The Impact of the Global Financial Crisis on the South African Steel Trade Industry

Carmen R. Scheepers
Hons. B.Com
20399847

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Dissertation submitted in partial fulfilment of the requirements for the degree Magister Commercii in Economics at the Mafikeng Campus of the North-West University

Supervisor:  Prof. Mark A. Petersen (NWU-MC)
Co-supervisor: Prof. Janine Mukuddem-Petersen (NWU-MC)

25 October 2012
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Dedicated to my parents, Deon. E Scheepers and Charlotte Scheepers as well as my sister, Kendra M. Scheepers.

Firstly, I would like to thank my Father in Heaven, God the Almighty, for His presence in my life that guided me to complete this dissertation.

I would like to give special thanks to my parents and sister, Deon, Charlotte and Kendra, for their love, support and continuous motivation throughout this study, as well as my previous years of study.

Furthermore, I am thankful for the friends I have, Chris, Mariska, Monique, Helouise, Amorie, Michelle and Engela, for their encouragement throughout this study period.

I would like to express my sincere gratitude towards Prof. Mark Petersen (supervisor) and Prof. Janine Mukuddem-Petersen (co-supervisor) for their guidance, inspiration and support during the completion of this dissertation.

Finally, my thanks go to my fellow Financial Modelling and Optimization Research Group (FMORG) members for the research embizos, valuable suggestions, and contributions that have gone before.

Finally, I would also like to extend a special thanks to my colleagues, both old and new in the Faculty of Commerce and Administration (FCA) at the Mafikeng Campus of the North-West University (NWU-MC). Your friendship and encouragement have kept me going throughout this research endeavour.

Carmen R. Scheepers
Mafikeng
October 2012
The USA’s financial and economic crisis spilled over and resulted into a “global” financial crisis (GFC) that impacted several developed and developing countries. Regarding the latter, trade affairs have been identified as being a major growth component for the economies of developing countries. In particular, numerous studies have highlighted the importance and benefits of international trade on a country’s path to promote economic growth rates. In lieu of the above, the main aim of this study is to assess the impact of this crisis on the South African steel trade industry, with special emphasis on the periods ‘before’, ‘during’ and ‘after’ the GFC. Through efficient targeting of a specific sector and its industry within the South African economy, government entities would be able to determine the extent that they could gain effective targeting and allocation of resources. Past research papers, relevant theoretical frameworks and data have been taken into consideration to form the basis of our analyses. In essence, we analysed the South African economy as a whole and tried to identify its relationship with the trade industry during this study period. Therefore, a composition of South Africa’s economic activities and an economic profile was also determined and discussed. In addition, we implemented Porter’s competitive strategy and diamond theory, to identify whether the South African steel trade industry has a competitive advantage. From the analyses we concluded that the steel trade industry of South Africa was adversely impacted in 2009, the ‘during’ period of the GFC and showed the ‘after’ period as the recovering period for the industry. Evidently, there is a positive correlation between the steel trade industry of South Africa and the country’s economy ‘before’, ‘during’ and ‘after’ periods of the GFC. This positive correlation can be contributed to the trade sector’s influence on the economy’s overall state, as imports and exports have been identified as a key aspect to economic growth, and vice versa. Identified recommendations include the need for more research on the South African steel trade industry’s competitors, in order to realize possible opportunities for the industry itself and realize increased growth patterns, as well as extensive promotion that could lead to amplifying trade flows benefiting the South African economy.

Key words: South Africa, Steel Industry, Global Financial Crisis (GFC), Harmonised System of Codes (HS Code), Exports, Imports, Economic growth
One of the contributions made by the North-West University at Mafikeng (NWU-MC) to the activities of the financial economic community in South Africa has been the establishment of an active research group (FMORG) that has an interest in institutional finance, modeling and economic crises.

Under the guidance of Profs. Mark A. Petersen and Janine Mukuddem-Petersen, this group has recently made valuable contributions to the existing knowledge about the modeling and optimization of financial institutions.

The work in this dissertation originated from our interest in the 2008-2009 Financial crisis, international trade and the South African economy. From the onset it became apparent that little work has been done on this topic although it has been identified as an area of potential growth.
DECLARATION

I, Carmen R. Scheepers, hereby declare that apart from the assistance acknowledged, the original work contained in this dissertation for the degree of Master of Economics at the North-West University (Mafikeng Campus) is my own. It has not been submitted before for any degree or its equivalence at this or any other university. I also declare that all secondary information used has been duly acknowledged in this dissertation.

Signature........................................ Date........................................

Carmen R. Scheepers

The above declaration is confirmed by:

Signature........................................ Date........................................

Supervisor

Signature........................................ Date........................................

Co-supervisor
CERTIFICATE OF ACCEPTANCE FOR EXAMINATION

This dissertation entitled "The Impact of the Global Financial Crisis on the South African Steel Trade Industry", submitted by Carmen R. Scheepers, student number 20399847 of the Department of Transport Economics in the Faculty of Commerce and Administration is hereby recommended for acceptance for examination.

Signature..........................................................Date..................................

Supervisor: Prof. Mark A Petersen
Department: Office of the Dean
Faculty: Commerce and Administration
University: North-West University (Mafikeng Campus)

Signature..........................................................Date..................................

Co-supervisor: Prof. Janine Mukuddem-Petersen
Department: Graduate School of Business and Government Leadership
Faculty: Commerce and Administration
University: North-West University (Mafikeng Campus)
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<tr>
<td>EAP</td>
<td>Economically Active Population</td>
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<td>FDI</td>
<td>Foreign Direct Investment</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GER</td>
<td>Gross Enrolment Ratio</td>
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<td>GFC</td>
<td>Global Financial Crisis</td>
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<td>GVA</td>
<td>Gross Value Added</td>
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<td>HDI</td>
<td>Human Development Index</td>
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<td>HS</td>
<td>Harmonised Standard</td>
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<td>ITC</td>
<td>International Trade Centre</td>
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<td>OECD</td>
<td>Organisation for Economic Co-Operation and Development</td>
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<td>Ph.D.</td>
<td>Philosophiae Doctor</td>
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<td>R&amp;D</td>
<td>Research and Development</td>
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<td>SARS</td>
<td>South African Revenue Services</td>
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<td>SMC</td>
<td>Subprime Mortgage Crisis</td>
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<td>WTO</td>
<td>World Trade Organisation</td>
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**GLOS S ARY OF TERMS**

*Economically active population* is a portion of the nation’s population, socially useful by being employed or in search of employment opportunities.

*Foreign Direct Investment* is direct investment from a business abroad, through the buying transaction of another business in the objective country or the buying transaction into the identified business’s operations for the purpose of development.

*Financial Crisis* refers to an economic scenario where the economies of countries all over the world are facing a liquidity crunch and taking steps forward to combat this issue. The financial crisis of 2008-2009 commonly referred as the global financial crisis refers to the global credit, banking, currency, and trade crisis which emerged in September 2008.

*Gross Domestic Product* is the total output of goods and services, produced within the borders of a country for a single year, thus measuring a country’s overall state based on a number.

*Gross Enrolment Ratio* is analysing the amount of students enrolled in school at different education levels in comparison to the ratio of students living within the borders of the country.

*Gross Value Added* is the input gauge of an industry, sector or producer with regards to the country’s GDP, and can be calculated as the value of production minus the value of intermediate utilization.

*Human Development Index* ranks development of countries with regards to welfare, and is comprised of a country’s poverty, literacy, education, life expectancy levels, and more.

*Harmonized system of codes* was created by the World Customs Organization (WCO) and is used as a “versatile global product nomenclature” (WCO, 2011).
CHAPTER 1: INTRODUCTION

1.1 BACKGROUND
1.2 PROBLEM STATEMENT AND MOTIVATION
1.3 AIMS AND OBJECTIVES
1.4 RESEARCH QUESTIONS AND HYPOTHESIS
1.5 SIGNIFICANCE OF THE STUDY
1.6 THEORETICAL PERSPECTIVES
1.7 LITERATURE REVIEW
1.8 DISSERTATION OUTLINE

"The global economy was hit by the financial crisis in 2008, which was triggered by the sub-prime crisis in the US. The crisis has impacted most of the developed and developing economies, since the markets are integrated."

1.1 BACKGROUND

The 2007-2008 US subprime mortgage crisis (SMC) evolved into a financial crisis that negatively affected many economies in the world and therefore it was widely referred to as the “global” financial crisis (GFC). This SMC is synonymous with increasing interest rates and decreasing property values which resulted in short payments of mortgages in the USA (Baxter, 2008:1). Petersen, Senosi and Mukuddem-Petersen (2012) indicated that the SMC shook the foundations of the financial industry by causing the failure of many iconic Wall Street investment banks and prominent depository institutions. This crisis stymied credit extension to households and businesses thus creating credit crunches and, ultimately recessions. Petersen et al. (2012) formulated the IDIOM hypothesis which highlights the main causes of the SMC to be largely caused by the intricacy and design of subprime mortgage origination, securitization and agents that led to information problems and valuation opaqueness. In addition, several experts in the field concluded that the SMC was not mainly caused by over lending of banks, but instead by risky lending (referred to as subprime lending).

