mining competitiveness

Research by Murombo (2011) evaluated how effective policies are in promoting good governance in Zimbabwe’s mining industry. Murombo

(2011) tries to answer the question of “what happens to the wealth generated by these mining activities?” in Zimbabwe. It then aims to investigate if the local communities around various mining operations in the country benefit. Murombo (2011) then argues for strategies to achieve localised socio-economic development. This includes such urging civic societies and community-based organisations to lobby for redevelopment of indigenisation and empowerment laws so that they can better empower local communities.

While Murombo (2011) research does not address the issues of mining competitiveness per se, it does highlight the complexities of the mining sector and the need for a balanced approach and reaching consensus between the various stakeholders of the mining sector. This includes the importance of meeting the needs of the mining companies, government, local communities and civil societies in a win-win way.

Research by Magure (2012) also analysed Zimbabwe’s economic empowerment policy and highlights how it deters investments into the country. Although Magure is not specific to the country’s mining sector, he does highlight one of the main deterrents inhibiting Zimbabwe from attracting mining investments namely, Zimbabwe’s economic empowerment policies. Magure (2012) used a qualitative approach to gain this perspective. Magure (2012) analysed online debates on the comment sections of articles written on online international newspapers that discuss Zimbabwe’s political economy to make his arguments. However, his research did not give a quantitative and empirical analysis to substantiate the relationship between Zimbabwe’s poor policy framework and investments flows into the country. Therefore, this is a gap which the current research in this report aims to fill, using the country’s mining sector as a case study.

Research by Saunders (2008) tried to highlight the problems in Zimbabwe's mining sector. Saunders (2008) attempted to highlight the paradox Zimbabwe finds itself of having high quality mineral resources, comparatively good infrastructure, and a relatively good availability of mining skills, and yet failing to develop its mining sector, which has been in decline for the past decade. Saunders (2008) highlighted the lack of confidence in Zimbabwe's government as a cause of this decline in the country's mining sector. He also identified corruption, political and regulatory uncertainty as factors negatively affecting Zimbabwe's mining sector.

Saunders (2008) blamed policy failures such as the poor designing and implementation of the empowerment policies in causing the decline in the Zimbabwe's mining sector. He then used this as evidence reflecting the state's weak institutional capacity and lack of transparency. He highlighted that the capital intensiveness of the mining sector and the long-term nature of mining investments makes these empowerment laws ineffective and detrimental in attracting mining investments into the country.

Saunders (2008) also highlighted how western sanctions imposed on Zimbabwe's political elites, many of whom benefited from these empowerment laws has led to the limited ability of mines in the country to access funding from global financial institutions. This has further limited the country's ability to raise funding for mining projects. Saunders (2008) then used Zimbabwe's policy failures to highlight the need for consensus building and an inclusive approach when making policies instead of an autocratic approach to policy formulation to attract investments and empower locals.

The limitation of the research by Saunders (2008) is that it did not do a comparison of policies affecting Zimbabwe's mining sector with policies in other mining countries in order to benchmark them. This benchmarking is critical as it takes cognisance of the fact that Zimbabwe operates in a global

environment where it competes with other countries both in the region and elsewhere in the world to attract investments into the country's mining sector.

Mutandwa and Genc (2018) also identified poor policies, policy inconsistencies, political instability, and economic mismanagement as some of the factors that have contributed to Zimbabwe's economic decline. Mutandwa and Genc (2018) then propose strategies to use the mining industry in Zimbabwe to stimulate its economic recovery, through forming linkages between the mining industry and other industries in the economy. While the role of the mining sector to stimulate a country's socio-economic development is complex and debatable particularly when viewing the empirical evidence of the resource curse paradox, this topic is beyond the scope of the research.

However, the component of the research by Mutandwa and Genc (2018) which is relevant to this report is the methodology used in their research, of benchmarking Zimbabwe's policies affecting mining investments, through a comparison of the country's policies to policies of other countries. Mutandwa and Genc (2018) conducted the benchmarking of Zimbabwe's policies using the National Resource Benchmarking Charter Framework. They then used the results from this benchmarking exercise to come up with suggestions of policies that could be used to transform Zimbabwe's economy and promote socio-economic development in the country.

The current research aims to use a similar methodology of benchmarking in order to develop strategies that can be used to enhance Zimbabwe's ability to attract more mining investments. However, the research in this report will mainly rely on the Fraser Institute's Annual Survey of mining companies reports, the World Bank Ease of Doing Business reports and the World Economic Forum's Global Competitiveness reports as the main sources of data in conducting this benchmarking exercise. This is because these

institutions have been publishing data on countries' competitiveness for a long period of time of over 10 years.

The wider period of datasets in these reports makes it easier to show the trends on various key competitiveness indicators such as the country's mineral potential rankings, property rights rankings, and macroeconomic stability rankings. This will in turn help to identify the biggest constraints limiting Zimbabwe's competitiveness to attract mining investments.

3 METHODOLOGY

3.1 Identifying research gaps on the discussion of mining competitiveness

Jara (2017) attempted to conduct an empirical analysis to support the alternative view using econometric models. He ended up identifying an “investment climate threshold” and proposed a theory that countries that exceed this “investment climate threshold” are left only to compete for investments in the mining sector solely based on their mineral potential. The research in this report also aims to conduct an empirical analysis to re-evaluate the validity of both traditional view and alternative view of mining competitiveness.

According to Jara (2017) although the alternative view of competitiveness has garnered crossover support since the formal statement by Tilton (1992) backing the alternative view, few efforts have been made to support this alternative view, in the mining sector, based on empirical evidence. Before Jara (2017) published a paper on the determinants of country competitiveness based on an empirical analysis, Khindanova (2011) and Khindanova (2015) were the only known published studies of attempts to use real data as empirical evidence to investigate the relationship between investments in the mining sector, the country’s mineral potential, and investment climate in the country. According to Jara (2017) though work by Khindanova (2011; 2015) has significantly contributed to investigating the relationship of the determinants of mining competitiveness, there is still significant areas to add contributions to validate the opposing views of mining competitiveness.

The current research aims to fill some of the gaps by using more updated data, with a special focus on countries in Southern Africa (using Zimbabwe as a case study), to further investigate the relationship between mining competitiveness and the indicators of countries' mineral potential and business climate. Jara (2017)'s empirical analysis of determinants of mining competitiveness used datasets of the following variables for the year 2014 in conducting the research: exploration investments by mining jurisdiction, the "Index of Economic Freedom" and the land area for each country. The current research used variables based on the following datasets: exploration expenditure using Deloitte and S&P Global Market Intelligence reports, "Policy Perception Index" and "Best Practices Mineral Potential Index" using the Fraser Institute's Annual Survey of Mining Companies in conducting an empirical analysis of the determinants of countries' mining competitiveness.

While Jara (2017) based his empirical analysis on the year 2014, the current research analysed data from 2009-2020 to improve the empirical analysis process by analysing the trends and the relationship between mining investment and its determinants over a longer period of time. While Jara (2017) and Khindanova (2015) used the land area of each country to estimate mineral endowment, based on the hypothesis that a country's land mass is directly proportional to its mineral endowment, this research used Fraser Institute (2009-2020)'s "Best Practices Mineral Potential Index" to gauge a country's mineral endowment.

The "Best Practices Mineral Potential Index" was used because of the fact that ultimately investment choices depend on the perceptions of investors towards the country. Thus, since the Fraser Institutes' "Best Practices Mineral Potential Index" is based on a survey of these mining investors' perception of each country's mineral endowment, it better captures these perception investors have on each country's mineral endowment, which ultimately influences their investment decisions.

The current research was based on Tilton (1992) theoretical framework of what constitutes a country's mining competitiveness and used this as reference when evaluating the factors affecting Zimbabwe's ability to attract mining investments. Tilton (1992)'s theoretical framework of defining mining competitiveness was used as it clearly defines the elements which constitute both the traditional views and alternative views of mining competitiveness.

The current research aimed to contribute to the discussion of mining competitiveness by conducting further empirical analysis on the determinants of mining competitiveness and developing strategies which can be used to enhance the mining competitiveness of countries to attract more investments. The Southern African region was used as a focus for this empirical analysis and Zimbabwe in particular was used as a case study in developing these strategies. It is therefore important to briefly unpack the strategy development processes that were used in this research.

3.2 Developing strategies to enhance competitiveness of countries

3.2.1 The strategic planning framework

Different approaches can be used in strategic planning in developing strategies for countries. However, primarily the strategic planning framework for countries aims to answer the following five fundamental questions (Southey, 2009):

i. Where is the country coming from? (historical context)
ii. Where is the country now? (current context)
iii. Where does the country want to be? (vision)
iv. How does the country get there? (strategic options)
v. How must the country make sure it succeeds? (monitoring of performance and evaluating)

Figure 8 below shows a flow-chart showing an expanded version of the fundamental questions that need to be answered in the strategic planning process. According to Mugabi et al (2006) this framework which has been adopted from business management principles, has been used in developing countries such as Ghana to develop strategies for governments. (Southey, 2009).

Below is a diagrammatic illustration of the strategic planning framework:

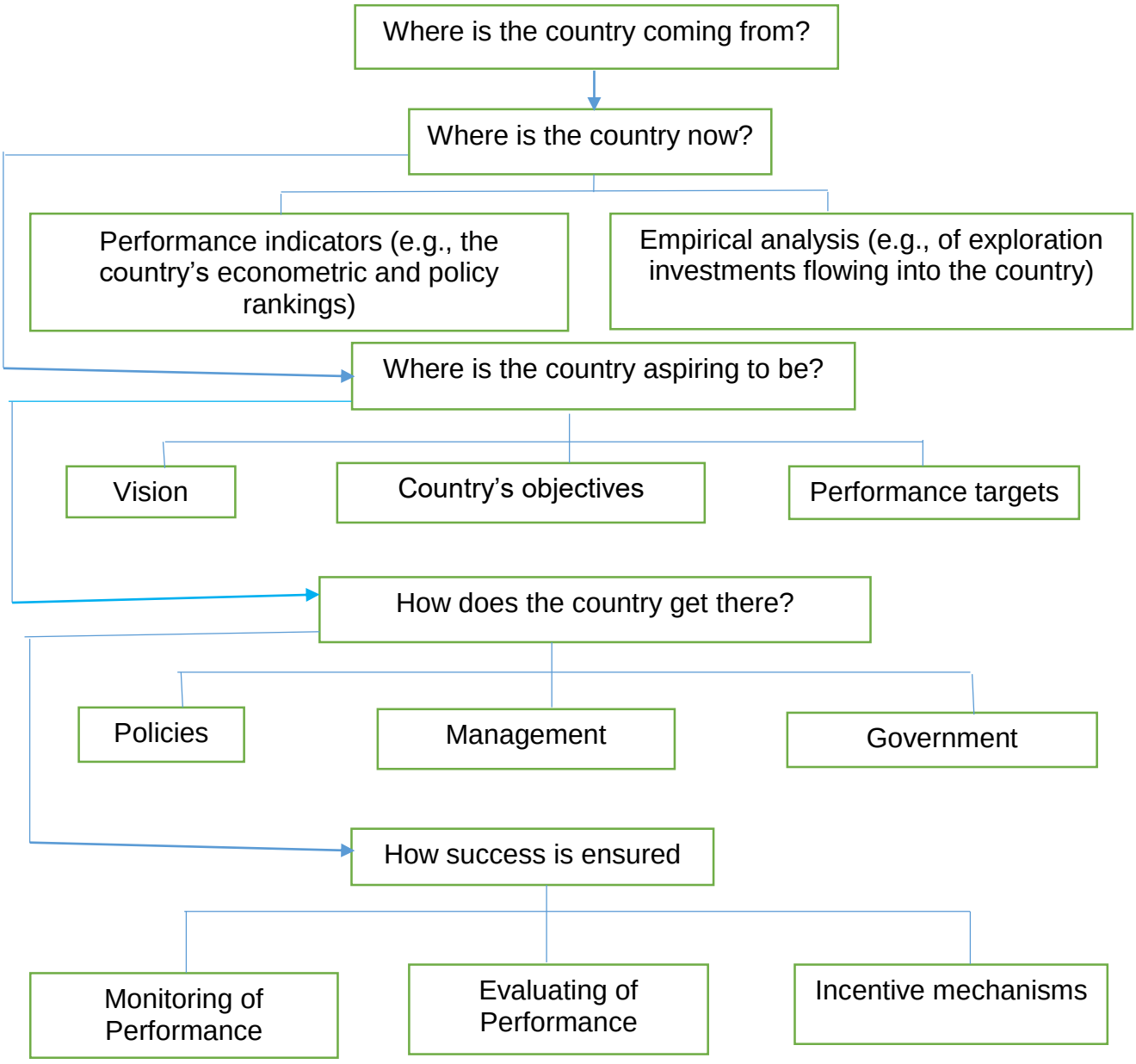

Figure 8: Country strategic Planning framework ***(Southey, 2009)***

Figure 9 below, illustrates a similar version to the strategic planning process. It is important to note that in conducting the situational analysis, particularly to answer the question of "where the country is now", two methods are commonly used to do the analysis, namely the PEST analysis and SWOT analysis methods. It is thus important to evaluate both methods in more detail to better understand how they are applied in developing strategies for countries.

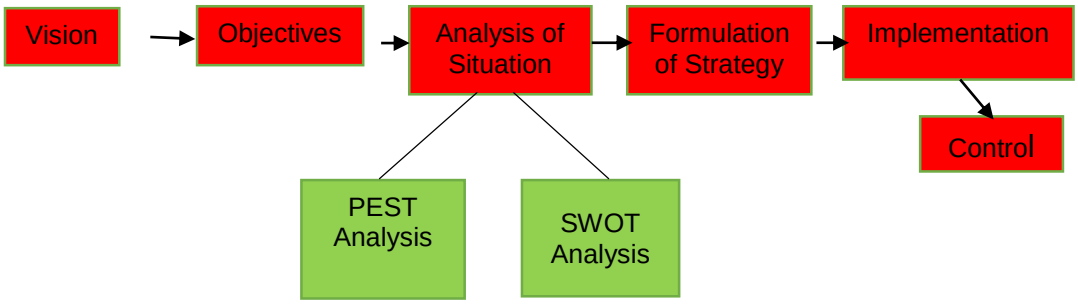

Figure 9:The Strategic Planning Process ***(Southey, 2009)***

3.2.2 PEST Analysis

PEST represents the acronym for "Political, Economic, Social, Technological". According to Sammut-Bonnici and Galea (2015) PEST analysis is a widely applied and effective tool used in the understanding of strategic risk. PEST analysis is used in the identification of changes and the effects of the macro-environment on an organisation's competitive position. It can also be adopted to evaluate the macro-environment in which the mining sector in a country operates. This is because a country's mining industry is vulnerable to a wide set of external factors which can significantly affect its competitiveness. Strategic planners aim to evaluate these external factors in order to come up with strategies that will mitigate against these risk factors (Sammut-Bonnici & Galea, 2015).

PEST analysis forms part of the “evaluation stage” used in the strategic planning process. Since the PEST analysis is used to evaluate the external environment, it constitutes the “OT” component of the “SWOT” (Strengths, Weaknesses, Opportunities, Threats) analysis (Sammut-Bonnici & Galea, 2015). The advantages of using the PEST analysis, in evaluating a country’s mining sector is that it can serve as an audit of the environmental factors in which the country’s mining sector operates in order to inform the development of strategic options. It can also help in the identification of the key drivers of change in the mining industry and provide critical information to support the SWOT analysis of the country’s mining sector (Ho, 2014).

One of the main limitations of the PEST analysis method is that it can only evaluate the external factors affecting an organisation, sector or country and cannot be used to evaluate the internal factors. It is thus ideal to use the PEST analysis in combination with the SWOT analysis method.

3.2.3 SWOT Analysis

According to the Harvard Business School (2005) in competitiveness strategy development, an assessment of the environment in which the organisation operates, and an analysis of the organisation’s own resources and capabilities helps determine the feasibility of that organisation’s goals. This process of evaluating the outside factors as well as the internal factors with the aim of achieving set goals can also be applied to the mining sector of a country through analysing what is known by strategic planners by the acronym “SWOT (Strengths, Weaknesses, Opportunities, and Threats)”.

The definition of SWOT can be expanded as follows:

- Strengths are internal capabilities attributed to the sector that enable it to perform well, “these internal capabilities must be leveraged”;
- Weaknesses are internal characteristics that prohibit the sector from achieving its goals and need to be addressed;
- Opportunities are external trends, forces, events, and ideas the sector can capitalise on; and
- Threats are external, potentially harmful events or forces that the sector needs to anticipate and plan on how to mitigate them (Gregory, 2018).

According to Gurel and Tat (2017) the SWOT analysis is an iterative analysing technique which enables macro evaluations to be possible. This is because the SWOT analysis creates a chance to focus on both the positive and negative aspects of the internal and external environment of the sector or country, to give a holistic perspective. Queensland Government (2020) argues that one of the main advantages of doing a SWOT analysis is that it can be conducted at virtually no cost, and any person who understands the organisation, sector or country can carry out a “SWOT analysis”.

Conducting a SWOT analysis can also improve the overall understanding of the sector, and how best to take advantage of the sector’s strengths, and address its weaknesses. It can help uncover the opportunities the sector can capitalise on and to mitigate against threats. In the context of mining, the SWOT analysis method can be used to help distinguish one country’s mining sector from another. SWOT can be used in the development of strategies that can be used to highlight the unique attributes of a particular country’s mining sector, that give it a competitive advantage over other countries’ mining sectors (Gurel & Tat, 2017).