Due to contagion the 2008-2009 GFC spread and affected several countries in the world to varying degrees (Massimiliano & Kennan, 2010:1). For instance, Naude (2009) accentuated that the overall effects of the financial crisis on developing countries and especially African countries will certainly be negative. Specifically, he postulated that some countries will be more negatively affected especially those dependent on trade with the United States, countries having large fiscal deficits and eventually those with poorly regulated financial sectors. In addition, Massimiliano and Kennan proposed that the adverse effects of the GFC were exacerbated by developing countries’ incorporated relations into the global financial system (Massimiliano & Kennan, 2010:15). The incorporated global financial system directly influences trade affairs which are a major growth component for the economies of developing countries (Massimiliano & Kennan, 2010:1).

South Africa, one of many developing countries, was influenced by the shocks emanating from this 2008-2009 financial crisis. Evidently, the significant decrease in international and national demand levels for trade influenced overall production levels, which contributed greatly to the slowdown of nearly two decades of positive economic growth levels for the
South African economy (Industrial Development Corporation, 2009:3). Furthermore, the deceleration in production levels swayed consumer spending to decrease which in effect reduced imports in South Africa in 2009. This development in imports, along with the drop in global crude oil prices, contributed to a lower trade deficit compared to the equivalent period in 2008 (Industrial Development Corporation, 2009:3). South African exports on the other hand, were suppressed by the fall in global demand (Jansen & Von Uexkull, 2010:12).

The effect that the GFC had on South Africa is therefore more profound than the overall appearance of the economy. Industries in the country were greatly influenced in order to contribute to such a hefty trade deficit. A trade industry that stood out during this period, due to the country’s economic reliance on minerals, was the steel industry. In mid 2008, South Africa was the leading steel producing country in Africa, with favourable trade figures complimenting the industry (Creamer Media’s Research Channel Africa, 2009:7) (Industrial Development Corporation, 2009:37). After the third quarter in 2008, these steel trade figures in South Africa dropped rapidly (Industrial Development Corporation, 2009:7).

Recent literature has alluded to the fact that the efficient targeting of a specific sector and its industry within an economy will facilitate the effective targeting and allocation of resources by government. In lieu of the above, the main aim of this study is to assess the impact of the GFC on the South African Steel Trade Industry, with special emphasis on the periods ‘before’, ‘during’ and ‘after’ the GFC. Therefore, this novel research will be helpful to policy makers, investors, government agencies and private regulatory companies to consider potential responses to mitigate the impact of the crisis on the South African Steel Trade Industry and its related sectors. This study also serves as a wakeup call for national and international trade industry regulation and serves as a mitigating tool for future financial crises.
1.2 PROBLEM STATEMENT AND MOTIVATION

Numerous studies have highlighted the importance and benefits of international trade on a country’s path to promote economic growth rates. In particular, the United Nations Conference on Trade and Development (UNCTAD) (2011) identified trade as the key solution for developing countries to upturn from global recession. In this context, trade reimburses a country’s challenging levels by providing diversity to the local market through imports as well as stimulates local industries to up their production factors in order to meet international demand levels through exports (Schneider, 2005). In addition, Lindhauer Perkins & Radelet (2006:651) reiterated the impact of international trade on a country’s use of natural resources, improving and maintaining international relationships as well as assisting in income allocation. The most beneficial purpose of international trade for an economy is the introduction of local markets to the international platform (Lindhauer, et al., 2006:651).

Economically, the South African economy is heavily dependent on trade based on various economic theories as discussed in this study as well as the steel industry’s competitive advantage position which influences trade based on trade theories. Thus, the relevance of identifying both the trade sector and the steel industry’s overall position in terms of competitive advantage for South Africa.

Furthermore, in lieu of the recent 2008-2009 financial crisis, what is still lacking in the literature is an investigation into the impact of this GFC on the Steel Trade Industry in a developing country such as South Africa. Historically, financial crises emit devastating shocks to vulnerable economies. Therefore, our investigation is justified as we attempt to provide information that will aide all relevant role-players in mitigating the adverse effects of the GFC.
1.3 AIMS AND OBJECTIVES

With the efficient targeting of a specific sector and its industry in the South African economy, government entities would be able to determine the extent that they could gain effective targeting and allocation of resources.

1.3.1 Aims

The incorporated global financial system directly influences trade affairs which are a major growth component for the economies of developing countries (Massimiliano & Kennan, 2010:1). Therefore, the aims of this dissertation are to:

1.3.1.1 Determine the most suitable trade theory that will facilitate the identification of a competitive advantage industry for South Africa’s overall trade sector;

1.3.1.2 Assess the impact of the GFC on the South African Steel Trade Industry “before”, “during” and “after” this crisis;

1.3.1.3 Estimate South Africa’s overall import and export position; and to

1.3.1.4 Determine the relationship between the South African Steel Trade Industry and the South African economic growth patterns.

1.3.2 Objectives

The objectives of the study include:

1.3.2.1 Considering related theories and selecting the most preferred trade theory, namely Porter’s competitive strategy theory and diamond theory to help identify a competitive advantage industry for South Africa’s overall trade sector.

1.3.2.2 Utilizing national statistics data and relevant literature to analyse the country’s socio-economic profile as well as considering the economic overview of the country in the ‘before’, ‘during’ and ‘after’ periods of the GFC.
1.3.2.3  Graphically, assessing the trends in South Africa’s import and export position.

1.3.2.4  Graphically, assessing the associated growth patterns of South Africa’s steel trade position and the economy’s growth patterns along with suitable literature.

1.4  RESEARCH QUESTIONS AND HYPOTHESIS

1.4.1  Research questions

Three questions are researched throughout this study to determine the impact of the Global Financial Crisis on the South African Steel Trade Industry.

**Research question 1:** What is the most fitting trade theory for the identification of the most influential economic sector of South Africa?

**Research question 2:** How did the South African Steel Trade Industry perform “in terms of exports and imports” before, during and after the GFC?

**Research question 3:** What is the overall trade position of the South African Steel Trade Industry?

**Research question 4:** What is the relationship status between the South African Steel Trade Industry and its economy?

The importance of these questions with regard to this study identifies the extent of the GFC’s impact on the country and its steel trade industry, and are therefore the most suitable questions for the focal aim of this study.

1.4.2.  Hypothesis

The South African Steel Trade Industry in mid 2008 was one of the leading industries in trade to sustain South Africa’s increasing international trade position. During that period, the GFC shook the world and ultimately had a negative impact on developing countries’ trade patterns. In South Africa, an industry that stood out during the GFC period, due to the country’s
reliance on trade of minerals, was the steel trade industry. We hypothesize that the South African Steel Trade Industry was adversely affected by the GFC.

1.5 SIGNIFICANCE OF THE STUDY

This study is important because:

1.5.1 To the best of our knowledge, this study is the first of its kind to investigate the impact of the GFC on the Steel Trade Industry in South Africa. In this regard, we concentrate on the periods before, during and after the GFC.

1.5.2 We identified the trade sector and its most influential industry namely the steel industry as being major contributors to the South African economy. In particular, our contribution of identifying an industry in South Africa having the competitive advantage position internationally will be significant for the country’s allocation of resources, capital and investment.

1.5.3 We assessed the South African Steel Trade industry’s performance in relation to South Africa’s overall economic state.

1.6 THEORETICAL PERSPECTIVES

According to the United Nations Conference on Trade and Development (UNCTAD) (2011), the key solution for developing countries to upturn from global recession, is trade. Trade reimburses a country’s challenging levels by providing diversity to the local market through imports as well as stimulates local industries to up their production factors in order to meet international demand levels through exports (Schneider, 2005).

Okeyo (2011) acknowledged the need for developing countries to focus on industries that are labour-intensive to perform on the international trade platform. Economically, this point of view is beneficial for a developing country that is reliant on minerals and other labour-intensive markets other than developed countries which are dependent on skill-intensive markets. A
country that specialises in the production of goods or services, in which it has an advantage, will attain overall efficiency and economic growth, which is known as the comparative advantage theory by Gyfason (1998:1).

South Africa, one of many developing countries, was also faced with the challenge of economically upturning from the GFC as well as its own economic recession. With the country being labour-intensive and reliant on minerals for trade, the country’s steel trade industry was in the limelight. In order to recover economically, the need to measure the impact as well as the extent of the GFC on the South African Steel Trade Industry rose.