In this research, the SWOT analysis method was used to do an in-depth analysis of the factors identified to be affecting Zimbabwe's mining competitiveness. This SWOT analysis incorporated the PEST Analysis' "Political, Economic, Social, Technological" aspects to evaluate the external environment Zimbabwe's mining sector operates in as well as the geological and environmental factors holistically. Considering both the positive and negative aspects of the internal and external factors affecting Zimbabwe's ability to attract mining investments will help develop more holistic solutions.

In summary, the strategy development process that was used in this research was as illustrated in the flow diagram in figure 10 below. The first step was to clearly define the vision or goal, which is to enhance Zimbabwe's mining competitiveness, then to clearly set the key objective, which is to develop strategies that can be used to enable Zimbabwe to attract more mining investments. Then to conduct an analysis of internal and external factors affecting Zimbabwe's ability to attract mining investments, using the SWOT analysis method. This is then followed by an evaluation of the strategic options Zimbabwe can take in order to attract more mining investments. These strategic options can then be made available in the public domain for the relevant decisions makers to consider implementing, in order to enable Zimbabwe to enhance its mining competitiveness:

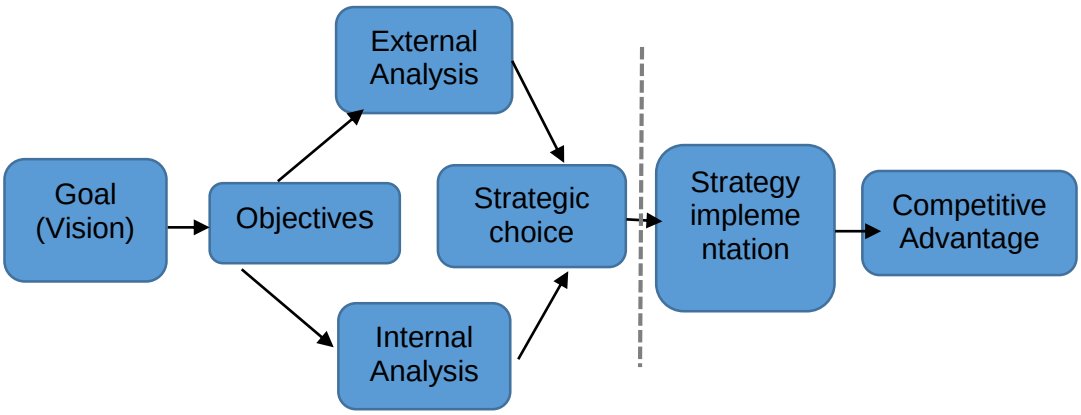

Figure 10: The strategy development process (Gurel and Tat, 2017)

4 COMPARISON OF ZIMBABWE'S COMPETITIVENESS TO ATTRACT MINING INVESTMENTS WITH OTHER COUNTRIES.

4.1 Comparison of exploration expenditure in Zimbabwe with other mining jurisdictions

Zimbabwe's mining industry has been declining over the last decade. This is highlighted by the near cessation of systematic exploration expenditure in the country as shown in Table 3 below.

Table 3: Annual Exploration Expenditure in Zimbabwe (Mugandani, 2017)

Year	Annual exploration expenditure (US D)
2009	107 731
2010	2 066 172
2011	19 901 285
2012	11 850 368
2013	29 323 969
2014	1 017 593
2015	112 182
2016 (up to August)	46 6145

When compared with other African mining countries, Zimbabwe has consistently lagged in terms of attracting exploration expenditure in greenfield projects as is shown in fig 11 below. For instance, between 2012 and 2019, while the DRC attracted on average around US$250 million per annum in exploration expenditure, in the same period, Zimbabwe only managed to attract on average around US$12 million per annum (Deloitte, 2015; S&P Global Market Intelligence, 2017-2020).

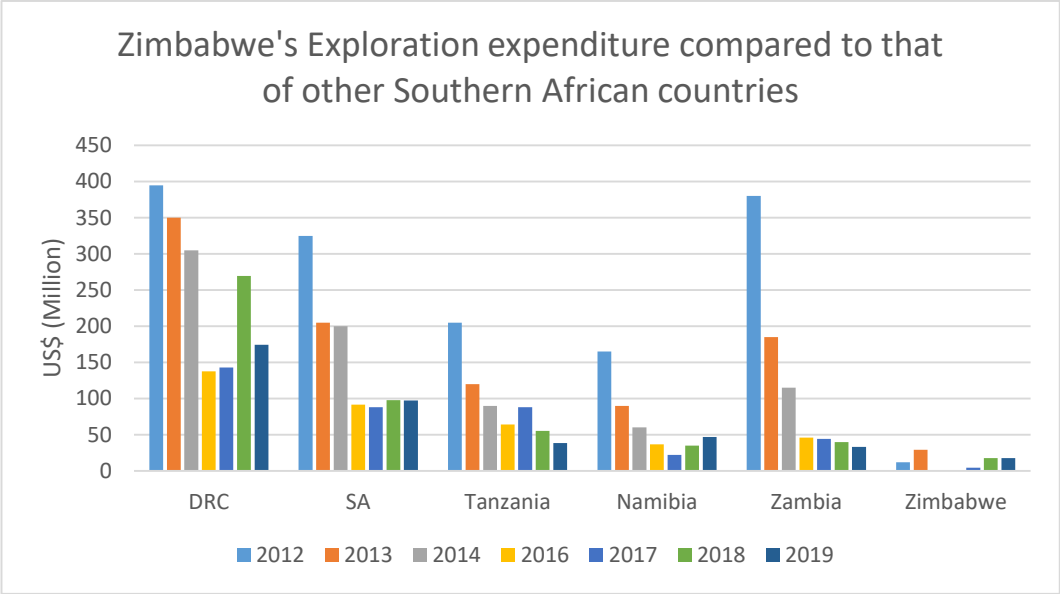

Figure 11:Zimbabwe's exploration expenditure compared to that of other Southern African countries (Deloitte, 2015; S&P Global Market Intelligence, 2017-2020)

4.2 Comparison of Zimbabwe's geological potential with that of other countries

According to Tilton (1992)'s traditional view of mining competitiveness, the country's geological potential is the principal factor that determines its mining competitiveness to attract investments. In other words, the countries endowed with higher quality, low-cost mineral resources will inevitably attract more investments into their jurisdictions than those with lower quality deposits. Thus, in trying to answer the question of why DRC is able to attract more mining investments than Zimbabwe, it is important to compare Zimbabwe's perceived mineral potential with that of DRC and other mining countries, in order to validate the hypothesis put forward by the traditional view of mining competitiveness.

To conduct a comparison of the geological potential between Zimbabwe and other countries, data from the Fraser Institute's annual survey of mining companies was used based on their Best Practices Mineral Potential Index (Fraser Institute, 2019). This index shows the perceived mineral potential of mining jurisdictions that "encourages mining investment" or that is "not a deterrent to investment" and assumes "best practices" in terms of the policy

and business environment (Fraser Institute, 2009-2019). The data from the Fraser institute (2019) report was based on a survey of executives from over 2000 exploration and mining industry companies globally. These executives surveyed in the study accounted for capital expenditure in exploration of nearly US$1.9 billion in 2019 or approximately 20% of the total global exploration expenditure.

According to the Fraser Institute (2009-2019) Zimbabwe's perceived mineral potential has widely fluctuated in the last decade. Zimbabwe's lowest ranking between 2010 and 2019, in terms of perceived mineral potential, was at number 85 out of the 112 countries measured (85/112) in 2013 and its highest ranking at 29/91 in 2017, as is illustrated in Table 4 below.

Table 4: Zimbabwe's mineral potential rankings (Fraser Institute, 2010-2020)

	Mineral Potential									
Zimbabwe	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
mineral potential	34	58	62	85	71	77	67	29	40	53
total no. countries	79	93	96	112	122	109	104	91	83	76
percentile rank	43,038	62,366	64,583	75,893	58,197	70,642	64,423	31,868	48,193	69,737

Between 2010-2019, except for 2013 when it ranked 85/112, Zimbabwe's perceived mineral potential has lay in the interquartile range (close to the median or 50th-percentile range). Currently Zimbabwe is ranked by the Fraser Institute (2019) at 53/76, in terms of geological potential. Zimbabwe's average global ranking in the last 3 years as a percentile, between 2017 and 2019, is at the 49.9 percentile as is illustrated in Figure 12 below.

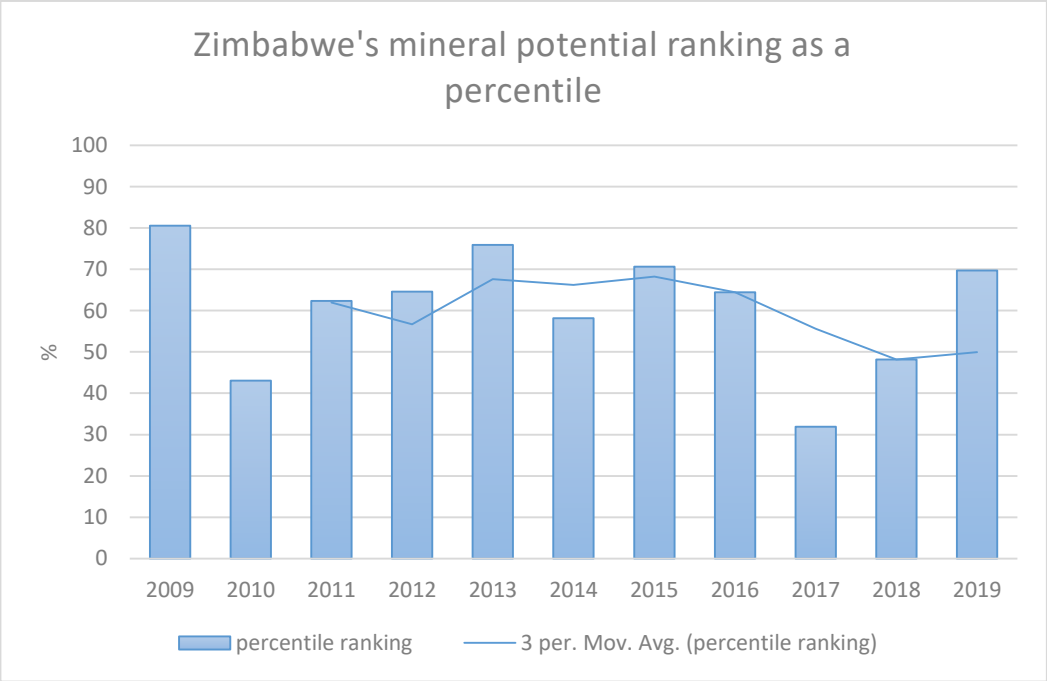

Figure 12: Zimbabwe's geological potential ranking (Fraser Institute, 2010-2020)

Compared with other Southern African countries, currently Zimbabwe's perceived mineral potential, as of 2019, is ranked in the top quartile in the region. In the Southern African region, in 2019, Zimbabwe was ranked second, only behind South Africa, in terms of perceived mineral potential, and ahead of DRC, Namibia, Tanzania and Zambia as is illustrated in figure 13 below.

However, over a 11-year period on average, between 2009 and 2019, Zimbabwe has been ranked in interquartile range within the Southern African region, behind DRC which has on average, topped the African rankings in the past decade, and also behind South Africa and Zambia. Zimbabwe has however been ranked ahead of other Southern African countries like Namibia, Botswana, and Tanzania in terms of perceived mineral potential as can be observed from Figure 13 below. Other Southern African countries like Mozambique, Lesotho, Swaziland, and Angola, could not be compared with Zimbabwe as they were not featured by the Fraser Institute (2020) due to lack of data.

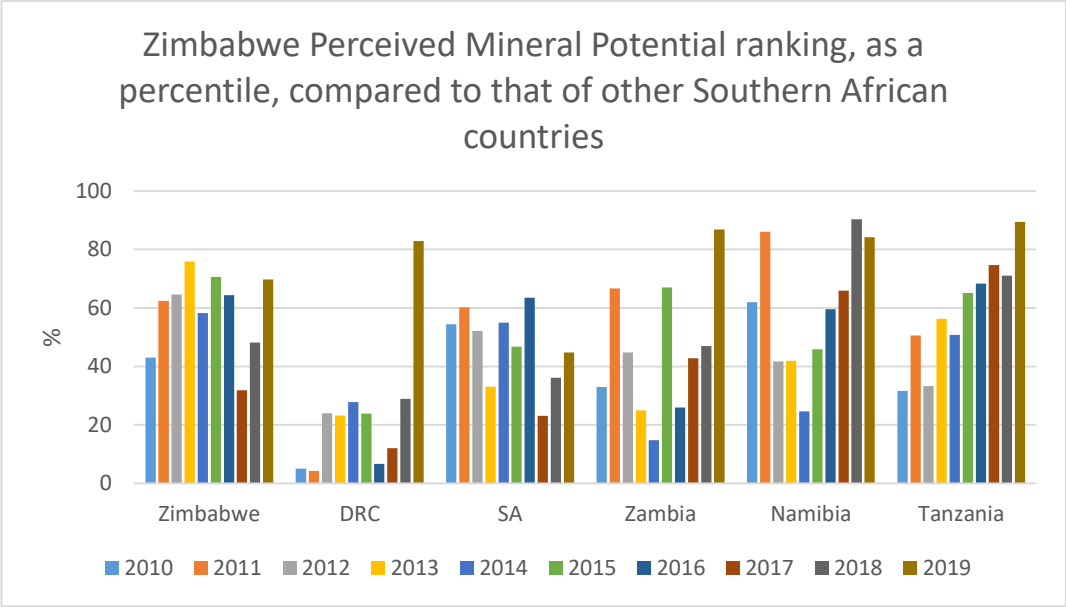

Figure 13: Zimbabwe's perceived mineral potential ranking vs. other African mining countries (Fraser Institute, 2010-2020)

However, over the past decade, including in 2019, though Zimbabwe was ranked ahead of the above-mentioned countries in terms of its perceived mineral potential, it has nevertheless received the least investments, in terms of mineral exploration expenditure into its jurisdiction, as is illustrated in figure 11 on page 42. The arguments brought forth by the traditional view of mining competitiveness thus fail to explain why countries like Tanzania and Namibia were able to attract more exploration investments into their mining sector than Zimbabwe, although Zimbabwe is perceived to have better mineral potential than them. Thus, this empirical evidence supports Tilton (1992)'s alternative view as it indicates that other factors other than the perceived mineral potential are playing a role in enhancing these countries' investment competitiveness, and constraining Zimbabwe's competitiveness to attract mining investments.

4.3 Comparison of Zimbabwe's policy potential with that of other mining jurisdictions

Tilton (1992)'s traditional view of mining competitiveness fails to fully explain countries' mining competitiveness. Thus, to be able to fully explain Zimbabwe's lack of mining competitiveness, it is also important to evaluate

Tilton (1992)'s alternative view of mining competitiveness. It states that though the country's perceived mineral potential is important, other factors like political risk, and the host country's business climate, are also important in enhancing or hindering a country's mining competitiveness.

The Fraser Institute's policy perception index is based on responses from mining executives on policy factors that influence the mining firms' decisions to invest in different countries, such as regulation uncertainty, tax regimes, infrastructure, political stability, and availability of labour. According to the Fraser Institute (2009-2019) Zimbabwe has consistently underperformed compared to other mining countries globally in terms of policy perception. Zimbabwe has consistently remained in the bottom quartile in terms of policy perception as is illustrated in Figure 14 below. Over the last decade, except for 2011 where it was ranked 74/93, Zimbabwe has been ranked in the bottom 10 countries globally in terms of policy perception. For instance, according to the Fraser Institute (2009-2019) in 2019, Zimbabwe was ranked second from last in the world in terms of policy perception and in the past 3 years Zimbabwe has been ranked globally at the 96th-percentile in terms of policy perception.

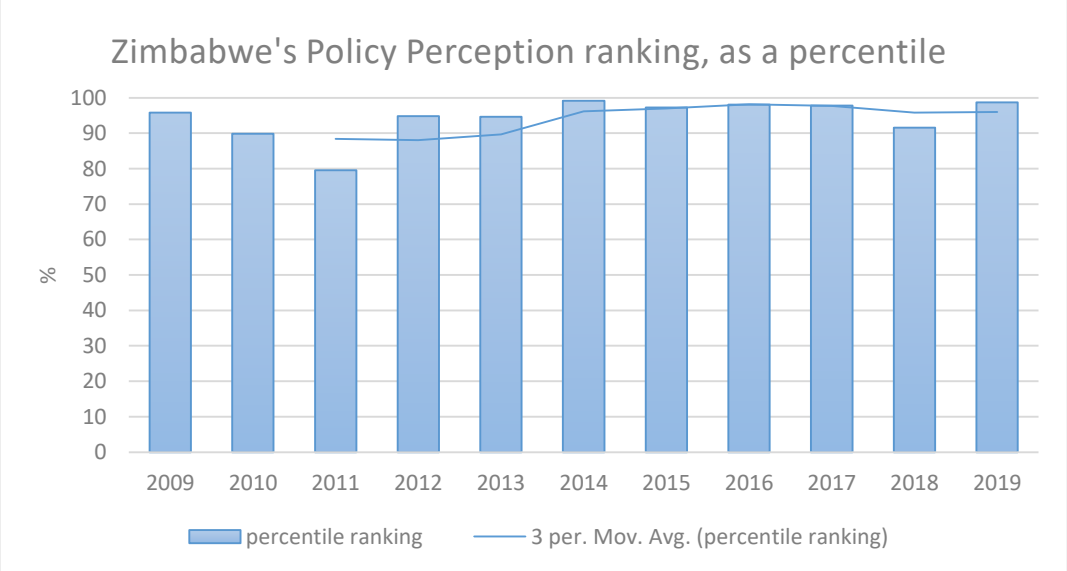

Figure 14: Zimbabwe's policy perception index ranking (Fraser Institute, 2010-2020)

Compared with other Southern African countries, Zimbabwe has consistently underperformed as is illustrated in Figure 15 below. The only country ranked lower than Zimbabwe on the Fraser Institute (2018)' policy perception index, particularly in 2018, was the Democratic Republic of Congo (DRC). Zimbabwe's bottom ranking on the Fraser Institute's policy perception index can thus be used to explain its failure to attract exploration investments into its jurisdiction, despite its relatively attractive perceived mineral potential.