The South African Steel Trade Industry is an element of the country’s total economy and therefore the next section will focus on economic growth theories and determinants as a background to the foundation of the country’s movement towards sustained economic growth after the GFC.

1.6.1 Theory in the wake of the determinants of economic growth

Countless studies over several decades have highlighted the importance and relevance of the determinants of economic growth. The results of these studies enlightened many intangible and practical ways for economists to comprehend the development of economic growth. Despite the results, the development of economic growth is still imperceptibly unstated. Yet, an array of factors are recognized under the economic theories that contribute to determinants of economic growth. This study will focus on two conventional theories and the relevant determinants of economic growth.

1.6.1.1 Neo-Classic Growth Model of Solow

Studies by Farmer (2010), Colander and Gamber (2002) and Snowdon and Vane (2005) are only a few of the studies that have recognized the neo-classic perspective to be of immense contribution to existing conventional growth theories.

The Neo-Classic Growth Model of Solow has the following fundamental assumptions: constant returns to scale, diminishing marginal productivity of capital, exogenously determined technical progress and substitutability between capital and labour (Petrakos, Arvanitidis & Pavleos, 2007:5).
The model highlights the following results; savings and investment relation as an important determinant of short-run economic growth, long-run economic growth is achieved through technological innovation although considered as exogenous to the economic system, and forecasts that poor economies will cultivate faster in comparison to rich economies (Petrakos et al., 2007:5).

Colander and Gamber (2002:134) along with Lindhauer et al., 2006:123) outlined the product of the Solow Growth Model that focuses on the bordering foundations of growth. If the population had to increase and capital decreased in value, output and capital per person could still remain unvarying. The ultimate would be to achieve investment and production intensity where production and employment will move upwards compared to the steady state, while realizing increased levels of prosperity and decreasing levels of poverty.
1.6.1.2 Endogenous Growth Model

The Endogenous Growth theory states that with the amassing of new factors, which include knowledge, innovation and others a country can look forward to self-maintained economic growth (Petrakos et al., 2007:5).

The foundational proposal of this theory is increased investment in knowledge which will subsequently increase growth through the relation of higher saving rates and higher stability rates (Dornbush, Fisher & Startz, 2008:79).

South Africa is known as a country with restricted levels of capital, therefore linking the country’s economic situation with this theory. To attain increased levels of economic growth and output, equivalent levels of capital and labour have to be accomplished (Cypher & Dietz, 2009:239).

Source: Customized from Colander and Gamber (2002:133).
In comparison to the neo-classical approach, this theory is faced with externalities that advance growth on a long-term basis.

Figure 1.2: Endogenous Growth Model

The following section will focus on the theory following the determinants of economic growth.

1.6.2 Determinants of economic growth and performance

Due to the popularity of theoretical research into the determinants of economic growth, several contradictory conceptual and methodological parameters and insights have come to light as the sources of economic growth (Petrakos et al., 2007:7).
1.6.2.1 Investment

Investment has been recognised by both the Neo-classical growth model of Solow and the Endogenous growth models to be an indispensable determinant of economic growth. The neo-classical model of Solow views investment's impact on the transitional period whereas the endogenous models differ in their view by focusing on more lasting effects of investment (Petrakos & Arvanitidis, 2008:14).

1.6.2.2 Human capital

Numerous studies have established that human capital's positive correlation with economic growth is undecided (Hers, 1998). In contrast to these studies, a ray of other studies have found that an educated labour force is indeed a necessary determinant of economic growth (Petrakos & Arvanitidis, 2008:4; Barro & Sala-i-Marin, 1995:247-251). The endogenous growth models identify human capital as a basis for economic growth while this determinant is also the core expansion of the neo-classical growth models.

1.6.2.3 Innovation, research and development actions (R&D)

The rising of technological innovation, the usage of these processes as well as the products have been found to increase not only the output of an economy but also economic growth (Petrakos et al., 2007:8). Thus, R&D can be acknowledged as one of the driving forces of growth (Yanyun & Mingqian, 2004:2).

1.6.2.4 Economic policies and macro-economic circumstances

Economic policies such as the advancing of political and authorized institutions, infrastructure, human capital and others, possibly will influence economic performance according to numerous studies; however, no conclusive agreement has been made as to which policies are more conducive to growth than others (Petrakos & Arvanitidis, 2008:15). Fischer (1993:485-486) states that macro-economic solidity helpfully impacts growth. On the other hand, it was found that macro-economic unsteadiness could force economic growth unconstructively owed to its relationship with output and investment (Petrakos et al., 2007:8).
1.6.2.5 Openness to trade

Wacziarg (2001:395-401) stated: “Openness of an economy can influence economic growth through six potential channels: macroeconomic policy quality, government size, price distortions, investment share of gross domestic product, technology and foreign direct investment.” As a result, openness to trade aids the conveyance of technological innovation, contributes to the distribution of information and leads to increased publicity of competition while facilitating the process of achieving a comparative advantage (Petrakos & Arvanitidis, 2008:15).

1.6.2.6 Foreign Direct Investment

Higher levels of output can be achieved by technological spill-overs and skill transfers which are labelled as an import benefit as well as highlights the relevance of FDIs to develop economic growth (Krugell & Matthee, 2008:2). For developing countries to gain a comparative advantage through increased levels of competence, FDI is a necessity (Borensztein, Gregorio & Lee, 1998:133).

1.7 LITERATURE REVIEW

Economic growth studies have been researched before, although the underlining foundation of these studies was used to emphasize the overall purpose of this study. The Neo-Classic Growth Model of Solow and the Endogenous Growth Model were referred to and discussed.

Secondly, the socio-economic factors of South Africa was analysed with regard to the GFC’s impact on these factors which identified the country’s Gross Value Addition (GVA) and Gross Domestic Product (GDP) growth rate fluctuations ‘before’, ‘during’ and ‘after’ the GFC.

Thirdly, the combination of these sources significance, on the country’s trade sector as well as South Africa’s position internationally, and the GFC’s overall result on the economy.
Fourthly, numerous trade theories were discussed and Porter’s competitive strategy and diamond theory was used as the most suitable trade theories for this study to identify the steel industry as a competitive advantage industry for the country’s overall trade sector.

Thus, a combination of various researched literature was used and adapted to conform to the overall outcome of this study, which is to identify and measure the impact of the GFC on South Africa’s Steel Trade Industry. This is a study unique in its results as no other study has measured the variety of components used together, to identify the outcome achieved in this study.

1.8 DISSERTATION OUTLINE

This study will consist of five chapters organized in the following manner:

CHAPTER 1 Introduction

CHAPTER 2 Literature Review

CHAPTER 3 Data and Methodology

CHAPTER 4 Results and Discussion

CHAPTER 5 Conclusions and Recommendations

The current chapter is introductory in nature. Chapter 1 provides a detailed explanation of the background, problem statement and motivation, aims and objectives, research questions and hypothesis, significance of the study, theoretical perspectives, literature review and lastly the outline of the dissertation.

Chapter 2 includes an overview of the literature regarding trade theories and South African trade.

Chapter 3 consists of an economic overview of South Africa, focusing on the socio-economic factors of the country as well as economic development of the country. In addition this chapter describes the relevant data used for this study.
Chapter 4 provides an overview of international and national trade flows of articles of iron or steel for the South African steel trade industry. All the chapters are in light of the GFC periods defined by this study.

The summary and conclusion of this study as well as recommendations for further research will be discussed in Chapter 5.
CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

2.2 SOUTH AFRICA'S TRADE OVERVIEW IN CONNECTION WITH THE GFC

2.3 ECONOMIC SECTORS OF SOUTH AFRICA

2.4 TRADE THEORIES

2.5 PORTER'S COMPETITIVE STRATEGY THEORY

2.6 PORTER'S COMPETITIVE STRATEGY THEORY IN ASSOCIATION WITH THE DIAMOND THEORY

2.7 SUMMARY

“Results suggest a positive impact of openness on economic growth, with the accelerated accumulation of physical capital accounting for more than half the total effect; enhanced technology transmission and improvements in macroeconomic policy account for smaller effects.”

2.1 INTRODUCTION

South Africa’s economic sectors that represent the country’s Gross Value Addition (GVA) growth rates were adversely affected by the GFC due to the negative fluctuations of the GVA. This will be elaborated on in the next chapter as this chapter’s findings are borne out of the previous statement. The focus of this study will therefore be based on the country’s economic sector or sectors compared to the other sectors to confirm the level of weight it has on the South African economy with regard to its GVA and economic growth rates. In order to identify the country’s steel trade industry as the most influential industry of South Africa, the most preferred trade theory, Porter’s competitive strategy theory and diamond theory will be used.

2.2 SOUTH AFRICA’S TRADE OVERVIEW IN CONNECTION WITH THE GFC

Owokuse (2008:161) explored the connotation of trade and economic growth in Argentina, Colombia and Peru focusing on both the function of export and import. The results led to the affirmative significance that these two functions have on economic growth in comparison to other studies that focus only on the export-led growth theory (Owokuse, 2008:169).

Exports facilitate economic growth through increased foreign exchange reserves, productivity growth through increased international demand levels, proficient distribution of resources, economies of scale, and more. Imports on the other hand fuel economic growth with the movement of knowledge and technology as well as stimulate limited production processes with essential factors (Owokuse, 2008:162). Numerous studies, for example, Grossman and Helpman, (1991); Balassa (1978), support Owokuse’s theory on the importance of both the role of exports and imports on a country’s path to economic growth.
Figure 2.1: Annual value of South Africa’s imports and exports, 2008 to 2010


From Figure 2.1 it is evident that when the GFC was in full swing in 2009, South Africa’s overall trade figures decreased in value with a clear trade deficit characterising the country’s trade position. However, in 2010 the country regained its incline in trade value and reached its first annual trade surplus in seven years (South African Business, 2012/13:23). A comprehensible indication that the ‘before’ period of the GFC did not affect the country’s trade figures in value adversely, but eventually impacted in the ‘during’ period of the GFC while recovering in the ‘after’ period. In 2008, the country was ranked in the 61st position out of 121 countries internationally but slid to position 72 out of 126 countries internationally in 2010 (South African Business, 2012/13:24).

Based on the country’s trade positions in 2008 to 2010, the link can be made with the country’s GDP growth rates in Table 3.2. During the same periods, trade in value was high along with the country’s strong and positive GDP growth rate of 3.6%. The year 2009 indicated the opposite results as the GFC was in full swing, and led to a negative GDP growth
rate of -1.7% and sharp declines in trade values. In 2010, however, both trade in value figures and GDP growth rates improved. Trade as an economic sector of South Africa, can as a result be labelled as a sector that influenced South Africa’s GDP and GVA on a high scale with regard to this study.

2.3 ECONOMIC SECTORS OF SOUTH AFRICA

South Africa’s economic sectors are categorised under nine sub-headings of which trade was already discussed individually in this study. The remaining eight sub-headings include agriculture, mining, manufacturing, electricity, construction, transport, finance and community services. A brief discussion based on the most influential economic sectors for this study will be discussed with regard to the country’s overall trade sector affecting GVA and economic growth rates.

Figure 2.2: Economic sector growth in South Africa, 2008 to 2010
Source of data: Author’s own calculations based on Global Insight – ReX, Jan 2012.

The agricultural sector of South Africa provides takings and employment opportunities for 9 million people in the country, and is regarded as a dual-agricultural economy of the country with a strong commercial sector and primarily a substance-orientated sector in rural areas (SA Yearbook, 2009/10:44). The agricultural sector did not benefit the country economically due to its minor growth patterns from 2008 to 2010 as seen in Figure 2.2.

South Africa is regarded as a country with an abundant amount of mineral resources that adds to 50% of foreign exchange earnings, therefore labelled as a key sector in the economy’s trade industry (SA Yearbook, 2009/10:390). The mining, finance and community sectors of the economy alone represented the steepest increases in growth for the year 2010, as seen in Figure 2.2. Before the substantial growth rate of the mining sector in 2010, the sector suffered sternly under the impact of the GFC. Commodity prices of minerals decreased 40% in value and 5% of employment within the sector was lost. The mining sector in addition contributes to one million jobs in the country, 10% of gross investment, 10% to 20% of corporate tax and in 2010 made 6.1% up of the country’s GDP. South Africa’s resource sector accounts for a third of the market capitalisation on the JSE (South African Business, 2012/13:138).

The manufacturing sector of South Africa is refined and broad, and growth within the sector has been fuelled by the automotive industry. Emphasis has been placed on the value of the country’s raw materials in order to add to the sector’s opportunities with regard to the value chain. The second industry contributing to the sector’s growth is resource-based manufacturing of which steel and aluminium was identified. Steel and petroleum collectively add to 45% of this growth total. The sector is the third largest sector for employment after financial services and retail and accounts for the employment of 1.7 million people in the country (South African Business, 2012/13:145). Figure 2.2 also indicates the significant size of the sector in comparison with the rest of the sectors as well as positive growth rates in 2010 after recovering from the GFC in 2009.

The electricity sector of South Africa created a quarter of a million jobs for people in the country, and is sustained with a large quantity of low cost coal from the mining sector. This sector is also seen as an export sector for Southern African countries. Figure 2.2 indicates that
the electricity sector of the economy was not adversely affected by the GFC as increasing levels of growth was maintained from 2008 through to 2010 (SA Yearbook, 2009/10:183).

**Construction** is made up by the mining, infrastructure, engineering and energy sectors. In 2010, South Africa hosted the FIFA World Cup and therefore the increase in this ongoing growth sector to promote the country’s road to development on an international frontier, as seen in Figure 2.2 (South African Business, 2012/13:160).

The FIFA World Cup not only promoted the growth in the construction sector, but also added to positive growth rates for the transport sector from 2008 to 2010, see Figure 2.2. The sector is made up by rail, road and sea transport with the Gautrain boasting the rail industry as the latest addition, thus a major contributor to the increase in growth rates for this sector. Improvements in road and sea transport has also led to the increase of freight levels carried and moved outside and within the country’s borders (South African Business, 2012/13:176).

**The finance and community services sectors** represent the first and second place of sectors contributing greatly to the economy and maintained positive growth rates from 2008 to 2010, see Figure 2.2. As a result these two sectors along with the electricity, construction and transport sectors were not adversely affected by the GFC and therefore is taken out of account for the purpose of this study.

The agricultural, mining and manufacturing sectors on the other hand indicated that the GFC indeed impacted the sectors during 2009, and can be correlated directly and indirectly with the trade sector of the country that illustrated the same results. In 2008, the ‘before’ period of the GFC, all four industries showed positive growth rates but was crushed in 2009, the ‘during’ period of the GFC, and struggled to recover in 2010, with recovering positive growth rates. All four of these sectors highlighted that the steel trade industry makes up a part of these sectors, therefore classifying these sectors as related industries of the steel trade industry of South Africa.

The next section of this study will focus on trade theories from various literatures to establish Porter’s competitive advantage theory as the most suitable trade theory for this study with regard to the information already gathered from the steel trade industry’s relevance on various sectors of the economy in light of the GFC.
2.4 TRADE THEORIES

Theories of comparative and absolute advantage by David Ricardo and Adam Smith mostly dominate the foundation of all trade theories in literature to date. These two theories, along with many others, emphasised the significance of international trade. According to Pearson (2007:19-20), these theories can assist in the identification of trade industries which could be beneficial for nations. Porter (1998:2-4) supports these theories by stating that the need for international competition has increased over the decades, due to its effect on the global economies over the past few decades.

Numerous studies on associate theories of comparative advantage have come to light over the years and include the Classical theory of comparative advantage, the Ricardian theory, the Neo-factor-proportion theory as well as the Heckscher-Ohlin-Samuelson theory (Bender & Li, 2002:1). Porter supported a theory on national advantage that consists of influential aspects that could lead to competitiveness of firms, industries and nations, also known as the diamond theory (Kleynhans, 2003:107).

The foundation of the diamond theory’s influential aspects include firm strategy, structure, rivalry, related and supporting industries as well as factor and demand conditions, which include the four production factors (Porter, 1998:16). Labour, land, capital and natural resources are classified as the four production factors and could lead to a country’s competitive advantage along with encouraging trade streams, if all four factors are located within the country. Competitive advantage for related and supporting industries can be generated from a country’s industries being internationally competitive (Porter, 1980:79-82).

Porter’s (1998:2) study on the competitiveness of industries originated from a country’s firms’ positions in the market. The competitive strategy theory states that a firm can be attractive towards competitiveness in a poor industry or less attractive to competitiveness in a striking industry. The difference therefore indicates that industry attractiveness is based on a time-line while a competitive position is influenced by competitive shifts.

When the Apartheid years ended in 1994, South Africa’s markets expanded internationally with thriving economic growth and trade streams (Pearson, 2007:6). In 1998, the GFC was introduced and firmed these increasing economic growth rates that built up over the years as
well as the increasing trade streams for South Africa. More specifically, a South African trade stream known as the steel trade industry, an industry that is regarded as an international competitive industry for the country, which was adversely impacted.

The next section of this study will focus on Porter’s competitive strategy theory, implementing the basics of the diamond theory in order to identify the importance of the steel trade industry’s competitive position for the South African economy internationally.