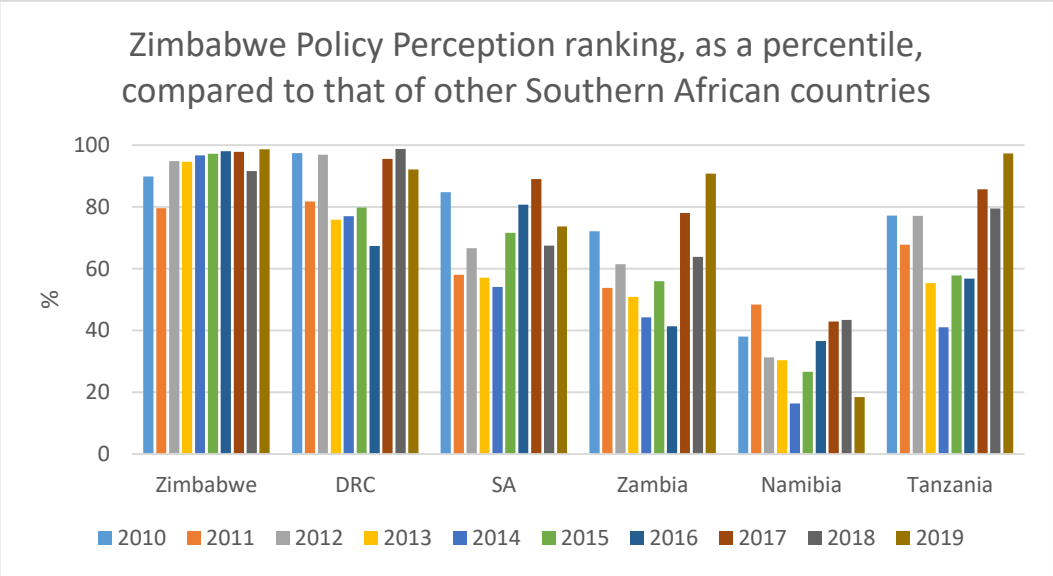

Figure 15: Zimbabwe's policy perception vs. the policy perception of other African countries

DRC however appears to be an outlier. Despite its low ranking in terms of policy perception, in the past decade, it has consistently led other African countries in terms of greenfield exploration expenditure. For instance, in the past 3 years, between 2017 and 2019, DRC has been ranked in the 95th-percentile range in terms of policy perception. DRC had its lowest ranking in 2018 where it was ranked second from last in the world at 82/83, according to the Fraser Institute (2010-2020) policy perception index, as is illustrated in figure 15 above. Yet, DRC has consistently been able to attract the largest investment budget in exploration on the African continent.

How can this anomaly be explained? Perhaps the perception of DRC's exceptional perceived mineral potential, which has been ranked, on

average, at number one on the continent over the past decade and within the top quartile range globally can help explain this phenomenon. This phenomenon thus can be used to highlight the importance of exceptional geological potential and the role it plays in attracting mining investments into a country's jurisdiction.

According to the KPMG Global Mining Institute (2014) the DRC has the largest deposits of cobalt in the world (representing 55 percent of the world's production output). The DRC was also the world's second largest producer of diamonds in 2012 (representing 21 percent of the world's output). The DRC also hosts some of the highest grades of copper in the world (with an average grade of 3 percent on some of its mines against a global average of 0.7 percent). These, high grade, low-cost deposits make the DRC attractive to mining companies that are interested in high risk, high return mining opportunities (KPMG Global Mining Institute, 2014).

Based on the case of DRC, it can thus be argued that if the geological potential of the country is significantly high enough, it can sufficiently motivate investors to be willing to take up more mining investment risk in a jurisdiction, in spite of the negative policy perception towards the country.

4.4 Comparison of Zimbabwe's mining investment competitiveness with that of other mining jurisdictions

The Fraser Institute (2010-2020) leans on Tilton (1992)'s alternative view of mining competitiveness, defining mining competitiveness as a combination of both perceived mineral potential and policy perception. However, it does acknowledge that investment choices are frequently significantly based purely on the geological potential of the country. Based on its derived methodology, when determining a country's mining competitiveness, the Fraser Institute calculates its Investment Attractiveness Index by giving

policy factors a weighted average of 40 percent and perceived mineral potential a weighted average of 60 percent.

According to the Fraser Institute (2010-2020) as is illustrated in Figure 16 below, Zimbabwe's investment competitiveness in the mining sector has consistently underperformed globally as compared to other mining countries. For instance, in the last decade, on average Zimbabwe has been ranked globally in the bottom quartile range.

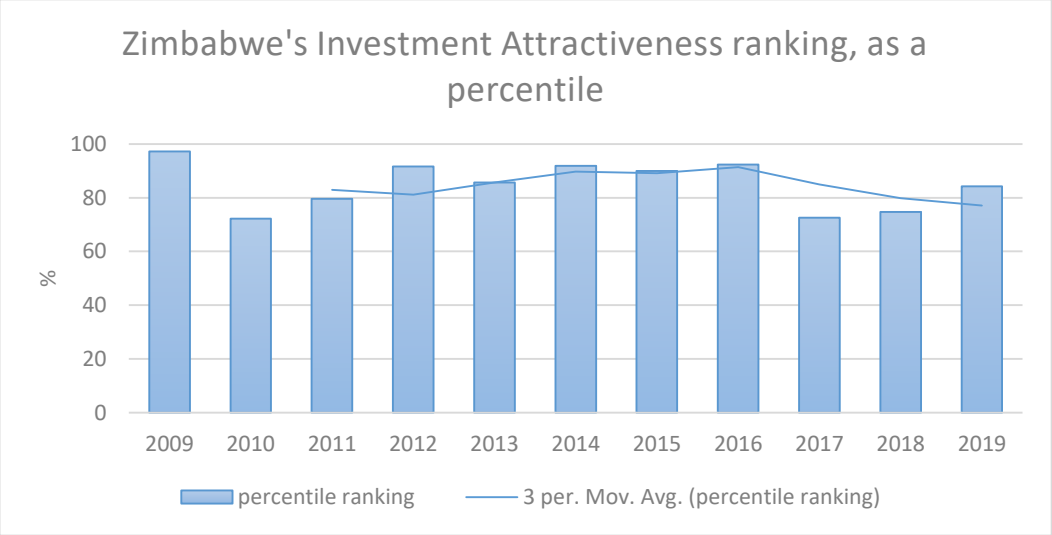

Figure 16: Zimbabwe Investment Competitiveness Ranking (Fraser Institute, 2010-2020)

Compared with other Southern African countries, over the past decade on average, Zimbabwe has been ranked as the least attractive country in terms of the Fraser Institute (2010-2020)'s investment attractiveness index. These investment attractiveness rankings, based on the Fraser Institute (2010-2020) are illustrated on the graph in Figure 17 below, expressed as percentiles.

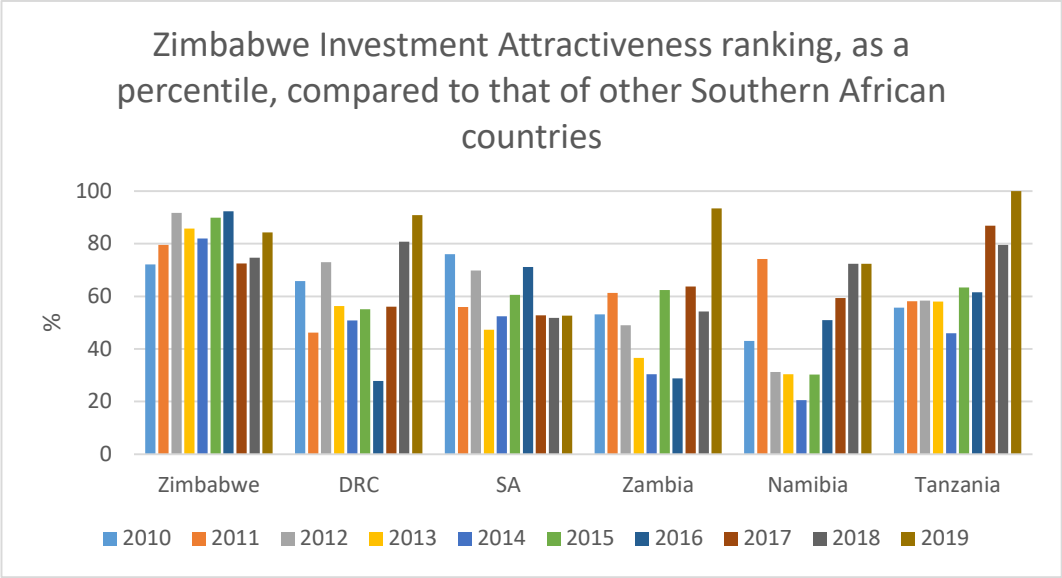

Figure 17: Zimbabwe's investment competitiveness index compared with other mining countries' investment competitiveness (Fraser Institute, 2010-2020)

Based on the Fraser Institute (2010-2020) derived methodology using its Investment Attractiveness Index, it can be derived that negative policy perception is the biggest constraint hindering Zimbabwe's ability to attract mining investments. In order to develop strategies that can be used to enhance Zimbabwe's competitiveness to attract mining investments, it is thus critical to evaluate in more detail the factors that are contributing to the negative policy perceptions towards Zimbabwe. According to the alternative view of mining competitiveness, although a country's mineral endowment is important in attracting investments in the mining sector, the business climate of the country must also be conducive for mines to operate. It is thus important to evaluate Zimbabwe's business environment to identify which factors are affecting the country's business climate.

4.5 Comparison of the Ease of Doing Business in Zimbabwe with other countries

According to the World Bank (2010-2020) Zimbabwe has been consistently ranked globally in the bottom quartile in terms of the "Ease of Doing Business Index". As is illustrated in figure 18 below, Zimbabwe is currently

ranked at number 140 out of the 190 countries measured (140/190). Its average global ranking over the past 10 years is 160/190 (World Bank, 2010-2019). The ease of doing business index was used to give a comparison between countries based on the conduciveness of doing business in the country. It considers the regulatory environment of the country and other factors like fiscal regime, property rights, macroeconomic stability, and financial systems. Countries ranked in the top quartile of the ease of doing business index have simpler, more transparent, and more friendly policies for businesses. Countries ranked in the bottom quartile of the ease of doing business index, have ambiguous and more hostile regulations for business, which hinder the country's national competitiveness and contribute to an unconducive business climate.

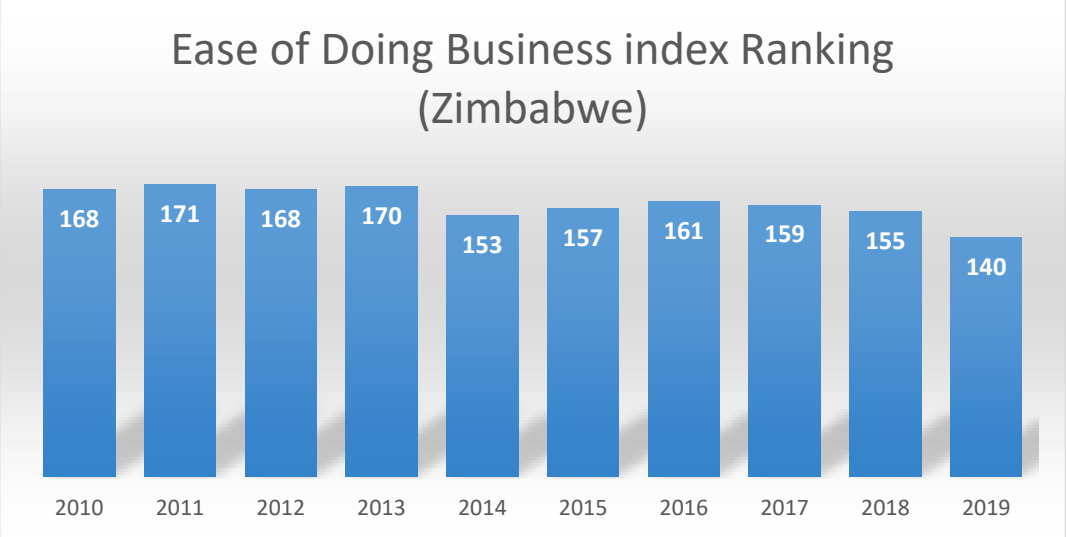

Figure 18: Ease of doing business (Zimbabwe) (World Bank, 2010-2019)

4.6 Comparison of the property rights in Zimbabwe with other countries

According to the World Bank (2010-2020) one of the most important determinants of the ease of doing business in a country is the property rights of that country. One of the key indexes used to rank countries based on property rights is one included in the World Economic Forum (WEF)'s annual Global Competitiveness Report. The WEF (2009-2019) Property

Rights index is calculated based on business executives and investors' response to the following survey question: "In your country, to what extent are property rights, including financial assets, protected? [1 = not at all; 7 = to a great extent". According to the WEF (2009-2019), Zimbabwe has consistantly been ranked in the bottom 10 countries globally, in terms of property rights. As is illustrated in Figure 19 below, in 2009 Zimbabwe was ranked last (at a ranking of 133/133) in the world in terms of property rights, and currently as of 2019, Zimbabwe is ranked at 137/141.

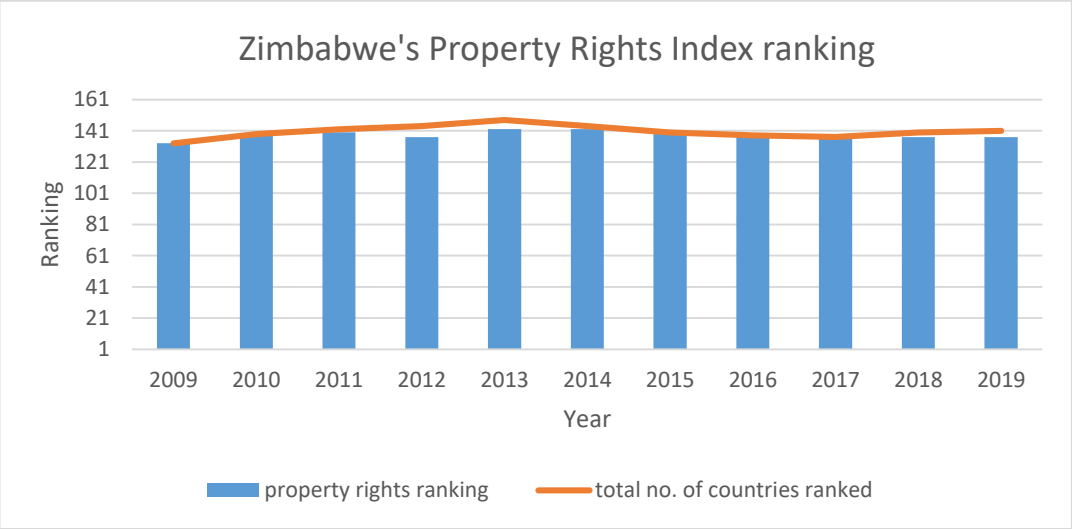

Figure 19: Zimbabwe's Global Competitiveness Index Ranking (Property Rights)

The negative perception of Zimbabwe's property rights can be traced to Zimbabwe's land reform program. According to Stiff (2000) Zimbabwe's land redistribution program can be regarded as the most critical and contentious policy issue that has ingulfed the country in the last 20 years. Since the early 2000s, Zimbabwe underwent a period of land invasions under the state's disorderly and often vicious "Fast-Track Land Reform Program" (FTLRP) where farmland was compulsorily siezed from the previous owners (mostly white-owned) without compensation (Pabst, 2001).

By 2013, nearly all white-owned farming land in the country had either been forcefully expropriated without compensation or was earmarked for future

expropriation (U.S. Department of State, 2013). This FTLRP was officially stopped by the government in 2018 and the Zimbabwean government has allocated some funds to compensate the dispossesed white-farmers (Kuyedzwa, 2019).

However, the Zimbabwean government's track record of policy inconsistancy, and the sporadic invasion of more farms still taking place, might be the reason investors still remain sceptical about the property rights in the country. This expropriation of land without compensation in Zimbabwe has indicated to investors a lack of property rights in the country. This has resulted in a capital flight from the country across the economic spectrum, including the mining sector, and can be one of the biggest contributers to the decline and near cessation of exploration activities in the country.

To further diminish Zimbabwe's standing in terms of property rights, Zimbabwe signed into law the Indigenisation and Economic Empowerment Bill in 2008. This law gave local indigenous Zimbabweans the right to gain control and take-over foreign-owned companies in the country (The Economist, 2007). The law made it compulsory for all business operations in the country to transfer 51 percent of their shares to locals (Murombo, 2011). The law itself is ambiguous in that it did not specify how the ownership should be transferred. This law also gave discretionary powers to the President and the Minister of Indigenisation and Empowerment to allow some businesses to be exempted from complying with this law for a some period. This indigenisation policy can thus also be used to help explain Zimbabwe's bottom ranking on the WEF (2009-2019) Property index.