2.5 PORTER’S COMPETITIVE STRATEGY THEORY

Porter’s competitive strategy is based on a firm’s accomplishment within its surroundings. The firm’s surroundings is made up by a country’s social and economic forces but is mainly influenced by the industry or industries in which it functions.

Possibility of industries depends on the differentiation of competitive aspects and classifies industries according to the intensity of these aspects. Firms that receive no returns individually, due to their position in the industry, are classified by intense competitive aspects while firms earning substantial or great returns are classified by mild and high competitive aspects. The steel industry is classified by intense competitive aspects due to no firm individually, receiving immense returns.

Thus, the acquaintance of primary aspects of competition can expose an industry’s competitiveness through the acknowledging of its strong points and weak points as well as identifying whether the industry will be able to reimburse on a large scale and assure industry trends with immense worth in terms of prospects or pressures.

The next section of this study will elaborate on Porter’s competitive strategy theory by analysing the structural determinants of competition for an industry.
2.5.1 The structural determinants of competitiveness of an industry

Competitiveness within an industry is measured by the movement of rate of return on invested capital. The competitive market strives to maintain the rate of return on invested capital at the floor rate of return or a return sufficient enough to be classified by the economist’s term of ‘perfectly competitive’ industry. The important factor that influences these returns is the impact of the competitive aspects on the inflow of investment that influences returns to maintain the free market level.

Porter identifies five key competitive forces that jointly conclude decisive profit gains in the industry, determined in terms of return on invested capital. These five competitive forces highlight the intensity level of competitiveness as well as profitability in comparison with the industry’s strategy structure. The level of importance of different factors, shapes an industry’s competitiveness level. The opposition and substitute products are core competitive forces in the steel industry.

Aside from an industry’s performance in the five forces that make up an industry’s competitiveness, fluctuations in economic conditions like the GFC can influence an industry’s short-run prosperity, as well as demand, scarcity, and more.
2.5.1.1 Potential Entrants

Every industry is faced with the possibility of new entrants which could lead to an increase in capabilities, decrease contribution in the overall market share or substantial resources which in the end lead to lower profitability levels. A factor that affects a new entrant, however, would depend on the entry deterring price, a steadiness among the prospective rewards from entry aligned with the actual accepted cost (Porter, 1980:32). For the South African steel industry, entrance to the industry itself is difficult due to apparent reaction from existing competitors like the market leader ArcelorMittal, necessity to supply great financial resources with the aim of competing which is limited due to the GFC’s after-effects on the economy, realizing economies of scale with regard to existing competitors, availability of distribution channels and most important of all, government policy of the country that restricts entrance through limitation barriers on raw materials (Porter, 1980:33-34).
2.5.1.2 Competition between existing firms

Progression of deeds or responses can influence an industry’s position. The South African steel industry can relate to the existence of numerous interrelated structural factors that measure the intensity of competition within the industry itself.

If competitors within the industry are abundant, competitiveness levels increase. In the case of the South African steel industry, only a handful of influential competitors are found, thus characterising the industry as extremely concentrated, enabling power to be constant as well as accessible to all. Dawdling industry development also leads to growth of certain firms that could influence market share adversely. Elevated fixed costs within the industry’s firms could also drive the industry to price cutting strategies affecting its competitive position. Another important influential aspect of competition between firms that could lead to the industry’s competitive position being altered is exit barriers. Frail firms not leaving the industry, therefore influencing profitability margins (Porter, 1980:36-37).

2.5.1.3 The influence of substitute products

Profit margins decrease with the presence of substitute products as it leads to ceilings being placed on prices. In the steel industry, substitute products are highly recognised and their influence is noted, as it is apparent in the industry. With intense marketing and or quality enhancements of products and or effective and efficient improvements in distribution, as a collective industry response, the competitive position of the industry can be restored or maintained (Porter, 1980:36-38).

2.5.1.4 Influential authority of buyers

By proposing lower prices, sourcing for different factors composed within products or influencing overall need patterns, buyers are classified as a competitive force that could influence an industry’s competitive position in the market. The GFC influenced buyers financially to consider their demand patterns internationally; as a result, an economic environment will influence a buyer’s authority within an industry. Buyers that buy in bulky quantities also influence an industry’s competitive position in terms of capability levels. The buyer’s market according to its product needs is also an influential factor for an industry as it establishes the negotiating power of buyers (Porter, 1980:36-39).
2.5.1.5 Influential authority of suppliers

Suppliers have the upper hand in some instances in an industry as they are able to increase prices or even diminish quality of goods they vend, thus decreasing profitability margins in industries. Labour in the steel industry also contributes greatly towards profitability as well as government in the form of a buyer or supplier through the implementation of policies (Porter, 1980:39-40).

By considering these five joined forces that influences the competitiveness of an industry, it is evident in the findings associated with each factor that the steel industry is indeed in a competitive advantage position in terms of; confined entrance to the industry, is characterised as a highly concentrated industry with even and noticeable power distribution, slightly influenced by substitute products although the market is dominated therefore minimising the total effect of substitution on the industry’s profitability and competitive position; buyers of steel products tend to buy in bulk quantities, securing the industry’s competitive advantage position and finally, suppliers of the steel industry in South Africa have an abundance of natural resources therefore not influencing the industry’s competitive position adversely with increased prices or restricted sales on quantities or quality.

The next section of this study will discuss the relation of Porter’s competitive strategy and Porter’s diamond theory with regard to the South African steel industry and the trade sector.

2.6 PORTER’S COMPETITIVE STRATEGY THEORY IN ASSOCIATION WITH THE DIAMOND THEORY

Porter’s competitive strategy theory identified that the South African steel industry portrays an advantage position of competitiveness for the country. Porter’s diamond theory on the other hand identifies an industry or sector’s competitive advantage position based on firm strategy, structure, rivalry, related and supporting industries as well as factor and demand conditions which include the four production factors.

Firm strategy, the structure of an industry and rivalry aspects of the steel industry have already been discussed under Porter’s competitive strategy theory. Therefore, the following
section will focus on related and supporting sectors of the South African economy in light of the steel industry as well as factor and demand conditions.

According to Porter’s diamond theory, the competitive advantage position of an industry can further be established with additional influencing factors. The South African trade sector along with its related and supporting sectors which was identified as the mineral, agricultural and manufacturing sectors influences the steel industry as they are all inter-related to one another.

Economically, the South African economy is heavily dependent on trade based on various economic theories as discussed in this study as well as the steel industry’s competitive advantage position which influences trade based on trade theories. Thus, the relevance of identifying both the trade sector and the steel industry’s overall position in terms of competitive advantage for South Africa.

With the trade sector and steel industry being related and supportive sectors for one another, according to Porter’s diamond theory, it is evident that together the competitive advantage position of the steel and trade industry can be identified as more intense than any other industries in the economy. As a result the steel and trade industry of South Africa can be labelled as a ‘key determinant’ of growth for the country’s economy. When factor and demand conditions are added to this ‘key determinant’, the competitive advantage position is further enhanced. South Africa is known as a country to be rich in resourceful land which is represented by the agricultural sector’s influence, as seen in Figure 2.2. Figures 3.1 and 3.2; takes the latter statement into account by representing increasing population growth rates and stable employment rates adding to the country’s labour force composition. Figure 2.2 represents the country’s abundance in minerals as well as illustrates an increasing financial sector contributing to capital reserves. All four factor and demand conditions are identified within the country, this could lead to encouraging trade streams and further improvement and recognising of this ‘key determinant’s’ competitive advantage position for South Africa’s economy.
2.7 SUMMARY

This chapter embodied the most influential economic sector and most competitive advantaged industry for South Africa in terms of the weight it has on the economy in light of the GFC's impact.

Both imports and exports were identified as an economic growth factor, relating to the trade sector's importance on economic growth for a country. This also gave light to why the GFC had such an influential impact on the South African economy. Supporting and relating to the trade sector of South Africa, was the mining and agricultural sector with correlated patterns of growth during the 'before', ‘during’ and ‘after’ period of the GFC on the overall economy. It was evident in this chapter that the ‘before’ period of the GFC did not have a substantial impact on these sectors, but clearly impacted these sectors adversely with decreasing growth rates, and a equally decreased GDP growth rate of -1.7% in 2009, classified as the ‘during’ period of the GFC. In 2010, the ‘after’ period of the GFC, showed recovering growth rates in support of the recovering GDP growth rate of 2.8%.

With the trade sector's influence on the economy, a need to identify an industry supporting this sector, as well as the influence that the GFC had on this economic sector resulted in Porter’s trade theories of competitive strategy and diamond theory being discussed.

The steel industry, an industry within the trade industry also related and supported by the mining, agricultural and manufacturing sectors, was identified by Porter’s competitive strategy as a competitive advantage industry based on five influential factors of competitiveness. The trade sector was then connected to this competitive advantaged industry by Porter’s diamond theory that indicated that the trade sector of South Africa with its relation to the steel industry also possessed a competitive position based on the founding principles of the theory.

Therefore the relevance and extent of importance of the South African steel trade industry’s position in the South African economy. A signal to why the GFC had such an impact on the country and its steel trade industry.
Chapter 3 will support the findings of this chapter by analysing the country’s socio-economic profile as well as consider the economic overview of the country in the ‘before’, ‘during’ and ‘after’ periods of the GFC.
CHAPTER 3: DATA AND METHODOLOGY

3.1 INTRODUCTION

3.2 SOCIO-ECONOMIC PROFILE OF SOUTH AFRICA

3.3 ECONOMIC DEVELOPMENT OF SOUTH AFRICA DURING THE GFC PERIODS

3.4 DATA DESCRIPTION

3.5 THE HARMONISED SYSTEM OF CODES (HS CODE)

3.6 SUMMARY AND CONCLUSION

Mr Cable, who is leading a delegation to South Africa, met with Trade and Industry Minister Rob Davies and has also engaged with the executive of British companies in Johannesburg. He said at a media briefing that the feedback he received from British companies was that they took a long-term view of their investments in the country and believed that South Africa continued to offer a number of attractions. He noted that Britain had the largest stock of foreign investment in South Africa. The assessment of investors, Mr Cable said, was that South Africa was an open economy and welcomed foreign investment in a positive way. "The regime is a good one," Mr Cable said. That said, he acknowledged South Africa had deep socioeconomic problems dating back to the apartheid era such as inequality which had to be addressed. Mr Cable said a study by financial services firm Ernst and Young showed that while the total value of foreign investments into South Africa had tailed off, the tempo of investments remained very strong with the number of projects in sectors such as information technology and service-based industries increasing. Mr Davies agreed with Mr Cable's sentiments, saying that there was a growing understanding globally that Africa was the next growth frontier and that South Africa was strategically located for this.

3.1 INTRODUCTION

Chapter 3 will elaborate on the socio-economic factors as well as economic factors that constitute and influence the GVA’s growth rates of South Africa ‘before’, ‘during’ and ‘after’ the Global Financial Crisis (GFC). The information of these sectors will be supported with statistics nationally as well as relevant literature. The chapter contributes to the South African Steel Trade Industry’s competitive position, as identified in the previous chapter. A description of the data used for the latter part of this study will also be discussed in terms of the The Harmonised System of Codes (HS code) that describes the relevant HS code defining this study.

3.2 SOCIOECONOMIC PROFILE OF SOUTH AFRICA

This section will give insight to the socioeconomic formation of South Africa ‘before’, ‘during’ and ‘after’ the GFC. To establish the socio economic formation of the county during these three periods, information was composed together from the Global Insight Regional Explorer (ReX) and Statistics South Africa.

3.2.1 Demographics

Population, a determinant of economic growth and a source of development, impacts supply of labour for a country, and its productivity and assets (Lindhauer et al., 2006:260).

Figure 3.1 exhibits South Africa’s population figures which indicated a positive growth rate since 1996 to 2010.
Figure 3.1: Population figures in South Africa, 1996, 2000, 2005 and 2010

Source of data: Author’s own calculations based on Global Insight – ReX, Jan 2012.

The Labour summary consists of the total economically active population (EAP) and non-active population of South Africa. According to Figure 3.1, the South African population is growing yet the employment rate has decreased during the ‘before’, ‘during’ and ‘after’ periods of the GFC which led to an increase in the unemployment rate (Figure 3.2).
Figure 3.2: South Africa’s employment and unemployment rate, 2008 to 2010

Source of data: Author’s own calculations based on Global Insight – ReX, Jan 2012.

Figure 3.2 highlights the fact that unemployment remains a challenging limitation for South Africa. The loss and misplacement of skill transfers during the three main periods of this study, results in a limitation for the country to grow and develop economically.

Education leads to a more educated and skilled labour force which was identified as a determinant of economic growth (Petrakos & Arvanitidis, 2008:4; Barro & Sala-i-Marin, 1995:247-251). Therefore, an affirmative association between education and economic growth, as increased employment growth rates are present amongst those with higher education levels.
Figure 3.3: Gross enrolment ratio for pre-primary, primary and secondary education in South Africa from 2008 to 2010

Source of data: Author’s own calculations based on The World Bank 2012.

The Gross Enrolment Ratio (GER) is expressed as a percentage of the South African population depending on the type of education level and certified age. GER for pre-primary education includes the percentage of population certified for pre-primary education age, GER for primary education includes the percentage of population of certified primary education age and GER for secondary education includes the percentage of population of certified secondary education. A number of the GER percentages exceeds 100% caused by the addition of over-aged and under-aged students either inflowing the school entry date too late or too early (The World Bank, 2012). Figure 3.3 illustrates that the GER for pre-primary education was the only type of education enrolment level that realised positive growth rates during the GFC periods. This result indicates that education was identified as a crucial determinant of economic growth for South Africa, therefore emphasising the need to urge people on to start education from an early age which could lead to reaping the benefits of a skilled labour force in the future. Figure 3.2 also highlights the effect of minimal human capital exposure during 2009, during the heart of the GFC, and 2010 with regard to the decreasing GER of primary
and secondary education. The decrease in enrolment, reflects poorly on the education system of South Africa and the future growth rates of its skilled labour force.

The following section will converse on the development characteristics of South Africa with specific reference to the Human Development Index (HDI), the Gini-coefficient and poverty intensity.

3.2.2 Development characteristics

Klugman of the United Nations Development Programme (2010:19) termed the Human Development Index (HDI) as: “development that satisfies the needs of the present without compromising the ability of future generations to meet their own needs”. Life expectancy, education and income makes up the HDI. The HDI works on an index between 0 and 1. There are three classes in which a country can be classified under the HDI. A country which has a higher value than 0.8, is classified in the High Human Development group. If a country is positioned between 0.5 and 0.8, the country falls in the Medium Human Development group. The Low Human Development group classifies countries with an index lower than 0.5 (Lindhauer et al., 2006:46).

Table 3.1: Human Development Index (HDI) for South Africa, 2000, 2005 and 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>0.57</td>
<td>0.58</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Source of data: Author’s own calculations based on Global Insight – ReX, Jan 2012.

Table 3.1 represents South Africa’s HDI in 2000, 2005 and 2010, classifying the country in the Medium Human Development group. From 2005 to 2010, South Africa’s HDI decreased from 0.58 to 0.56 indicating that the country’s life expectancy, literacy levels and standard of living worsened.

To determine wealth or income allocation amongst a country’s population, the Gini-coefficient which fluctuates between 0 and 1 can be used. If the Gini-coefficient is 1, it represents that only one household in the country earns all the income, and if the Gini-coefficient is 0, then it signifies that income is earned equally amongst a country’s population.
Smith and Todaro (2003:200-203) stated that improved levels of development and economic growth could be achieved with increased fairness levels. South Africa's most recent Gini-coefficient indicates that a majority of the wealth or income is earned by a lesser amount of households compared to the size of the population.

Poverty is seen as a crucial development factor for a country's economy and therefore many studies emphasize the importance of this factor on the economy of third world countries (Pogge, 2005:1).
From Figure 3.5, it is clear that poverty as a development factor for the South African economy stood out as the factor that positively fluctuated during the GFC with decreasing poverty figures and or percentages. Nevertheless, the South African poverty figures still remain a crucial factor that needs to be addressed due to the scale of the figures.

Compared to other African countries, South Africa is classified to be aligned with the rest of the low-income countries with its socio-economic indicators. Characteristics of high levels of poverty due to income inequality, population and increasing unemployment rates define the country.

The subsequent section will entail literature and data of the economic development of South Africa during the GFC periods, focusing on gross domestic product (GDP) of the country and its overall trade balances.
3.3 ECONOMIC DEVELOPMENT OF SOUTH AFRICA DURING THE GFC PERIODS

3.3.1 Gross Domestic Product (GDP)

South Africa’s total absolute output of goods and services per year, produced within the country’s borders by its population and non-residents, can be defined as its GDP (Smith & Todaro, 2003:796).

Table 3.2: GDP growth in South Africa

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual GDP growth (%)</td>
<td>3.6</td>
<td>-1.7</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Source of data: Author’s own calculations based on Global Insight – ReX, Jan 2012.

It is evident in Table 3.2 that the GFC had an adverse effect on South Africa’s GDP during the GFC periods. A sharp decline in 2009 resulted in a negative annual GDP growth rate of -1.7%, but returned to a positive annual GDP growth rate of 2.8% in 2010, indicating a shift towards stability for the country.