4.7 Comparison of the Financial Systems in Zimbabwe with other countries

One of the key indicators of a country's ease of doing business is the state of the country's financial systems. According to the WEF (2009-2019) a country's financial systems is measured by the following parameters: private

sector domestic credit “the total value of financial resources provided to the private sector expressed a percentage of GDP”, the accessibility of finance, the availability of equity or venture capital, the soundness of banks, and the ratio of non-performing loans.

Zimbabwe has been consistently ranked in the bottom quartile in terms of its financial systems as shown in figure 20 below. Currently, as of 2019, Zimbabwe is ranked at number 120/141. This low ranking in the country’s financial system indicates the difficulties of raising capital in Zimbabwe, either through loans or equity. The high ratio of non-performing loans in the country also indicates the challenging business climate in Zimbabwe, which is causing businesses in the country to struggle to survive and pay back their debts.

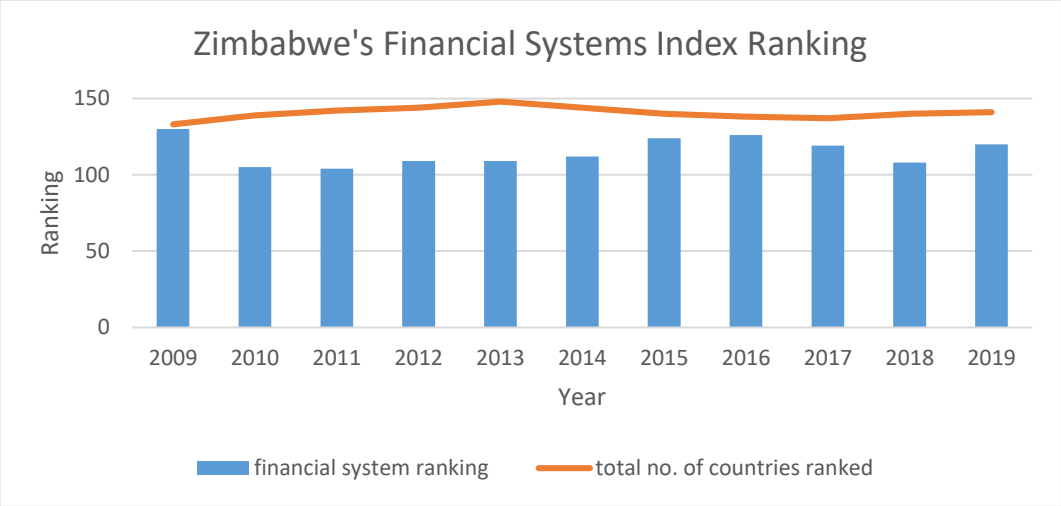

Figure 20: Zimbabwe's Global Competitiveness Index Ranking (Financial Systems) (World Bank, 2010-2019)

4.8 Comparison of the Macroeconomic Stability in Zimbabwe with other countries

Macroeconomic stability is one of the key factors that affects the ease of doing business in a country. According to the WEF (2009-2019) a country’s macro-economic stability is influenced by several factors including the country’s levels of inflation (measured as the “annual percentage change in

the consumer price index"), the country's debt dynamics, and the country's "debt levels in relation to its GDP".

According to the WEF (2009-2019) Zimbabwe has been consistently ranked in the bottom 50th percentile in terms its macroeconomic stability index. As is shown in figure 21 below, in both 2009 and 2010 Zimbabwe was ranked last in the world in terms of macroeconomic stability. Currently, as of 2019, Zimbabwe is ranked at 97/141 on the macroeconomic stability index (World Economic Forum, 2009-2019).

From 2007, Zimbabwe experienced hyper-inflation. Hanke and Kwok (2009) argue that Zimbabwe's hyper-inflation, which peaked in November 2008 at an inflation rate of 90 sextillion percent year on year, was partly caused by the country's high national debt levels, declining economic productivity, and the resultant reduction in export earnings. Pettinger (2019) argued that the other factors which contributed to the country's inflationary environment were the price control measures the government implemented in the 2000s, and the overall lack of government confidence.

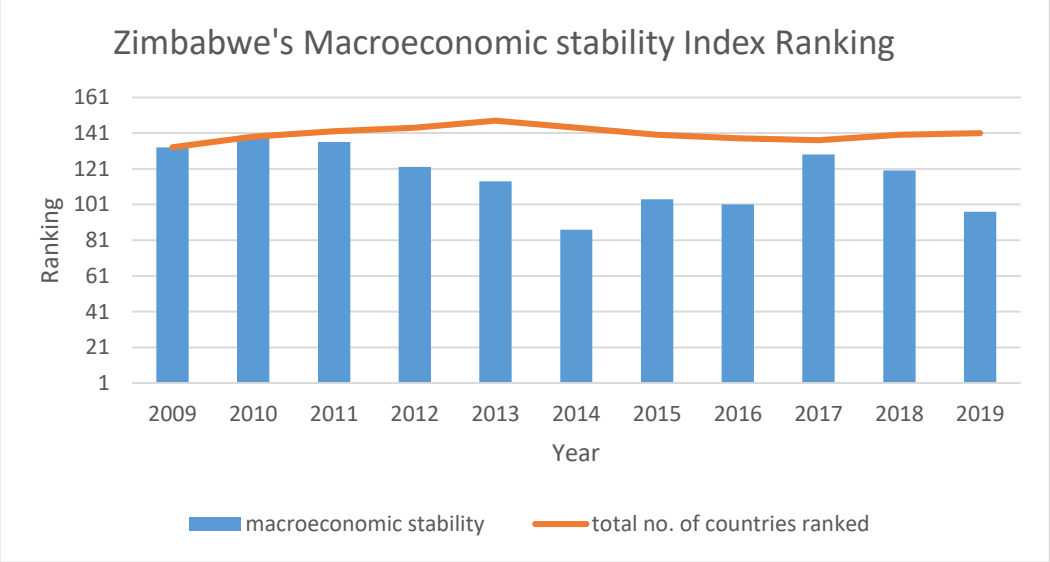

Figure 21: Zimbabwe's Global Competitiveness Index Ranking (Macroeconomic Stability) (World Economic Forum, 2009-2019)

The hyper-inflationary period ended in 2010 after the government stopped printing the local currency and officially adopted the US dollar as a legal tender. However, in 2019 the new government of Zimbabwe reintroduced the use of the Zimbabwean dollar and banned the use of all foreign currency as legal tenders in the country (Sguazzin, 2019). To add to this, since 2019 Zimbabwe has reintroduced price-controls. Economic output and export earnings have declined, and the government has continued to spend more than it earns, leading to an increase in public debt. These factors have led to an unstable macroeconomic environment in the country.

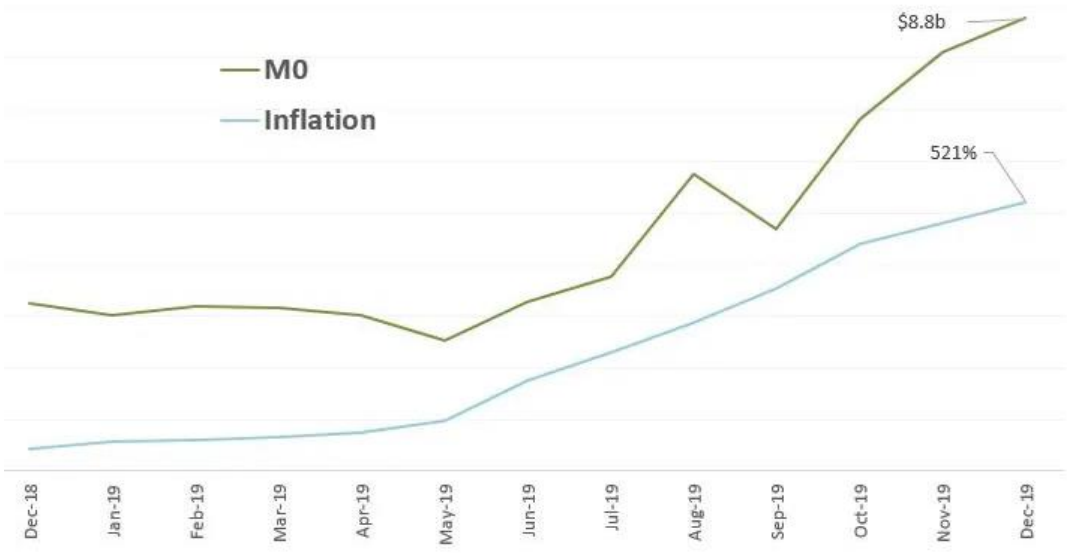

Figure 22:Zimbabwe's Annual Inflation rate (Gwenzi, 2020)

Zimbabwe is also experiencing a return of high inflation, with the annual inflation rate standing at 521 percent at the end of 2019, as is illustrated in Figure 22 above (Gwenzi, 2020). As can be seen from the graph above, the inflation rate was highly correlated with the rate the Reserve Bank of Zimbabwe (RBZ) printing and injecting money into the Zimbabwean economy (represented by the “MO” line graph in Figure 22 above). The main reason the RBZ was printing more money into the economy was to settle the government’s domestic debt obligations to local suppliers and service

providers as well as to settle the wage bill, causing a spiralling effect on inflation (Gwenzi, 2020).

4.9 Comparison of the Institutions in Zimbabwe with other countries

A country's quality of institutions is a key factor that affects the ease of doing business in a country. According to the WEF (2009-2019) the quality of a country's institutions is determined through various parameters including: the "level of organised crime" in the country, for example racketeering and extortion by cartels. The country's quality of institutions is also determined by the reliability of the country's police services, judicial independence, effectiveness of the legal system in challenging regulations "how easy is it for private businesses to challenge government actions or regulations through the legal system?" and press freedom.

Other factors that affect a country's quality of institutions include the "burden of government regulation", the effectiveness of legal system in resolving disputes, levels of corruption, intellectual property protection and quality of land administration in the country. The soundness of the country's auditing and accounting standards, "conflict of interest" regulation, government ensuring policy stability, government's adoptability to change and the long-term vision of the government are also critical (World Economic Forum, 2009-2019).

Zimbabwe has consistently underperformed in terms of the quality of its institutions. According to the WEF (2009-2019) Zimbabwe has been consistently ranked in the bottom 50th percentile in terms of the WEF (2009-2019) institutions index ranking. As can be seen from Figure 23 below, Zimbabwe is currently ranked at 126/141 on the WEF Institutions Index. On average, in the past decade Zimbabwe has been ranked in the bottom quartile.

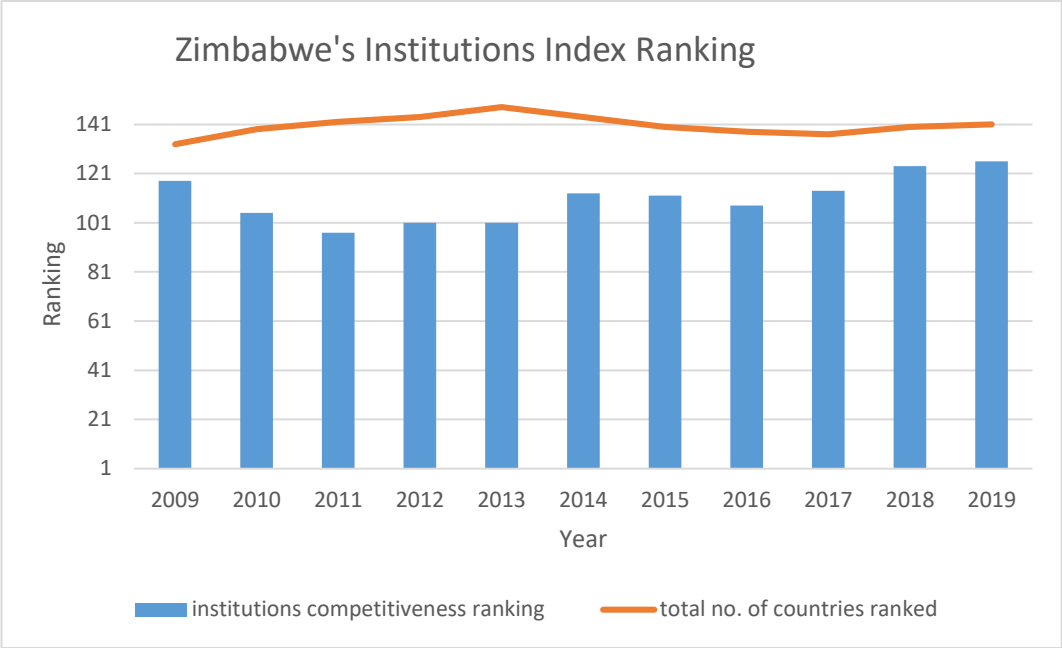

Figure 23: Zimbabwe's Global Competitiveness Index (Institutions) (World Economic Forum, 2009-2019)

An example of Zimbabwe's poor quality of institutions is the allegations of fuel cartels in the country that have been using political patronage to gain influence over state institutions and to strike favourable deals in a way which has been likened to "state capture" (Cotterill & Sheppard, 2019). According to Afrobarometer (2019), 57 percent of Zimbabweans perceived the police as corrupt. Zimbabwe's police services have been known to be very keen to solicit bribes. The Zimbabwe's police service has also historically been viewed as a tool of the governing party and has been accused of carrying out brutal crackdowns on protesters and opposition party supporters (Simpson & Kronke, 2019).

Zimbabwe's judicial independence has been under threat over the past decade. According to the Human Rights Watch (2017) the Zimbabwean government has a history of disregarding high court orders and has frequently made public pronouncements in which it has attacked individual judges and the judiciary system in general.

4.10 Comparison of Zimbabwe's Infrastructure with that of other countries

A country's infrastructure can affect the ease of doing business in the country. Poor infrastructure can affect productivity and contribute to high production costs for mining firms. According to the WEF (2019), the quality of a country's infrastructure is determined by the following factors: "road connectivity" which measures the quality of highways connecting the country's major cities, the "quality of road infrastructure" which measures the country's road conditions and extensiveness, and the "railway density" which measures the km's of railroad per 1000km^2 of land. The quality of the country's infrastructure is also measured by the "airport connectivity" which measures the level the country is integrated with other air transport networks globally, "electricity access" measuring the percentage of the country's population that have access to electricity, quality and reliability of electricity supply, and the reliability of the water supply.

Zimbabwe's infrastructure is ranked among the worst in the world. According to the WEF (2009-2019), in the last decade Zimbabwe has been consistently ranked in the bottom quartile in terms of infrastructure, and is currently ranked at 129/141, as is illustrated in Figure 24 below.

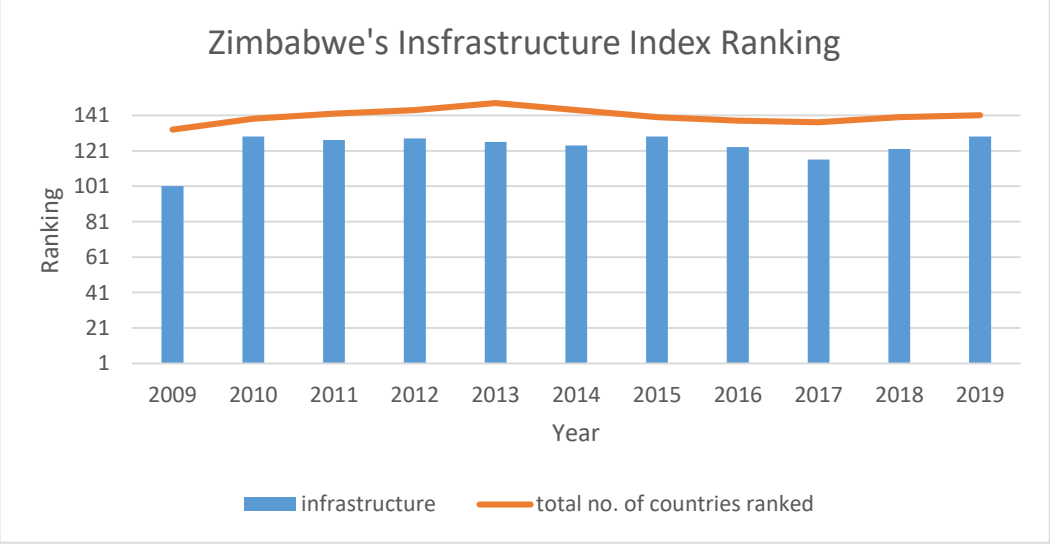

Figure 24: Zimbabwe's Global Competitiveness Index Ranking (Infrastructure) (World Economic Forum, 2009-2019)

The cause of Zimbabwe's poor infrastructure development can be traced to the economic challenges the country has experienced in the past decades, particularly during the hyperinflation years. According to the African Development Bank (2019) there has been a lack of continuous maintenance and rehabilitation of Zimbabwe's transport, electricity, and water infrastructure. Zimbabwe is also a landlocked country, and it does not have a well-developed aviation system. Thus, there is a huge over-reliance on the country's road infrastructure which has caused an accelerated depreciation of the country's roads which were already under strain and in need of major rehabilitation.

The country's railway system is in a poor state due to the deterioration of tracks, outdated railway infrastructure, theft of equipment and frequent breakdown of locomotives. In the past decade, Zimbabwe has also experienced major electric power supply shortages due to obsolete infrastructure, most of which was constructed in the 1950's and has lacked rehabilitation. Zimbabwe's reliance on hydropower has also been affected by the frequent droughts the country has been experiencing in recent years. There is also a lack of capitalisation to finance the construction of new power-plants, resulting in national demand for electricity outpacing supply. This has led to constant load-shedding and power blackouts in the country (African Development Bank, 2019).