3.3.2 Total Gross Value Added (GVA) growth for South Africa, 2007 to 2010

An assessment of a country’s GDP by an industry, is Gross Value Added which is determined by subtracting the value of intermediate expenditure by the value of productivity (Organisation for Economic Co-Operation and Development (OECD), 2001).
Promising GVA growth rates complemented the South African economy in 2007; however, it was distorted by the GFC’s arrival in 2008. The year 2009 was hit the hardest with minus GVA growth rates but improved to positive growth rates in 2010.

### 3.4 DATA DESCRIPTION

With the South African Steel Trade Industry being identified as a major competitive advantage industry for the South African economy in the previous chapter, and the relevance of this industry’s influence on the South African economy, as seen in this chapter, the subsequent part of this study will explain the data relevant to the overall findings of both chapter 2 and 3.

Articles of iron or steel were identified as a significantly important market for South Africa due to the country’s economic reliance on minerals (Creamer Media’s Research Channel Africa, 2009:7).
First, a description is given of the Harmonised System of Codes and the applicable HS code defining this study.

3.5 THE HARMONISED SYSTEM OF CODES (HS CODE)

The Harmonised Commodity Description and Coding System, also known as the Harmonized System or HS of Codes was launched in 1988 and had been amended in 1996, 2002 and 2007. The system was created by the World Customs Organization (WCO) and is used as a “versatile global product nomenclature” (WCO, 2011).

According to the WCO (2011) the HS Codes consists of 5,000 commodity groups that is individualised by a six digit code and is characterised through reasoning, lawfulness and regulation. The HS is utilized by most countries in order to appoint necessary Customs tariffs as well as comprising country statistics. The WCO’s HS categorizes almost all merchandise in global trade (WCO, 2011). The HS is separated into 97 chapters and 21 sections as seen in Table 4.1.

3.5.1 Sections and chapter headings of the HS Codes

Table 3.3 indicates the 21 sections which describe the 97 chapter headings found in the HS Codes and is an applicable recognised model used internationally for the use of trade.
### Table 3.3: HS of codes summary

<table>
<thead>
<tr>
<th>Section</th>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1-5</td>
<td>Live animals, animal products</td>
</tr>
<tr>
<td>2</td>
<td>6-14</td>
<td>Vegetable products</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>Animal or vegetable fats and oils and their cleavage</td>
</tr>
<tr>
<td>4</td>
<td>16-24</td>
<td>Prepared foodstuffs, beverages, spirits and vinegar</td>
</tr>
<tr>
<td>5</td>
<td>25-27</td>
<td>Mineral products</td>
</tr>
<tr>
<td>6</td>
<td>28-38</td>
<td>Products of the chemical or allied industries</td>
</tr>
<tr>
<td>7</td>
<td>39-40</td>
<td>Plastics and articles thereof, rubber and articles thereof</td>
</tr>
<tr>
<td>8</td>
<td>41-43</td>
<td>Raw hides and skins, leather, fur skins and articles thereof, saddles and harness, travel goods, handbags and similar containers, articles of animal guts (other than silk worm gut)</td>
</tr>
<tr>
<td>9</td>
<td>44-46</td>
<td>Wood and articles of wood, wood charcoal, cork and articles of cork, manufacturers of straw, of esparto or of other plaiting materials, bask ware and wickerwork</td>
</tr>
<tr>
<td>10</td>
<td>47-49</td>
<td>Pulp of wood or of other fibrous cellulosic material, recovered (waste and scrap) paper or paperboard, paper and paperboard and articles thereof</td>
</tr>
<tr>
<td>11</td>
<td>50-63</td>
<td>Textiles and textile articles</td>
</tr>
<tr>
<td>12</td>
<td>64-67</td>
<td>Footwear, headgear, umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof, prepared feathers and articles made therewith, artificial flowers, articles of human hair</td>
</tr>
<tr>
<td>13</td>
<td>68-70</td>
<td>Articles of stone, plaster, cement, asbestos, mica or similar materials, ceramic products, glass and glassware</td>
</tr>
<tr>
<td>14</td>
<td>71</td>
<td>Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal and articles thereof, imitation jewellery, coin</td>
</tr>
<tr>
<td>15</td>
<td>72-83</td>
<td>Base metals and articles of base metal</td>
</tr>
<tr>
<td>16</td>
<td>84-85</td>
<td>Machinery and mechanical appliances, electrical equipment, parts thereof, sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles</td>
</tr>
<tr>
<td>17</td>
<td>86-89</td>
<td>Vehicles, aircraft, vessels and associated transport equipment</td>
</tr>
<tr>
<td>18</td>
<td>90-92</td>
<td>Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus, clocks and watches, musical instruments, parts and accessories thereof</td>
</tr>
<tr>
<td>19</td>
<td>93</td>
<td>Arms and ammunition, parts and accessories thereof</td>
</tr>
<tr>
<td>20</td>
<td>94-96</td>
<td>Miscellaneous manufactured articles</td>
</tr>
<tr>
<td>21</td>
<td>97</td>
<td>Works of art, collectors' pieces and antiques</td>
</tr>
</tbody>
</table>

**Source of data:** Adapted from International Trade Centre (ITC) Trademap, 2012
The next section of this study will clearly indicate how the heading and subheadings are divided between the HS Codes.

3.5.2 Sections and chapter headings of the HS Codes

A heading and a subheading presents the theoretical explanation of a specific code. This study is defined by section 15, chapter 73, which describes products of articles of iron or steel. The extended or undivided sub-heading codes for articles of iron or steel can be seen in Table 3.4. Two further digits on the extended or undivided sub-heading code indicate a country’s national level for the product, for the use of tariff duties and trade statistics (Yu, 2008:2-3).

Table 3.4: HS Code – 73 Articles of iron or steel

| 7301 | sheet piling, welded angles etc of iron or steel |
| 7302 | railway etc track construction material, iron & steel |
| 7303 | tubes, pipes and hollow profiles of cast iron |
| 7304 | tubes, pipes etc, seamless, iron nesoi & steel |
| 7305 | tubes & pipes nesoi, ext dia ov 406-4mm, iron & steel |
| 7306 | tubes, pipes & hollow profiles nesoi, iron & steel |
| 7307 | tube or pipe fittings, of iron or steel |
| 7308 | structures nesoi & parts thereof, of iron or steel |
| 7309 | tanks etc, over 300 liter capacity, iron or steel |
| 7310 | tanks etc, n/ov 300 liter capacity, iron or steel |
| 7311 | containers for compressed or liquified gas |
| 7312 | stranded wire, ropes etc, no elec ins, iron or steel |
| 7313 | barbed wire and twisted wire for fencing, iron/steel |
| 7314 | cloth, grill etc iron or steel; expand metal, iron or steel |
| 7315 | chain & parts, of iron or steel |
| 7316 | anchors, grapnels and parts thereof, of iron/steel |
| 7317 | nails, tacks, drawing pins etc of iron or steel |
| 7318 | screws, bolts, nuts, washers etc, iron or steel |
| 7319 | needles, sew & knit, bodkins etc, pins etc iron & steel |
| 7320 | springs & leaves for springs, iron or steel |
| 7321 | stoves, ranges etc, nonel domestic & parts, iron & steel |
| 7322 | radiators, air heaters etc, nonel & parts, iron & steel |
| 7323 | household articles & parts, iron & st; ir or steel wool etc |
| 7324 | sanitary ware & parts, iron or steel |
| 7325 | cast articles nesoi, of iron or steel |
| 7326 | articles of iron or steel, nesoi |

Source of data: Adapted from the Harmonized System Code, 2011
HS Code 73 as a whole defines this study in terms of the South African steel trade industry.

3.6 SUMMARY

The socioeconomic profile of South Africa indicated that the ‘before’, ‘during’ and ‘after’ periods of the GFC had multiple effects and extents connected to one another. From a demographic point of view, population figures rose during these periods with unemployment increasing and employment decreasing. The future labour force percentage of South Africa has been identified to decrease as overall enrolment figures for education decreased during the GFC periods. On the development side of the economy, South Africa has been categorised in the Medium Human Development group with an average HDI of 0.57. The worsening figure for the country indicates decreasing life expectancy figures, literacy levels and standard of living ratios. South Africa’s most recent Gini-coefficient indicates that a majority of the wealth or income is earned by a lesser amount of households in comparison with the size of the population. Poverty was the only factor that was not impacted to such an extent as the rest, with poverty levels decreasing during the GFC periods.