4.11 Comparison of the Royalties in Zimbabwe with other countries

Royalties are a preferred tax form unique to mining that are regarded as a cost of doing business. High royalties can discourage potential mining investment through increasing the marginal costs of the mining project (Deloitte, 2015). Royalties are a critical factor when investors decide which mining jurisdiction to invest in. Table 5 below gives a comparison between Zimbabwe's royalty rates and that of other top African mining countries across a range of mineral commodities. Currently, Zimbabwe has one of the

highest royalty rates on the continent, particularly royalties in the platinum and diamonds mining sub-sectors.

Table 5: Royalty tax comparison between Zimbabwe and other major African mining countries (Deloitte, 2015)

Country	Mineral	2010	2011	2012	2013	2014	2015
Zimbabwe	Gold	4	4.5	7	7	5	5
	Platinum	4	5	10	10	10	10
	Diamonds	15	15	15	15	15	15
South Africa	Gold	0.5-7	0.5-7	0.5-7	0.5-7	0.5-7	0.5-7
	Ferrous	0.5-7	0.5-7	0.5-7	0.5-7	0.5-7	0.5-7
	Non-ferrous	0.5-7	0.5-7	0.5-7	0.5-7	0.5-7	0.5-7
Botswana	Gold	5	5	5	5	5	5
	Copper/Nickel	3	3	3	3	3	3
	Diamonds	10	10	10	10	10	10
DRC	Gold	2.5	2.5	2.5	2.5	2.5	2.5
	Non-ferrous	2	2	2	2	2	2
	Ferrous	2.5	2.5	2.5	2.5	2.5	2.5
Zambia	All	3	3	6	6	6	N/A
	All mines (underground)	3	3	6	6	6	8
	All surface mines	3	3	6	6	6	20
Ghana	Gold	5	5	5	5	5	5
	Non-ferrous	5	5	5	5	5	5
	Ferrous	5	5	5	5	5	5

4.12 Summary

In this chapter, based on the Fraser Institute (2010-2020)'s annual survey of mining companies reports, it was derived that negative policy perception is the biggest constraint hindering Zimbabwe's ability to attract mining investments. In order to develop strategies that can be used to enhance Zimbabwe's mining competitiveness, the factors that are contributing to the negative policy perceptions towards Zimbabwe were evaluated in more detail.

In this chapter, an in-depth analysis of some of Zimbabwe's key policy and business environment indicators was conducted by comparing Zimbabwe's ranking on key policy and business climate indicators with other countries. These indicators include property rights, financial systems, macroeconomic stability, infrastructure, the country's institutions rankings, as well as a comparison of Zimbabwe's royalties with other countries. The factors identified in this chapter to be affecting Zimbabwe's mining competitiveness will help provide input into the SWOT analysis which will be conducted in the next chapter.

5 A SWOT ANALYSIS OF FACTORS AFFECTING ZIMBABWE'S COMPETITIVENESS TO ATTRACT MINING INVESTMENTS

5.1 Introduction to SWOT Analysis

In order to develop strategies that can be used to enhance Zimbabwe's competitiveness to attract mining investments it is important to conduct a strategic analysis. This strategic analysis will evaluate the factors that have been identified to be affecting Zimbabwe's competitiveness to attract mining investments. This is done in this chapter by analysing and categorising the factors identified to be affecting Zimbabwe's competitiveness in the mining sector into internal strengths and weaknesses, as well as external opportunities and threats. Below is a discussion and analysis of the strengths, weaknesses, opportunities, and threats identified to be affecting Zimbabwe's competitiveness to attract mining investments.

5.2 STRENGTHS

5.2.1 Relatively good perceived mineral potential

The Fraser Institute (2018) ranked Zimbabwe at number 40/83 globally in terms of perceived geological potential in 2018, which put Zimbabwe's geological potential in the top 50th percentile ranking globally. Amongst its other Southern African counterparts, as of 2019, Zimbabwe is ranked in the top quartile, ranked second only to South Africa, in terms of perceived mineral potential, and ahead of DRC, Namibia, Tanzania and Zambia (Fraser Institute, 2019). There are over 40 different minerals of economic value that have been exploited at some stage in the country (The Chamber of Mines of Zimbabwe, 2018).

Zimbabwe's greenstone belts are some of the most gold-enriched in the world, hosting over 4000 gold deposits. Zimbabwe's Great Dyke is host to the second largest deposits of platinum group metals (PGM's) in the world, after South Africa's Bushveld Igneous Complex (Mugumbate, 2016). The

discovery of a world class placer diamond deposit in 2006 points to significant potential in Zimbabwe's ancient basins (Mugandani, 2017).

5.2.2 Low-cost mineral assets

Most of the mineral deposits across all mineral categories currently being exploited in Zimbabwe are either on surface or near surface. Thus, Zimbabwe has some of the most low-cost mining operations in the world. For instance, Zimbabwe's platinum mines (Zimplats, Unki & Mimosa) lie in the top 50th percentile of the platinum cost curves, as is illustrated in Figure 25 below (Minxcon Group, 2018). All current diamond mining operations in Zimbabwe are surface operations, except for Murowa diamond mine which is a combination of an open pit and a shallow underground operation (Chatora, 2009). Zimbabwe's deepest gold mine, Blanket mine, operates at a depth of 750m below surface (Caledonia Mining Corporation Plc, 2020), contrasted with South Africa's deepest mine, operates at over 4 km below surface (Wadhams, 2011).

5.2.3 Long history of mining

Zimbabwe is a mining country with a long mining history spanning over thousands of years (Mlambo, 2016)**.** To date more than four thousand ancient gold workings have been rediscovered (Mugumbate, et al., 2008). These numerous ancient workings scattered around the country have made prospecting or exploration for gold deposits easier, as they provide historical data that can be utilised by prospecting or exploration companies. The long history of mining in the country also implies that there is a lot of experienced people in the country with the relevant mining skills that can be made easily available to be utilised by mining companies.

5.2.4 Ease of finding skilled employees.

According to the WEF (2016) Zimbabwe is ranked at number 4 in Africa when it comes to the quality of science and mathematics education. According to WEF (2019) Zimbabwe is currently ranked at 56/141 globally

in terms of the ease of finding skilled employees. Zimbabwe produces a significant number of mining technicians, artisans and professionals who service the Southern African Development Community (SADC)'s mining industry. Zimbabwe has a young and diverse workforce with high levels of foundational and technical skills (Workforce Connections, 2014).

5.2.5 Low business costs of terrorism

According to the WEF (2018) Zimbabwe is ranked at number 3/137 in terms of the business costs of terrorism. Since the inception of its independence in 1980, Zimbabwe has never been attacked by terrorists, nor has it gone to war with any other country. There are no religious extremist militants in the country, nor has there been any civil war in the country for the past 40 years.

5.2.6 Low levels of Crime and theft

According to Afrobarometer (2019) 68 percent of people surveyed in Zimbabwe said that the police is likely to act if they reported a crime at a police station, 71 percent say they have never experienced a crime at home, 72 percent never experienced burglary at their house, and 71 percent have never been physically attacked.

5.2.7 Strength of auditing and reporting standards (Corporate governance)

WEF (2019) notes that Zimbabwe is currently ranked in the top 50th percentile globally in terms of corporate governance. The strength of Zimbabwe's auditing and reporting standards is currently ranked at 64/141. According to the World Bank (2011) Zimbabwe has a track record of a sound and ethically strong accountancy profession, the auditing profession in Zimbabwe meets most of the professional accountants' International Education Standards and has a well-developed continuous professional development system for practicing auditors and accountants. This helps in

ensuring that companies comply with auditing and reporting standards, and in ensuring good corporate governance in the country (World Bank, 2011).

5.2.8 Favourable Corporate tax and tax incentives

Zimbabwe has a corporate tax rate of 25 percent for all mining companies except for the Special Mining Licences which the state charges 15 percent (Government of Zimbabwe, 2016). This corporate tax rate is competitively favourable compared other mining jurisdictions in Southern Africa, such as DRC and Tanzania which charge a tax rate of 30 percent (PWC, 2012). Zimbabwe offers a competitively favourable Value Added Tax (VAT) system compared to other Southern African countries, including the zero-rating of VAT for mining companies and allowing mining companies to defer VAT payment on capital goods imports (ZEPARU, 2016).

Zimbabwe also offers other favourable tax incentives like the unrestricted carrying over of losses, tax-rebates on capital equipment imports, tax deductions for interest on debt, and the allowance of tax deductions on various social responsibility investments into the community, such as funds the mine avails for scholarships, research institutions and Community Share Ownership Trusts. (ZEPARU, 2016)

Table 6 below shows a comparison of Zimbabwe's corporate tax and other tax incentives with some other SADC countries. It can be seen that Zimbabwe's corporate tax is lower than the other neighbouring countries. Zimbabwe's unlimited loss carry over and other tax incentives such as capital allowances and zero rating on VAT for mineral exports makes Zimbabwe relatively competitive with regard to these forms of taxation.

Table 6: Comparing Zimbabwe's mining taxes with other Southern African countries

Tax Payable	Zimbabwe	South Africa	Botswana	Namibia
Corporate income tax	25% (general mining) 15% (special mining leases)	28%	70%-($\frac{1500\%}{X\%}$), ($X = profitability\ ratio$) -Income tax at Variable rate	Diamond operations (55%) Other mining operations (37.5%)
Capital allowances	100% of all capital expenses -Unlimited loss carry over	100% deductible on capital expenditure	100% of mining capital expenditure. -Unlimited loss carry over	100% deductible (in 3 equal amounts)
Value Added tax	0% for minerals 15% for capital goods VAT refunded if mining for export	15% (domestic sales and 0% for exports)	12% (except mineral exports, zero rated)	15%

5.3 WEAKNESSES

5.3.1 Political instability

Since the government of national unity in Zimbabwe was dissolved in 2013, there has been a continuous political and economic crisis in Zimbabwe. This political crisis led to the forceful removal of Zimbabwe's long-time president, Robert Mugabe, in November 2017. Subsequently, the current president Emmerson Mnangagwa, was elected in a widely disputed election in 2018. Since the disputed elections of 2018, the socio-economic situation in the country has rapidly declined leading to a rise in public discontent that has culminated in frequent nationwide strikes and protests. The government has responded by using the state's security forces to repress these protests. The main opposition party has been refusing to recognise the legitimacy of the current president and this has led to a political stalemate in the country which persists to date (Congressional Research Service, 2019).

5.3.2 Macroeconomic instability

According to WEF (2009-2019) Zimbabwe has been consistently ranked in the bottom 50th percentile in terms its macroeconomic stability index, and currently, as of 2019, is ranked at 97/141 (World Economic Forum, 2009-2019). The World Bank (2019) noted that the Zimbabwean economy is projected to contract by 7.1 percent in 2020. One of the major challenges being experienced in the country's economy is a shortage of cash, resulting in businesses in Zimbabwe not being able to withdraw their money from local banks. Due to over-spending by the government, Zimbabwe's public debt now stands at 72 percent of GDP (Congressional Research Service, 2019).

5.3.3 Foreign exchange crisis

There is also foreign exchange crisis in Zimbabwe which has significantly affected businesses operating in the country. For instance, the mining company RioZim had to shut down its mining operations due to foreign

currency restrictions set by the Reserve Bank of Zimbabwe (RBZ). According to the RioZim chairman, Chihota (2018), the company only managed to receive 14% of its foreign exchange (forex) earnings in 2018 due to the RBZ's directives that withheld forex from the firm. The RioZim chairman is quoted saying, "In the nine weeks preceding the closure of production at the mines, we have received almost no foreign exchange" (Newsday, 2018).

5.3.4 Inefficient government bureaucracy and political interference

Zimbabwe's public services have been severely affected by the socio-economic crisis the country has experienced in the last decades. Due to the poor wages of government officials, many of the experienced and competent government officials have left Zimbabwe with the hope of finding greener pastures in other countries, resulting in a weakened bureaucracy (Naing, 2012). There is also frequent political interference in government bureaucracy (IANRA, 2016).

5.3.5 High levels of corruption

According to Transparency International (2016) Zimbabwe was ranked at 160/180 in terms of corruption. Zimbabwe's legal framework on corruption and its anti-corruption enforcement is weak, which has resulted in unprecedented level of corruption in all facets of Zimbabwe's society (Naing, 2012). Despite the establishment of a specialised Anti-Corruption prosecuting unit by the current president, there have been few successful convictions of corruption cases in the country.

There is now a growing view that this prosecuting unit is being used as a tool to eliminate political foes than to actually stem out corruption (Chingono, 2019). Corrupt government officials often use their authority to help rent seekers, for example by deliberately delaying public services, such as processing of mining permits, in order to solicit bribes and are seldom held to account for their actions (Naing, 2012).

5.3.6 Lack of access to financing

Due to the shortages of cash in Zimbabwe and lack of foreign currency exchange, there is a difficulty in accessing financing from local sources, both in the form of loans or equity. An inflationary environment and a perceived high risk of doing business in Zimbabwe means that the available financing can only be accessed at high interest rates, making it expensive and out of reach to most businesses.

5.3.7 Inadequate supply of infrastructure

Zimbabwe's infrastructure is extremely poor and is ranked among the worst in the world. According to the WEF (2009-2019), as of 2019, Zimbabwe is ranked at 129/141 in terms of supply of infrastructure. The country's railway system is in a poor state. Zimbabwe has also experienced major electric power supply shortages due to obsolete and poorly maintained infrastructure (African Development Bank, 2019).

5.3.8 High mining royalties

Currently, Zimbabwe has one of the highest royalty rates amongst the Southern African countries particularly royalties for mining of platinum at 10 percent) and diamonds (at 15 percent). Zimbabwe's royalties are based on gross revenues, not the company's profits, thus are viewed as variable mining costs of production (ZEPARU, 2016). This high rate and structure of royalties can discourage mining investments and negatively influence investment decisions, resulting in sterilisation of some deposits which would otherwise have been viable under lower royalty rates.

5.3.9 Lack of respect to Property rights (security of tenure)

Zimbabwe has consistantly been ranked in the bottom 10 globally in terms of property rights. As of 2019, Zimbabwe is ranked at 137/141 in terms of property rights (World Economic Forum, 2009-2019). This perceived lack of

respect to Property rights is a deterant to potential investors into the country's mining sector.

5.4 OPPORTUNITIES

5.4.1 Rise in commodity prices

A number of mineral commodity prices, such as gold and Platinum group metals (PGM's), have been on an upward trajectory in recent years (World Bank, 2018). With over 4000 known gold deposits in the country most of which remain under-explored. Zimbabwe has tremendous opportunity for the discovery of new major gold deposits. The gold price has increased to record levels as is illustrated in figure 25 below. PGM prices, particularly of rhodium and palladium, have also significantly increased. This upswing in mineral prices has created opportunities for an increased interest in investments in exploration and mining for these minerals, which Zimbabwe can tap into. This rise in commodity prices is predicted to continue in 2021 according to HSBC's metal analysts, with gold predicted to rise to above USD2000 per ounce by June 2021 (Medleva, 2020).

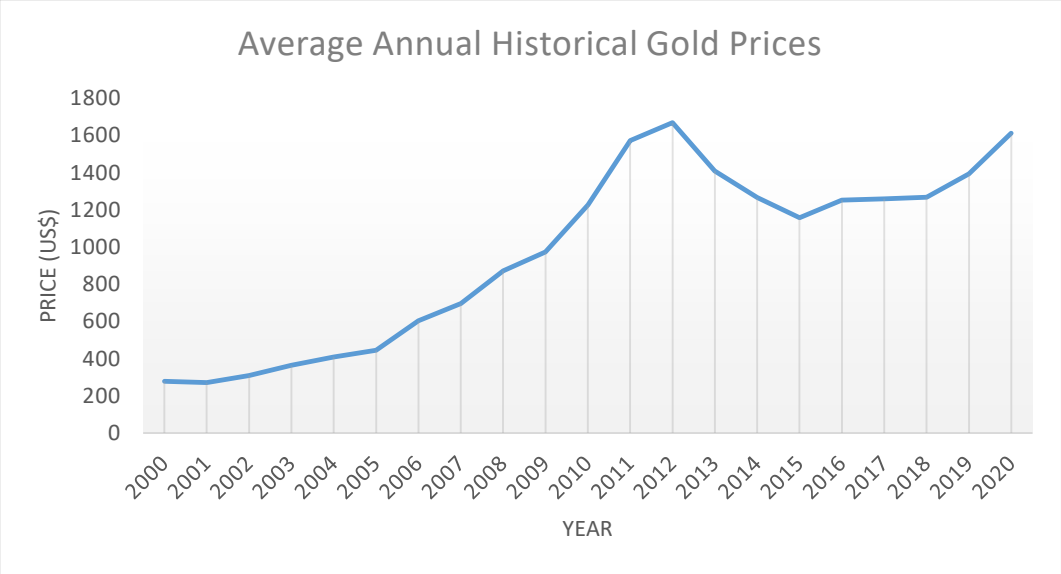

Figure 25:Annual gold price from 2000-2020 (macrotrends, 2020)

5.4.2 Depletion of other countries' low-cost resources

The depletion of shallow and low-cost ore deposits in other mining jurisdictions is leading mining firms in these countries, such as South Africa, to exploit reefs at ever-increasing depths. The implication is that the mining costs in these countries are increasing as the depth of mining increases. It was predicted that by 2020 at least 40 percent of South Africa's gold mines will be at below two thousand metres in depth (Malan & Basson, 1998). Companies like AngloGold Ashanti are already exiting these deep gold assets to focus on shallower, more profitable mines, elsewhere in the world (McKay, 2020).

Although other factors such as regulatory uncertainty in South Africa, are causing these mining companies to sell off their assets in the country, the costs of developing and operating deep to ultra-deep level mines are also influencing their decisions to exit these assets. This creates an opportunity for Zimbabwe, which has surface and shallow ore deposits, to attract these mining companies that are exiting deep high-cost deposits, in search of shallower lower cost deposits. If Zimbabwe is able to improve its business environment, these near-surface and low-cost mining assets in the country can be used as a magnet to attract mining firms into the country.

5.4.3 Better access to global markets

The world is evolving into a more closely-knit global village due to globalisation, and the reduction in international shipping costs. The significant reduction in transportation costs over the past decades has helped ensure easier access to global markets (Nel, 2019). The implication of this reduction in global transportation costs is that minerals can now be mined anywhere in the world and transported and sold to any other parts of the world without a significant increase in costs. This continued reduction in global transportation costs can enable Zimbabwe to access markets anywhere in the world competitively.

5.4.4 Opportunities due to technological advancements and the green revolution

As technology advances, more and more uses or functions are being invented or discovered for a wider range of minerals and alloys. Zimbabwe has a wide variety of mineral deposits, currently with more than 40 known economic minerals whose commercial profitability has been proven (Mugandani, 2017). There is also a renewed shift by economies globally into becoming decarbonisation economies, due to fears of global warming and climate change. As a result, a different set of minerals are increasing in importance.

For example, there is a growing demand for battery minerals, such as lithium, cobalt, and nickel, to power electric vehicles (Nel, 2019). For instance, a small electric vehicle, like the Nissan Leaf, uses 4 kilograms of lithium on its battery. Zimbabwe has the largest reserves of lithium on the African continent and the 6th largest reserves of lithium in the world. Zimbabwe also has vast reserves of other battery minerals, particularly nickel. With the increase in the demand for electric cars, Zimbabwe is well positioned to be an important source of these battery minerals.

5.4.5 Increased global exploration expenditure

According to S&P Global (2019) the recovery in expenditure for exploration activities that began in 2016 has continued on an upward trajectory. Due to the continued anticipated increase in metal prices, the exploration expenditure is likely to continue to increase (S&P Global Market Intelligence, 2019). This is because the increase in metal prices will result in an increase in cash reserves for mining companies, some of which can be made available for allocation to exploration expenditure. Zimbabwe can tap into some of this increasing exploration expenditure budget.

5.4.6 Availability of experienced mining expatriates

Zimbabwe already has a vast number of experienced mining technicians and executives working in other countries. With the right conditions, these mining expatriates can be able to come back into their home country and offer their world-class skills and services to develop Zimbabwe's mining sector. The main reason why many skilled Zimbabweans leave the country is to search for job opportunities in other countries. Once investment flows in the country's mining sector increase, resulting in more job opportunities, this can pull some of these skilled expats back into the country.

5.4.7 Availability of developmental funding

In the past there were geological surveys which were sponsored by the Canadian International Development Agency (CIDA) which funded aeromagnetic surveys in Zimbabwe in the 1990s. The results from these geoscientific surveys attracted a significant number of junior miners into previously ignored areas and increased diamond exploration activities in the country during the 1990s (Mugandani, 2017). Zimbabwe can re-engage with some of these developmental organisations, such as CIDA and the African Development Bank to help the country conduct more geoscientific surveys.

5.5 THREATS

5.5.1 Financial Sanctions

According to the British Office of Financial Sanctions Implementation HM Treasury (2018) Zimbabwe is currently under financial sanctions imposed by the United States of America (USA), the European Union (EU), and the United Kingdom (UK). There is some debate on whether these financial sanctions are only targeted on a few Zimbabwean government connected individuals, as the western governments claim, or these sanctions are aimed to discourage western companies from doing business with Zimbabwe overall, as the Zimbabwean government claims. These financial sanctions on Zimbabwe have been in existence for the past 20 years, since

the country's FTLRP was initiated. Ultimately, their existence has resulted in a hindrance of the Zimbabwean government and organisations associated with the state from accessing international services or markets such as accessing international lines of credit. This conflicting relationship between western countries and the Zimbabwean government continues to pose a threat in discouraging potential investments into the country.

5.5.2 Brain-drain

In terms of the country's ability to retain talent, Zimbabwe is ranked at 124/137, while in terms of attracting talent it is ranked at 125/137 (World Economic Forum, 2018). There has been a continuous exodus of skilled workers, particularly those with technical mining skills. This is because of the attractiveness of better wages and living conditions offered by other countries like South Africa and Australia. This brain-drain has been described as one of the biggest developmental threats facing Zimbabwe (Tevera & Crush, 2003).

5.5.3 Lack of access to external lines of credit

Zimbabwe's profile as a high-risk investment country is hindering domestic businesses from getting access to credit facilities from international financial institutions (Chingono, 2020). Without access to international lines of finance, businesses operating in Zimbabwe, including mining operations, have limited capacity to develop.

5.5.4 Exposure to volatile commodity prices

Zimbabwe's mining industry is exposed to the volatility of the mineral commodities market. This is made worse by the fact that Zimbabwe has low levels of beneficiation and value-addition. Most mining companies are price takers whose mineral commodities are traded on global markets such as the London Metal Exchange. Small variations in the demand and supply of

most mineral commodities can result in significant variations in prices, which can raise the risk of mining projects.

5.5.5 Negative perceptions on the country (image)

There are deep-rooted negative perceptions towards Zimbabwe. Regardless of Zimbabwe making genuine efforts to implement policies reforms, it might face a difficult task to convince or persuade the world that the country has changed course from its past 20 years of policy and political instability (Tapera, 2018).

5.5.6 Reliance on other countries for mining inputs or markets

Zimbabwe has a low capacity to create linkages from mining. This is because the country has few local suppliers. There is also the perception that local suppliers in Zimbabwe produce low quality goods and services. In terms of local supplier quantity, Zimbabwe is ranked 132 out of 137 (132/137) and in terms of local supplier quality it is ranked at 127/137 (World Economic Forum, 2018).

Zimbabwe also has a limited capacity for mineral beneficiation. Thus, the more developed countries, with more advanced mining services and manufacturing capacity, such as neighbouring South Africa, are better positioned to dominate a significant share across Zimbabwe's mining value chain. Over-reliance on foreign suppliers for mining inputs and for markets can create its own risks, such as logistical delays and embargoes.

5.5.7 Prone to droughts and natural disasters

According to the Global Facility for Disaster Reduction and Recovery (2020) Zimbabwe has in the recent past experienced increased natural disasters, including droughts (El Nino) and cyclones, most recently cyclone Idai in 2019. These cyclones and floods have led to extensive damages to Zimbabwe's already fragile infrastructure.

The World Bank (2014) predicts that by 2050 Zimbabwe will encounter a significant reduction in rainfall. This might have significant impact on Zimbabwe's mining sector which uses massive quantities of water and relies on the country's hydropower plants for electricity (World Bank, 2014).

5.5.8 Prone to lag in mining technology

Zimbabwe is a laggard in technological innovation. According to WEF (2018) Zimbabwe has a low capacity for innovation, with a current ranking at 131/137. The failure of the country to retain or attract talent is resulting in a shortage of experienced scientists and engineers in the country. This shortage of critical skills implies that Zimbabwe is prone to remain on the back-foot of mining technology. Other countries that are more innovative have the potential to outpace the country in terms of developing new technologies to reduce mining costs and design better mineral processing technics in their jurisdictions (World Economic Forum, 2018).

5.6 Summary

Table 7 below gives a summary of the internal and external factors derived from the SWOT analysis in this chapter which are viewed as affecting Zimbabwe's competitiveness to attract mining investments. The next chapter will suggest strategic options on each of the factors raised in this SWOT analysis, that is, on how the strengths can be leveraged, weaknesses addressed, opportunities capitalised-on and the threats mitigated in order to enhance Zimbabwe's competitiveness to attract mining investments.

Table 7: SWOT Analysis of factors that affect Zimbabwe's mining competitiveness

	Helpful **to make Zimbabwe more competitive to attract mining investments**	**Harmful** **in making Zimbabwe more competitive to attract mining investments**
Internal origin (characteristics of Zimbabwe)	**Strength**	**Weaknesses**
	Good geological endowment	Political/policy instability
	Low-cost mineral assets	Macroeconomic instability
	Long history of mining	Foreign exchange crisis
	Ease of finding skilled employees	Inefficient government bureaucracy
	Low business costs of terrorism	Corruption
	Low levels of crime and theft	Lack of access to financing
	Strong auditing and reporting standards	Inadequate supply of infrastructure
	Corporate tax & tax incentives	High royalties
		Lack of Property rights
External origin (characteristics of the global environment)	**Opportunities**	**Threats**
	Rising metal commodity prices	Financial sanctions
	Depletion of low-cost mineral assets in other countries	Lack of access to external lines of credit
	Better access to global markets	Brain-drain
	Technological advancements and the green revolution	Volatile mineral commodity prices
	Increase in global exploration expenditure	Negative country image
	Increased availability of developmental funding	Dependence on other countries for mining inputs/markets
		Susceptible to frequent droughts and natural disasters
		Susceptible to mining technological advancements by other countries

6 STRATEGIES TO ENHANCE ZIMBABWE'S COMPETITIVENESS IN THE MINING SECTOR

6.1 Leveraging Zimbabwe's Strengths to enhance the country's competitiveness to attract mining investments

6.1.1 Enhancing Zimbabwe geological potential

According to the Fraser Institute (2009-2019) Zimbabwe's perceived mineral potential has widely fluctuated, with its lowest ranking at number 85/112 in 2013 and its highest ranking at 29/91 in 2017. However, Zimbabwe's average global ranking in the last 3 years, as a percentile between 2017 and 2019, is at the 49.9^{th} percentile. To enhance the country's geological potential, more focus and investment is required to develop the country's geoscience infrastructure.

Holding all other things constant, the more the country develops its geoscience infrastructure, including its geoscientific systems, data, and expertise, the more attractive the country becomes to junior exploration companies (Mugandani, 2017). This geoscience infrastructure can be viewed as a public good. This is because the funding of geoscientific research activities is viewed as too risky by private firms, as the benefits cannot be easily captured by individual companies and usually only materialise far in the future, if they do at all (Eggert, 2010). Thus, government is better positioned to provide these services.

According to Eggert (2010) the state's investment in building the country's pre-competitive geological infrastructure can act as a catalyst for mining exploration activities particularly in previously unexplored areas. The data gathered in this pre-competitive geoscientific research can serve as a marketing tool to signal the country's geological potential. Essential forms

of pre-competitive geoscientific research include geophysical surveys, regional geochemical analysis, and geological maps. This geoscientific data should preferably be accessible in digital formats that can be downloaded from the internet.

To raise funding for these geoscientific surveys, Zimbabwe can engage with its wealthier eastern allies such as China and Russia who have continued to support the Zimbabwean government in spite of the financial sanctions placed by western governments on the country. According to Ojakorotu and Kamidzi (2018) Zimbabwe's eastern partners are alternative development partners which can help Zimbabwe finance these projects.

6.1.2 Capitalising on Zimbabwe's Long History of Mining

Zimbabwe has a long historical background in mining which stretches over a thousand years (Mlambo, 2016)**.** Currently, there are thousands of gold deposits scattered across the country. Most of these gold deposits are based on the rediscovering of quartz veins at old workings (Mugumbate, 2016). Though most of these old mine workings have never been scientifically evaluated, the historical data available suggests that there is need for further investigations to be carried out on many of these dormant workings, some of which were last exploited in the early 1900s and were based on ancient workings.

According to Mugumbate (2016) some of Zimbabwe's currently operational large-scale gold mining operations such as Freda-Rebecca near Bindura, and Eurika gold mine in Guruve were developed into large opencast mines from the rediscovered deposits from old workings. Thus, there is potential to investigate many of these scattered deposits for potential viability to be developed into large-scale mines. A methodical re-evaluation of some of these deposits based on old workings is required to establish whether viable large-scale mining operations are feasible, particularly in the lower grade

shear zones that encompass the areas (Mugumbate, et al., 2008). Information that has been accumulated from these vast number of old mining workings, scattered across the country can be used as leverage to attract exploration companies to advertise and signal the country's mineral potential.

Zimbabwe's long history of mining also highlights the skills availability and mining experience in the country. Since Zimbabwe is historically a mining country, the introduction of mining operations near local communities in the country will not result in a significant culture shock. The implication is that there would be less likelihood for conflict or opposition from the locals to the commencement of mining operations in their communities.

6.1.3 Taking advantage of the ease of finding skilled workforce

According to WEF (2019) Zimbabwe is currently ranked at 56/141 globally in terms of the ease of finding skilled employees. Zimbabwe has made inroads in developing skills to support the mining sector by establishing a reputable school of mines and producing a significant number of mining technicians, artisans and professionals who service the Southern African Development Community (SADC)'s mining industry (Workforce Connections, 2014).

To enhance its competitiveness to attract mining investments, Zimbabwe should not neglect its education, and should continue to invest in the development of its human capital. Zimbabwe should find ways to ensure that the existing educational and training facilities, particularly those that develop skills required in the mining sector, are well staffed. These facilities should also be equipped with up-to-date equipment and learning material. Zimbabwe should also invest in the development and establishment of new educational and training institutions including those that cater for developing

mining-required skills to further enhance its competitive advantage of having a skilled workforce.

6.1.4 Highlighting the low business costs of terrorism and low levels of theft or crime in Zimbabwe

According to the WEF (2018) Zimbabwe is ranked at number 3/137 in terms of the business costs of terrorism. According to Afrobarometer (2019) most people in Zimbabwe have confidence in the police's ability to act if they reported a crime at a police station. Most people in Zimbabwe have also never experienced a crime or burglary at their home (house) nor have they been physically attacked. Zimbabwe's mining sector should leverage these statistics to help promote the country image, by highlighting how safe and peaceful Zimbabwe is to live and work in. This can be a strong marketing point for the country given the context that a significant proportion of African countries including Mozambique, Mali, the DRC and South Africa have higher crime rates, have been engaged in ongoing civil wars, or have experienced terrorist attacks in the recent past.

6.1.5 Building on Zimbabwe's strong auditing and reporting standards

According to the World Bank (2011) Zimbabwe has a good track record of having a sound and ethically strong accountancy and auditing profession. Zimbabwe has a current ranking of 64/141, according to the WEF (2019). However according to the World Bank (2011) there is still a shortage of accounting professionals in the country, causing some shortfalls in the enforcement of good corporate governance. This includes shortfalls in the conducting of companies' auditing functions and the preparation of financial statements. There is also no legislation or regulation in the country that exists to regulate or monitor the setting of auditing standards, thus the field is still self-regulating (World Bank, 2011).

To enhance the business environment for mining companies and make Zimbabwe more competitive to attract mining investments, Zimbabwe should invest in developing a national body that trains accounting technicians, using a national qualification system. According to the World Bank (2011) to minimise accounting or auditing fraud and enhance good corporate government, Zimbabwe's "Companies Act" needs to be amended as well as other related company regulations. This is so as to provide a legal framework that can support and strengthen the capacity of national accounting standard regulators by giving them the capacity to hold accounting or auditing professionals, who behave unethically, legally liable for prosecution (World Bank, 2011).

6.2 Addressing Zimbabwe's weaknesses affecting the country's competitiveness to attract mining investments

6.2.1 Resolving Zimbabwe's political and policy instability

Political and policy uncertainty is one of the main challenges being experienced in Zimbabwe. Using the IMF Zimbabwe representative Imam (2019) words "The fundamental problem in Zimbabwe is politics not economics, the economy reflects the underlying political problems. It is the same with currency. It is a symptom of the underlying problem, but it is not the problem itself. The underlying problem is the politics of the country" (Imam, 2019).

According to Zimbabwean economist Kanyenze, Zimbabwe's economic crisis is due to in-fighting in Zimbabwe's governing party. This has resulted in a lack of consensus in government over fiscal and monetary reforms as well as the direction the country should take, which has led to policy inconsistency (Zimbabwe Independent, 2019). Since Zimbabwe's disputed elections of 2018, the political and socio-economic situation in the country has rapidly declined. This has led to a rise in public discontent, which has

culminated in frequent nationwide strikes and protests, which the state's security forces have been repressing.

Dialogue between Zimbabwe's major political players can help resolve the country's political crisis. In the past there has been successful formal dialogue between Zimbabwe's major political parties mediated by the SADC through Thabo Mbeki. This dialogue led to the creation of a government of national unity (GNU) in Zimbabwe between 2009-2013 and as a result helped resolve a prolonged political and socio-economic crisis in Zimbabwe. The GNU gave birth to a period of political and macroeconomic stability in the country.

This coalition government period between 2009-2013 led to widespread political and economic reforms resulting in inflation going down from the galloping rates of 90 sextillion percent, in November 2008, to under 5% by end of 2010. According to Mukuhlani (2014) during this coalition government period, the country's GDP grew by an average of 12% annually, which made it one of the fastest growing economies globally. During this GNU period, between 2009-2013, not only did goods shortages cease, fuel supply normalised, and foreign relations with the international community improve.

There was also an easing of economic sanctions and an increase of FDI, including a rapid rise in exploration expenditure, as is illustrated in Figure 26 below. Thus, dialogue between Zimbabwe's major political parties or players, in a similar way as was done during the 2009-2013 period can help resolve the current political crisis being experienced in the country. This can in turn help ensure political, policy and economic stability in Zimbabwe, and thus create a more conducive business climate. A conducive business environment brought about due to political stability will ultimately help attract more mining investments in exploration expenditures, as was showcased during the 2009-2013 GNU period.

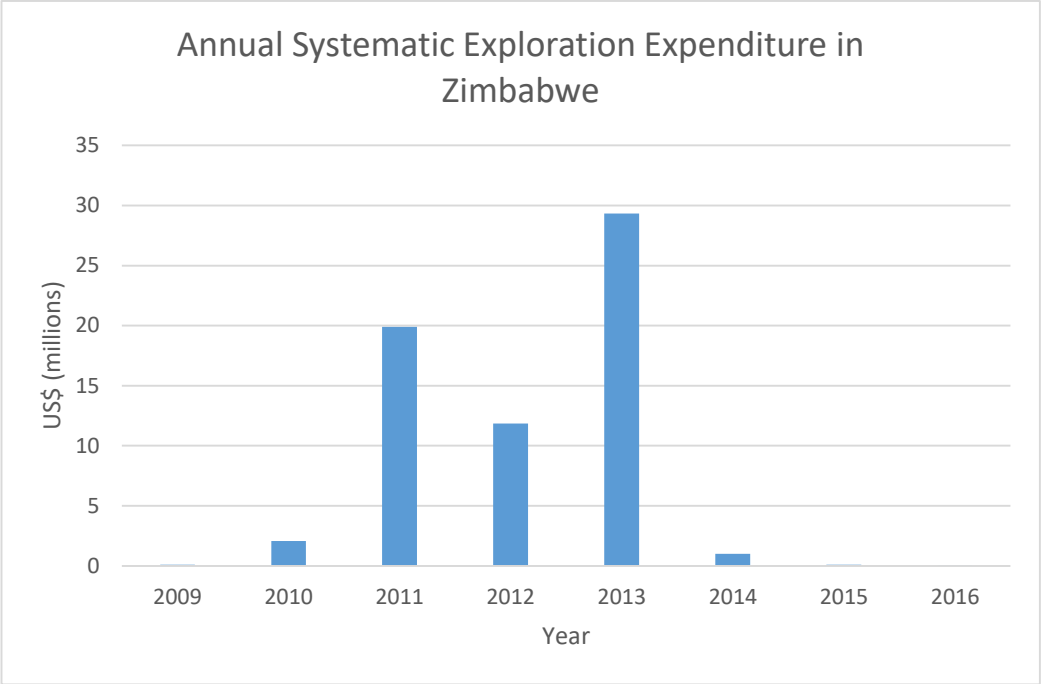

Figure 26: Annual Exploration Expenditure in Zimbabwe (Mugandani, 2017)

To achieve this dialogue, to help resolve the political impasse in Zimbabwe, the SADC countries led by South Africa can use their political and economic influence to bring the country's major political players to the negotiating table. This is because Zimbabwe's political economy affects the entire region. Thabo Mbeki achieved this objective as the chief facilitator of the negotiations in 2009, that resulted in the formation of GNU. A similar intervention might be required to help resolve the current political crisis in the country.

6.2.2 Resolving Zimbabwe's macroeconomic instability and foreign exchange crisis

According to the World Bank (2019) the Zimbabwean economy was projected to contract by 7.1 percent in 2020. The economy is having cash shortages resulting in businesses in Zimbabwe not being able to withdraw their money from local banks. Zimbabwe's public debt now stands at 72 percent of its GDP (Congressional Research Service, 2019). Zimbabwe is

also experiencing a return to a high inflationary environment, with the annual inflation rate standing at 521 percent by the end of 2019. There is also foreign exchange crisis in Zimbabwe which has significantly affected businesses operating in the country.

In order to stabilise the country's economy, the Zimbabwe government should, through prudent fiscal management, implement measures to control and reduce the government debt, which significantly rose between 2015 and 2018 due to government overspending (Chitiyo, et al., 2019). This can also help improve the availability of credit facilities for the private sector, as government debt has crowded out investment in the private sector. This is due to local banks lending the available credit, including the much-needed forex, to the government instead of private firms, limiting capital investments (Chitiyo, et al., 2019). Prudent macroeconomic policies and debt sustainability will help ensure low inflation, and help solve the foreign exchange crisis, as well as create a more conducive business environment (IMF & World Bank, 2001).

According to Chitiyo, et al. (2019) Zimbabwe's government should also implement structural reforms in the country's economy. This includes creating a more open market economy and the privatisation of underperforming state-owned entities such as the loss-making, state-owned, mining companies such as Hwange Colliery and the Zimbabwe Mining Development Corporation, which operates some gold, graphite, diamond mines in the country.

6.2.3 Dealing with corruption and inefficient government bureaucracy

Corruption and government inefficiencies are a major deterrent to mining investments. According to Transparency International (2016) Zimbabwe was ranked at 160/180 in terms of corruption. Zimbabwe's public services have been severely affected by the political and socio-economic crisis the

country has experienced in the last decade. There is also frequent political interference in government bureaucracy (IANRA, 2016).

To improve efficiency in government bureaucracy, government appointments based on patronage should be minimised. Instead, a meritocratic system should be adopted, where qualified and competent people are hired in the management of government departments. To incentivise government officials and reduce corruption, competitive salaries and incentives should be given to these government officials. The government should also establish and implement effective anti-corruption mechanisms to ensure corrupt government officials are held to account. There should also be measures implemented to insulate government bureaucracy technocrats and bureaucrats from political interference (Naing, 2012). Political interference should be minimised as it leads to corruption, nepotism and patronage.

6.2.4 Tackling Zimbabwe's inadequate supply of infrastructure

The state of the country's infrastructure is one key factor investors look at when making investment decisions, as some mining projects that could otherwise be feasible can become unviable due to poor infrastructural facilities in place. According to the WEF (2009-2019), as of 2019, Zimbabwe is ranked at 129/141 in terms of supply of infrastructure. According to the African Development Bank (AfDB) (2019), to improve the country's infrastructure, the government needs to rehabilitate the country's power grid and build additional power generating infrastructure. The government also needs to rehabilitate a significant portion of the national road network, including the Beitbridge-Harare highway amongst other roads which are in bad state.

According to AfDB (2019) the government also needs to rehabilitate the country's railway networks. There is also a need to restructure the railway

industry, including unbundling and privatising the poorly capitalised and loss-making state-owned National Railways of Zimbabwe. This will help to facilitate its recapitalisation and improve its operational efficiency. Zimbabwe's government also needs to implement reforms that would allow streamlining of the regulatory framework for infrastructure services. This would help to encourage private investments in infrastructure projects, such as investments in independent power producers. The Zimbabwe government also needs to build capacity for the management of the country's infrastructure (African Development Bank, 2019).

Financing of these infrastructure projects can be through a combination of funding sources. This can include raising funding from the fiscal budget, state-owned enterprises, local authorities, donors and from the private sector. Infrastructure related costs, such as electricity costs, water costs and transportation costs, constitute some of the biggest components of mining operating costs. Successful implementation of the measures to improve the country's infrastructure will thus help lower the mining business costs, which can in turn help make the country more attractive to mining investments (African Development Bank, 2019).

Alternatively, Zimbabwe can leverage its relationship with China to raise capital to fund some of these infrastructure projects. For example, according to Bloomberg (2020), in 2020, China agreed to help build a 2,100-megawatt coal plant in Zimbabwe at a cost of US$ 3 billion. This will be achieved through a partnership of a local Zimbabwe mining company, RioZim Ltd and a Chinese company, China Gezhouba Group Corp. RioZim will supply the coal to fuel the plant, Gezhouba will develop the project and help with raising funds for the project. The "Industrial and Commercial Bank of China" has already expressed formal interest to fund the project, and negotiations are underway with another Chinese company, Sinosure, to provide insurance cover for the project. Similarly, structured deals can be negotiated with Chinese firms to help develop Zimbabwe's infrastructure (Bloomberg,

2020). It is important for the Zimbabwean government to leverage the good relationships it has with China, to attract investments in the country's infrastructure.

6.2.5 Re-looking at Zimbabwe's fiscal regime

According to Otto and Cordes (2002), it is not easy to establish an effective tax system. This is because a good mining tax regime should be underlined with profound knowledge on how different tax instruments can be integrated in order to influence investment decisions and achieve the country's set objectives. Thus, it is not an easy and straightforward exercise to evaluate Zimbabwe's mining tax regime. For example, though basing royalties on gross revenues, as is the case of Zimbabwe, can discourage mining investments by reducing the viability of mining projects, on the other hand it provides an immediate stream of revenue for the government. It is also easy to implement and can reduce opportunities for tax evasions. Thus, there is need to do a trade-off between the merits and demerits of charging high royalties on gross revenues of mining companies.

Although Zimbabwe's high mining royalties generate much needed revenues for the government in the short-term, in the long-term, high royalties might have negative effects due to their potential to reduce the viability (NPV) of mining projects. The royalties' non-deductibility from income tax and the fact that loss-making operations are still required to pay the royalty can discourage potential mining investments (ZEPARU, 2016).

To enhance Zimbabwe's competitiveness to attract mining investments, one strategy that can be used is to make the royalties deductible for income tax purposes. Making royalty rates adjustable, depending on the mining project's profitability, can also help attract mining investments, as is the case of Canada and Australia (ZEPARU, 2016). Alternatively, Zimbabwe can also lower its gross revenue-based royalties to a level lower or at least at par

with other Southern African countries. It can then, instead, increase the tax forms dependant on profitability, such as corporate tax, as was done by other Southern African countries, which charge lower royalties but more corporate tax, as compared to Zimbabwe. According to Otto and Cordes (2002) ultimately when designing a taxation system to attract investment into the country, the question is less on whether it is fair, but more of whether it is globally competitive.

6.2.6 Dealing with Zimbabwe's lack of Property rights

The perception of Zimbabwe's lack of respect to property rights could be said to be one of the main deterrents of mining investments towards the country. According to the WEF (2009-2019) Zimbabwe has been consistently ranked in the bottom 10 countries globally in terms of property rights and is currently ranked at 137/141.

One of mining investors' biggest fears is having their mining assets unilaterally expropriated after they have already sunk in huge amounts of capital. Thus, investors often totally shun jurisdictions perceived to have a high risk of expropriation. This can help explain the near cessation of exploration expenditure in Zimbabwe, despite relatively good mineral potential.

In order to enhance its competitiveness to attract mining investments, Zimbabwe has to find ways to assure investors that their mining investments will be protected. According to Otto & Cordes (2002) one of the ways to achieve this is through the use of "Investment Promotion Agreements", as means to stabilise the regulation system to protect investments. In "investment promotion agreements" the agreement terms will be crafted in a way that give assurances to investors that their investments will be safeguarded from political risk. This can be done by having terms in the

agreement that cannot be changed regardless of whether those terms will be in conflict with future laws of the country.

One approach is to provide exemptions that shield the agreement from any future changes to legislation. An example of such an exemption provision is one a transnational mining firm entered into with one African country. The exemption provision states: “Whereas, the State represents and warrants that the validity and effect of this Agreement, once ratified by the competent authorities of the Republic of [X], shall not be capable of being adversely affected by any subsequent modification of internal law.” (Otto & Cordes, 2002)

However, one important question which arises is whether the Zimbabwean government can be relied on to honour such agreements over time? Zimbabwe’s government has a history of taking unilateral action regardless of the legal reparations. The country has in the past shown a lack of respect to the sanctity of contract principle, by emphasising its sovereignty and the state’s power to act in a manner it sees fit for the benefit of its citizens. It has in the past used this emphasis on sovereignty even when it is contradictory to bilateral or investment agreements. Even when affected parties approached international courts due to the Zimbabwean government’s breach of contracts and failure to respect property rights, the Zimbabwean state has often ignored these judgements.

It can only be hoped that current and future governments in Zimbabwe can learn from past experiences about the consequences of such unilateral actions. As the past has shown, lack of respect to property rights damages international relations and discourages the flow of foreign direct investments into the country.

6.3 Capitalising on potential opportunities to enhance Zimbabwe's mining competitiveness to attract mining investments

6.3.1 Taking advantage of the rising metal commodity prices and increased exploration expenditure

A number of mineral commodity prices, such as the gold and palladium prices, have been on an upward trajectory in recent years. This has led to a significant increase in the profitability of several mining firms such as Impala, Sibanye-Stillwater, Anglo-American Platinum, Kumba Iron Ore and BHP. For example, in the past financial year (in 2019), BHP saw its profits surge by as much as 39% and declared its second highest dividend on record (mining.com, 2020).

The implication of these mining surpluses, caused by a surge in metal prices, is the significantly increased liquidity on the balance sheets of these mining companies. This surplus liquidity can potentially be made available by the mining companies for capital allocation to greenfield exploration projects. Zimbabwe has potential to position itself as an attractive destination to some of these exploration capital expenditures. The increase in metal prices also implies that some of the marginal deposits that were overlooked in the past can now become more attractive. Zimbabwe can leverage these potentially increased mineral reserves (viable deposits) to help improve its mineral potential.

6.3.2 Capitalising on the depletion of low-cost mineral assets in other countries

The depletion of shallow or low-cost ore deposits in other mining jurisdictions, like South Africa, presents opportunities Zimbabwe can capitalise on. This is because mining companies like Gold Fields, and most recently AngloGold Ashanti, are exiting these jurisdictions in search of new

lower-cost, shallower, mineral deposits elsewhere in the world (McKay, 2020). Zimbabwe has a significant number of low-cost, near surface, deposits which it can leverage to attract these mining companies to invest into its mining jurisdiction.

So far, due to the current political and macroeconomic climate in the country, there has been no clear trend of South African companies coming to Zimbabwe to exploit these mineral assets. However, once the political and macroeconomic environment in the country improves, these near-surface, low-cost, deposits can become a strong marketing tool to attract mining investments into the country.

6.3.3 Leveraging on reduced transportation costs and better access to global markets

There is a general reduction in global transportation costs due to the increased economies of scale brought about by increasingly larger cargo transportation. For example, Vale's 400,000t iron ore carriers have managed to reduce the transportation costs of iron ore by 25 percent (Reuters, 2011). The implication is that it is now feasible to mine minerals nearly anywhere in the world and supply them to any other part of the world, at low costs, without significantly negatively affecting the viability of the mining project. Zimbabwe can thus harness these reduced transportation costs and globalisation trends to attract FDI in mining, including that of bulk mineral commodities such as coal, iron ore and lithium, and also access new markets.

6.3.4 Taking advantage of the green revolution

Due to the green revolution and technological advancements, a wider range of minerals are becoming more relevant, as more uses for the minerals are being invented or discovered. For example, the demand for a set of mineral commodities, such as lithium, nickel, and cobalt, is gradually increasing, as

these minerals are essential in the decarbonised economy. These increasingly essential minerals are used, for example, to make batteries for electric vehicles. Zimbabwe has a wide range of these mineral deposits, including significant deposits of lithium and nickel, which the country can use to position itself as an attractive investment destination for mining companies interested in exploiting these sets of minerals.

6.4 Mitigating against the threats facing Zimbabwe's mining sector

6.4.1 Tackling sanctions and lack of access to external lines of credit

Zimbabwe is currently under targeted financial sanctions from western governments, including the USA, the UK, and the EU. This conflicting relationship between Zimbabwe and western countries is negatively affecting potential investment flows into the country and limiting the country's ability to get access to lines of credit from multinational financial institutions. In addition, the Zimbabwe government's budget deficits and failure to service existing debts has resulted in the downgrading of the country's credit rating to junk status (non-investible grade).

To enhance its competitiveness to attract mining investments, Zimbabwe needs to improve its country image. Zimbabwe needs to smoothen its foreign relations, particularly with western countries. This is because most of the mining companies, including junior miners, are listed, or headquartered in these countries. Ideally, Zimbabwe needs to ease relations with these western countries to a level where the targeted financial sanctions imposed on the country can be lifted. To attract more FDI in mining, Zimbabwe has to get to a level in diplomacy where it can be able to host joint investment conferences and sign bilateral investments or trade agreements with western countries such as USA, UK, EU, Canada, and Australia.

6.4.2 Dealing with Brain-drain

To enhance its competitiveness to attract mining investments, Zimbabwe needs to find ways to retain its skilled and experienced mining professionals, including geologists, engineers, technicians, and mine managers. According to the World Bank (2019) Zimbabwe is ranked near the bottom in terms of attracting and retaining skills. The continuous exodus of skilled workers to other mining countries like South Africa and Australia has been described as one of the biggest developmental threats facing Zimbabwe.

Zimbabwe needs to give adequate attention to this brain drain and find ways to slow the trend down or even turn it around to a point where skilled talent becomes attracted to work and live in the country. Offering better wages can help in attracting and retaining skilled workers, but ultimately, Zimbabwe's standard of living needs to improve significantly to create conditions were people want to work and live in the country.

One major reason why Zimbabwean skilled and experienced personnel leave the country is to search for employment opportunities in other countries, due to the lack of job opportunities in Zimbabwe. It can therefore be argued that once more mines open in the country, this can pull back some of these skilled Zimbabweans back into their country. This could be enhanced by the unfortunate cases of xenophobia, including anti-foreigners' protests, Zimbabweans are increasingly facing in neighbouring countries.

6.4.3 Buffering against the volatility of mineral commodity prices

Although Zimbabwe is blessed with a wide range of mineral reserves, most of the country's current mining activities are gold, platinum, coal, and diamond operations. This narrow focus on only a few sets of mineral commodities increases the country's exposure to the volatile commodity markets. Zimbabwe needs to encourage and promote the diversification of

its mining sector to ensure the exploitation of a wider set of mineral commodities. This diversification will help spread the risk caused by the volatility of the commodities markets across a wider set of mineral commodities.

In addition, Zimbabwe needs to move up the mining value chain and shift from being just an exporter of raw mineral commodities and focus on building capacity to do value-addition in the country and beneficiate its minerals. Currently the exposure of Zimbabwe's mining sector to the commodity market volatility is made worse by the fact that Zimbabwe has low levels of beneficiation and value-addition. Taking steps to beneficiate its minerals will enable Zimbabwe to capture more revenue and other benefits from mining, and ultimately attract more investments into the country's mining sector.

One way Zimbabwe has tried to enforce this value-addition of minerals produced in the country is through the Mines and Minerals Act. According to Chapter 21:05 of the Act, any mining company that wants to apply for a special mining lease must provide the government with a proposal of how it plans to beneficiate the minerals it intends to mine, including the timelines it commits to implement this beneficiation. Zimbabwe can therefore use this piece of legislation to ensure value addition of its raw materials. (Dube, 2016). For instance, in 2014 the Zimbabwean government threatened to ban platinum exports unless platinum mining companies build refineries within a specific timeframe. This resulted in the platinum mines submitting "concrete plans" for constructing the refineries (mining.com, 2014).

6.4.4 Reducing the dependence on other countries for mining inputs and markets

Zimbabwe has a low industrial capacity and few local suppliers to service the mining sector. There is a perception that the local suppliers in Zimbabwe

produce a low quality of goods and services. This has led mining companies in Zimbabwe to depend on other countries to supply mining inputs and services to their mining operations.

Not only should the Zimbabwean government focus on attracting FDI to develop the extraction of its minerals, Zimbabwe also has to find ways to encourage investments in the country's local mining suppliers, including both in downstream and upstream mining related industries. This can be done through offering tax incentives for mining companies which set up processing facilities in the country, or by incentivising companies that source their mining inputs locally, and that help develop local suppliers.

6.4.5 Dealing with Zimbabwe susceptibility to mining technological advancements by other countries

According to Tilton (2002) new technological innovations tend to diffuse quickly globally. However, in the mining sector the differing geological conditions between jurisdictions often tend to limit the applicability of some of the mining technology, developed to service a certain jurisdiction, to be functional in another mining jurisdiction with a different geology. For example, a new leaching technology, which was developed in the USA, was more suitable for the type of gold deposits found in the USA and less suitable for application in Southern Africa. This gave the USA a significant boost to its competitive advantage, resulting in USA's market share in gold production tripling within a space of a few years (Tilton, 2002).

Zimbabwe needs to increase its capacity to develop its own home-grown mining technological solutions, which are better suited to its unique geological conditions. Promoting innovation in the country and investing in research and development (R&D) can help Zimbabwe enhance its competitiveness in the mining industry.

Promoting R&D in the country can be achieved through partnerships between the private sector and non-governmental organisations. For example, the Jack Ma Foundation, launched a fund that will work with private sector “anchor” partners to identify and support African entrepreneurs who come up with innovative ideas. This support includes offering prize money to support the incubation and development of such home-grown ideas by local entrepreneurs. Similar funds have been established by other entrepreneurs such as Strive Masiyiwa, to encourage the development of home-grown innovative ideas on the African continent. Zimbabwean scientists and engineers can leverage some of this funding to develop innovative solutions that can help improve the competitiveness of the country’s mining sector.

6.4.6 Dealing with Zimbabwe’s susceptibly to frequent droughts and natural disasters

Zimbabwe has in recent years encountered increasing rates of natural disasters, including droughts (El Nino) and cyclones. This has led to extensive damage to Zimbabwe’s already fragile infrastructure. The World Bank (2014) predicts that, by 2050, Zimbabwe will encounter a significant reduction in rainfall. This might have significant impact on Zimbabwe’s mining sector which uses a significant quantity of water, and also relies on the country’s hydropower plants for electricity.

Currently, Zimbabwe has a national electricity generation capacity of 1400 megawatts. Of this, hydropower plants generate 750 megawatts while coal power plants generate the remaining 650 megawatts. The country’s largest hydropower plant, Kariba, is already encountering a significant threat to its generating capacity due to the frequent draught caused by climate change (Musariri, 2015).

Zimbabwe's current strategy to mitigate this constraint on power generation has been to manage the demand side rigorously, through load shedding. However, this is only a short-term solution. Zimbabwe is starting to liberalise the energy industry in order to enable the participation of "Independent Power Producers". The Zimbabwean government has also now recognised the importance of having a modern diversified energy mix (Musariri, 2015).

Zimbabwe needs to develop or establish alternative sources of energy that are less prone to natural disasters and draughts, in order to mitigate the threat caused by climate change. One strategic option would be to shift from the reliance on hydropower, to becoming more reliant on solar or wind energy. Zimbabwe should also invest in developing infrastructural systems that are more resilient to damage by cyclones and flooding. Zimbabwe must also find alternative sources of water, such as ground water supply and put in place measures for water conversation.

Zimbabwe's government through partnerships with the private sector, developmental organisations and donors must develop more innovative water infrastructure solution such as building more dams, smart decentralised water treatment plants and atmospheric water harvesting systems. Mines consume significant volumes of water and having a reliable water supply can help enhance Zimbabwe's competitiveness to attract mining investments.

6.5 Identification of biggest constraint to Zimbabwe's mining competitiveness and Prioritisation of strategy

In Chapter 4, based on the Fraser Institute (2010-2020)'s Investment Attractiveness Index, it was derived that negative policy perception is the biggest constraint hindering Zimbabwe's ability to attract mining investments. Therefore, to enhance Zimbabwe's competitiveness, it can be concluded that more attention and effort must be placed on the development

and implementation of strategies that can help resolve the negative policy perceptions towards Zimbabwe.

Figure 30 below shows the results of an opinion survey conducted by the WEF (2018) to evaluate the biggest constraints hindering Zimbabwe from having a conducive business environment. In the survey, company executives were asked to select "the five most problematic factors for doing business in Zimbabwe", including ranking these factors from one (being the most problematic) to five. As illustrated in figure 27 below, the results show that the most problematic factor affecting the business environment in Zimbabwe was policy instability. As explained earlier in this chapter, this policy instability in Zimbabwe is associated with the current political instability being experienced in the country.

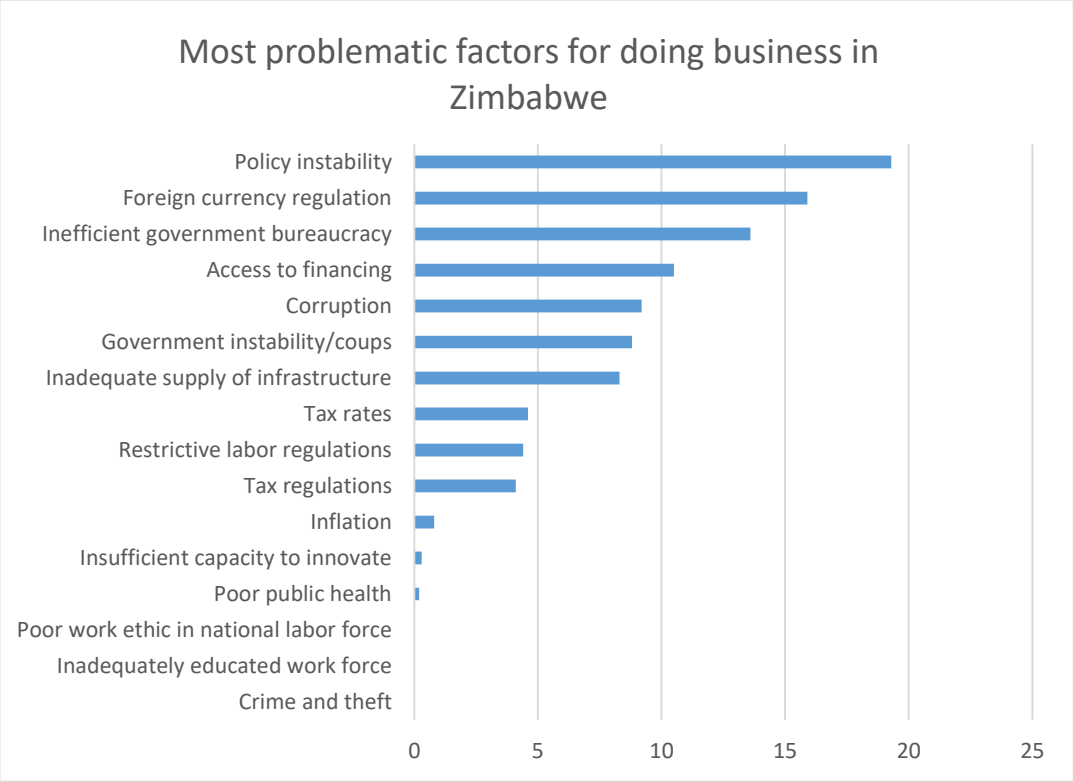

Figure 27: Most problematic factors for doing business in Zimbabwe

Resolving Zimbabwe's political and policy instability should thus be given the biggest priority, as political and policy uncertainty are the biggest

challenges affecting Zimbabwe's business environment. The root problem in Zimbabwe is politics, and the economy, including the lack of mining investments, is just a reflection of the underlying political problems in the country. To enhance Zimbabwe's competitiveness to attract mining investments, it is therefore critical to prioritise the implementation of strategies that can help resolve the political and policy instability in the country.

Dialogue between Zimbabwe's major political players is required to resolve the country's political crisis. This dialogue can be mediated by the SADC, as has happened in the past through Thabo Mbeki. This previous dialogue resulted in the creation of the GNU in Zimbabwe, between 2009-2013, and as a result helped resolve a prolonged socioeconomic and political crisis in Zimbabwe. The GNU gave birth to a period of political and macroeconomic stability in the country. From this experience, it was proven that once Zimbabwe had achieved political stability, it became easier to resolve other factors like access to financing, financial sanctions, inefficient government bureaucracy, foreign currency shortages and macroeconomic stability.

7 CONCLUSIONS

According to the Fraser Institute (2019) Zimbabwe has a mediocre ranking in terms of its perceived mineral potential, with an average, in the last 3 years (between 2017 and 2019), at the 50th-percentile ranking. Based on the Fraser Institute (2019)'s annual survey of mining companies, Zimbabwe has a very poor ranking in terms of policy perception, with its global policy perception ranking at the 96th-percentile. The implication of Zimbabwe's mediocre ranking, in terms of its mineral potential, is that Zimbabwe's mineral potential is not sufficiently attractive, on its own, to persuade investors to overlook the country's poor policies, as appears to be the case for DRC.

Therefore, in order to enhance its competitiveness to attract mining investments, Zimbabwe has to either implement measures to improve its mediocre perceived mineral potential ranking or implement measures to significantly improve the poor policy perception towards the country. However, ideally it has to implement strategies to improve both its mineral potential, and its policy perception ranking, concurrently.

The following factors were identified to be affecting Zimbabwe's competitiveness to attract mining investment: The country's internal factors identified to be helpful in making Zimbabwe more competitive to attract mining investments (strengths in the SWOT analysis) are the country's relatively good perceived mineral potential, Zimbabwe's low-cost mineral assets and the country's long history of mining. It is also relatively easy to find skilled employees in the country. Zimbabwe also has low business cost of terrorism, as well as low levels of crime and theft in the country. The country also has strong auditing and reporting standards. Zimbabwe also has relatively low corporate tax and offers various tax incentives to mining firms investing in the country.

The internal factors that were identified to be negatively affecting Zimbabwe's ability to be competitive in attracting mining investments (weaknesses in the SWOT analysis) are the political and policy instability in the country, the country's macroeconomic instability and the foreign exchange crisis in the country. Zimbabwe also has an inefficient government bureaucracy, and there are high levels of corruption in the country. There are also difficulties in accessing financing in the country, and there is an inadequate supply of infrastructure in the country. Zimbabwe also charges relatively high mining royalties as compared to its neighbours, and there is a history of a lack of property right in the country.

The external factors identified to present opportunities that Zimbabwe can leverage to enhance its competitiveness (opportunities in the SWOT analysis) to attract mining investments include the rising mineral commodity prices, and the depletion of low-cost mineral assets in other countries. There is now also a reduction of global transportation costs for minerals, and better access to global markets, which the country can capitalise on. The green revolution is also helping boost demand for the sets of minerals Zimbabwe has in abundance, such a lithium and nickel, that are used for making batteries in electric vehicles.

The external factors identified as posing a threat to Zimbabwe's ability to become competitive in attract mining investments (threats in the SWOT analysis), are the targeted economic sanctions on the country, the limited access to international lines of credit, and brain-drain. The volatile mineral commodity prices also present a threat to the competitiveness of Zimbabwe's mining sector. The negative image the country also presents a threat to the country's competitiveness to attract mining investments. Zimbabwe's dependency on other countries for mining inputs and markets also creates its own risks. Other threats to the country's competitiveness to attract mining investments, are Zimbabwe's susceptibility to frequent droughts and natural disasters, and the country's susceptibility to mining technological advancements by other countries.

8 RECOMMENDATIONS

To improve its competitiveness to attract mining investments, Zimbabwe's government needs to find ways to enhance the perception of its mineral potential. The country also needs to find ways to improve perception of the country's policy and business climate.

To improve the country's perceived mineral potential ranking, Zimbabwe's government needs to invest in the development of the country's geoscientific infrastructure. This includes investing in conducting geophysical surveys, regional geochemical analysis, and the creation of geological maps. This geoscientific data should then be made accessible, most preferably in digital forms that are downloadable from the internet, in a transparent and easy to use format. To enhance its mineral potential perception, Zimbabwe also needs to conduct a scientific re-evaluation of many of the old dormant mining workings scattered throughout the country.

To improve the country's policy perception, Zimbabwe needs to implement steps to resolve the political instability in the country. Dialogue between Zimbabwe's major political players can help resolve this current political crisis. To improve the country's business environment, Zimbabwe's government needs to find ways to resolve the country's macroeconomic instability and foreign exchange crisis. Structural reforms in the country's economy and prudent fiscal management, including measures to reduce the government budget deficit, need to be implemented to ensure macroeconomic stability.

To enhance the country's business environment, Zimbabwe's government also needs to find ways to deal with the high levels of corruption in the country, as well as the inefficient government bureaucracy. To improve efficiency in government bureaucracy, the Zimbabwean government should minimise governments appointments based on patronage. Government appointments should instead be based on a meritocratic system, where qualified and competent people are hired in the management of government

departments. There should also be limited political interference in the running of government bureaucracy, such as in the issuance of mining permits. To help reduce corruption levels, competitive salaries and incentives should be given to government officials.

To enhance the business environment in the country, in order to attract more mining investments, Zimbabwe's government needs to find ways to tackle its inadequate supply of infrastructure. The Zimbabwe government needs to rehabilitate the country's power grid and build additional power generating infrastructure in order to meet the power demand, particularly from mining companies, which are high energy users. The government also needs to rehabilitate a significant portion of Zimbabwe's national road and railway networks. Funding of these infrastructure development projects can be done using a combination of financing sources, which include funds from the fiscal budget, state-owned enterprises, local authorities, donors, and the private industry.

To improve the country's policy perception, Zimbabwe's government also needs to relook at lowering its gross revenue-based royalties to a level lower or at par with other African countries. As an alternative, Zimbabwe can instead increase the tax forms dependant on profitability, such as corporate tax.

To improve the country's policy perception, Zimbabwe's government also has to find ways to deal with the country's perceived lack of property rights. One way to achieve this is through the use of 'Investment Promotion Agreements", as a means to stabilise the regulation system to protect investments. The terms of these agreements will be crafted in a way that gives assurance to investors that their mining investments will be safeguarded from political risks, by having terms in the agreement that cannot be altered or changed.

To enhance its mining competitiveness to attract mining investments, Zimbabwe's government also needs to find ways to tackle the targeted

financial sanctions on the country from western countries. Zimbabwe also needs to improve its country image and smoothen its foreign relations, particularly with western countries. This is important, as most of the mining companies that can potentially invest in the country, including junior miners, are listed, or headquartered in these western countries.

To enhance its competitiveness to attract mining investments Zimbabwe also has to find ways to deal with brain-drain and retain its skilled and experienced mining professionals. Steps like creation of more employment opportunities in the country, improving the country's healthcare system, having macroeconomic and political stability can help turn around this tide of brain drain.

Zimbabwe's government also has to find ways to incentivise mining companies to set up processing facilities in the country. Zimbabwe's government also has to find ways to encourage the development of the country's local mining suppliers. This can be achieved through offering tax incentives to mining companies which opt to process their minerals locally, and through incentivising companies that purchase their supplies from local sources.

To enhance Zimbabwe's mining competitiveness to attract mining investments, the country also needs to increase its capacity to develop home-grown mining technological solutions which are better suited to its unique geological conditions. This can be achieved by promoting innovation in the country and investing in R&D. To address the threat posed by climate change, Zimbabwe needs to develop or establish alternative sources of energy that are less prone to natural disasters and draught. This includes the use of solar and wind energy, to ensure a consistent and adequate supply of energy to the mining sector.

Though there were a wide set of strategies recommended to help Zimbabwe enhance its competitiveness to attract mining investments, Zimbabwe's political and policy instability were identified as the biggest problems

affecting Zimbabwe's business environment. To enhance Zimbabwe's competitiveness to attract mining investments, it is therefore critical to prioritise the implementation of strategies that can help resolve the political and policy instability in the country. From Zimbabwe's experience with the GNU, it was proven that once Zimbabwe had achieved political stability, it became easier to resolve other factors like access to financing, financial sanctions, inefficient government bureaucracy, foreign currency shortages and macroeconomic stability.

A SWOT analysis methodology was used in this research, based on an evaluation of mining investment statistics, mineral potential rankings, financial systems indices, and macroeconomic matrices. This was done to critically and holistically evaluate the factors affecting Zimbabwe's competitiveness to attract mining investments. Additional research on the topic can be conducted using other methodologies.

Some of the strategies discussed in this report require a more detailed analysis and evaluation to test their applicability and effectiveness in addressing the country's mining competitiveness in attracting investments. For instance, the issue of mining taxation and royalties is a complex policy matter that requires more research to determine the optimal level and composition of mineral taxation for the country. Resolving the country's political crisis and macroeconomic instability are also complex matter that requires further research and analysis.

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