The economic activity in South Africa was hit hard by the ‘during’ period of the GFC but steadily recovered in the ‘after’ period. GDP growth plunged to -1.7% from 3.6% in 2008 and improved in 2010 to 2.8%. The same statement can be made of the country’s GVA growth levels which fell to a minus in 2009 and increased to positive percentages in 2010.

With the findings in the socio-economic sectors of South Africa and its overall economic performance during the ‘before’, ‘during’ and ‘after’ periods of the GFC it can be correlated with the findings in chapter 2 as well as the following chapters.

The data used for the subsequent part of this study was also discussed in order to measure the extent of the GFC’s impact throughout the ‘before’, ‘during’ and ‘after’ periods on the South African steel trade industry. The Harmonised Commodity Description and Coding System was referred to, in order to identify the study’s appropriate HS Code that defines this study, namely HS Code 73 articles of iron or steel.
Chapter 4 will comprise the South African steel trade industry and will measure the extent of the GFC’s impact on the industry in depth. Information of this industry will be supported with trade statistics internationally as well as through the relevant literature. The HS code system will also be referred to as the basis of the steel trade industry’s classification with relevance to this study.
CHAPTER 4: RESULTS AND DISCUSSION

4.1 INTRODUCTION

4.2 SOUTH AFRICAN STEEL TRADE INDUSTRY

4.3 INTERNATIONAL TRADE FLOW FOR ARTICLES OF IRON OR STEEL

4.4 TRADE FLOW FOR ARTICLES OF IRON OR STEEL TRADED BY SOUTH AFRICA

4.5 SUMMARY

'The global crisis was unprecedented in the role that trade played as a transmission channel, a result of what has been referred to as 'The Great Trade Collapse'.

- David Kucera, Leanne Roncolato and Erik Von Uexkull (2012).
4.1 INTRODUCTION

This section will describe the South African steel trade industry “before”, “during” and “after” the GFC period, following the industry’s competitive advantage position for the economy of South Africa, as identified in Chapter 3. With data compiled from the International Trade Centre (Trade Map), the impact of the GFC on the industry can be measured in value internationally. The data used in this chapter will be based on the relevant HS Code defining this study, namely HS Code 73.

4.2 SOUTH AFRICAN STEEL TRADE INDUSTRY

In 2007, South Africa was ranked as the 21st major steel-producing country by the WSA (2011) producing 9.1 million metric tons of crude steel. According to the WSA in 2007, economic risk was present but it was thought that the instability of the credit market would not be influential enough to reposition the US economy into a recession. South Africa was seen by the WSA as a future promising growth region during that time.

In 2008, the country was again ranked as the 21st major steel-producing country by the WSA (2011) only this time producing 8.3 million metric tons of crude steel. It was stated by the WSA (2008) that although there was uncertainty in the global atmosphere on the economic stability of the US, the demand for steel would maintain high levels due to the enthusiasm of promising growth regions.

In 2009, South Africa was ranked as the 19th major steel-producing country by the WSA (2011). Moving up by two positions on the world market, the country’s production levels declined to a further 7.5 million metric tons of crude steel. The WSA (2009) announced that the decline in global production levels since late 2008 was due to the advancement of the US financial crisis into a GFC which in turn decreased global steel demand.

Late 2009, the WSA (2009) publicized global production forecasting levels for 2010 to increase due to the significant growth in China’s demand for steel. China who was also
labelled to be a future promising growth region, made its mark in world steel trade during 2009, by being identified as the essential drive factor for the market’s demand levels.

In 2010, South Africa was ranked as the 21st major steel-producing country by the WSA (2011). The country produced 7.6 million metric tons of crude steel, a minor increase from 2009. Although world steel demand exceeded the pre-crisis levels of 2007 (WSA, 2010), South Africa did not manage to increase production levels to pre-crisis levels. Therefore, the GFC had indeed had an adverse impact on the industry. The extent of this impact according to the WSA (2010) was minor due to the future promising growth region maintaining positive growth rates throughout the GFC periods.

The South African steel trade industry possesses five key carbon steel producers namely, ArcelorMittal South Africa Limited, Evraz Highveld Steel & Vanadium, Scaw Metals Group, Cape Gate (Pty) Ltd and Cape Town Iron & Steel Works (SAISI, 2011). The key stainless steel producer in South Africa is known as Columbus Stainless (SAISI, 2011).

ArcelorMittal South Africa Limited, one of the leading steel producers of South Africa highlighted the impact of the GFC on the industry itself. ArcelorMittal’s reviewed group financial results for the year ended 31 December 2009 headlined a loss of R440 million for 2009 in comparison to the R9484 million profit of the previous financial year in 2008. ArcelorMittal reasoned the loss as a result of the adverse impact of the GFC on the industry, which was further worsened by the strengthening of the Rand against the US Dollar which led to the negative fluctuations in foreign exchange rates. However, the fourth quarter of 2009 showed promising stabilisation figures due to increased demand, better prices and a lower cost base which indicated a convalescing global economy (ArcelorMittal, 2009:1).

The year 2010 on the other hand proved to challenge ArcelorMittal. The first half of the year was characterised by a recovered competing market due to the market’s stocking up phase but the second half of the year deemed to indicate differently as demand fell and the Rand increased against the US Dollar once again (ArcelorMittal, 2010:10). Overall, ArcelorMittal, marked the year with positive returns and development, making headlines of R1 377 million in earnings (ArcelorMittal, 2010:5).
Articles of iron or steel were identified as a significantly important market for South Africa due to the country’s economic reliance on minerals (Creamer Media’s Research Channel Africa, 2009:7). The next section will focus on the international trade flows of articles of iron or steel between 2006 and 2010. The results will outline the international market as well as reveal the adverse impact and extent of the GFC on the market.

The subsequent part of this study will focus on the international trade flows of articles of iron or steel between 2006 and 2010. The results will outline the international market as well as reveal the adverse impact and extent of the GFC on the market.

4.3 INTERNATIONAL TRADE FLOW FOR ARTICLES OF IRON OR STEEL

According to the World Steel Association (WSA) (2011), world volume of steel trade was highest in 2007; with a slight turndown in 2008. With the GFC at full swing in 2009, world volume of steel trade indicated a sharp decline and started recovering in 2010. For many countries that are influential by the world steel trade patterns due to their economic reliance on the industry itself, the GFC periods impacted their economies adversely. For some countries this adverse impact had major or minor extents connected to it.

Table 4.1: Total world trade figures for articles of iron or steel traded internationally in 2010

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Product Label</th>
<th>Trade Indicators</th>
<th>World's exports to world</th>
<th>World's imports to world</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Value exported in</td>
<td>Annual growth in value between 2006-2010 (%)</td>
<td>Share in world exports (%)</td>
</tr>
<tr>
<td>73</td>
<td>Articles of iron or steel</td>
<td>236,692,032</td>
<td>1</td>
<td>100</td>
</tr>
</tbody>
</table>

Source of data: International Trade Centre (ITC), 2010.
Table 4.1 indicates that the total value of articles of iron or steel traded in 2010 amounted to $479,777,653 million (236,692,032 USD thousand exported and 243,085,621 USD thousand imported). The average annual growth in world export value between 2006 and 2010 for articles of iron or steel was 1% while the annual average growth in world import value between 2006 and 2010 for articles of iron or steel was 2%. Trade Comparison: when one compares the total value of articles of iron or steel exported (236,692,032 USD) to the total value of articles of iron or steel imported (243,085,621 USD), it is clear that the world imported (demanded) more articles of iron or steel than it exported in 2010. Thus clarifying ArcelorMittal’s challenging year in 2010.

**Figure 4.1**: Total Trade estimates of all articles of iron or steel traded internationally between 2007 and 2010

Source of data: Author’s own calculations based on International Trade Centre (ITC), 2010.

From Figure 4.1 it is evident that articles of iron and steel experienced favourable trade statistics up until the year 2008, indicating that the world trade for articles of iron or steel was not adversely impacted by the ‘before’ period of the GFC. With the GFC present in the year 2009, the ‘during’ period of the GFC, global trade statistics declined sharply and only started convalescing in the year 2010, the ‘after’ period of the GFC (Baxter, 2008:1). In 2009, both
import and export value decreased by a total value of 80 000 US Dollar Thousand from 310 000 US Dollar thousand value. In 2010, exports and imports started the recovering process with positive growth rates and realized 240 000 US Dollar Thousand in value exported and 250 000 US Dollar Thousand in value imported. The decline was evident due to the GFC’s presence in 2009, and started improving in the beginning of the year 2010, due to higher demand levels.

The relative competitiveness of the different exporting markets internationally for articles of iron or steel in 2010 will subsequently be explained.

**Figure 4.2: Top ten exporting countries for articles of iron or steel internationally, 2008 to 2010**

![Bar chart showing export value for top ten countries for iron or steel internationally from 2008 to 2010.](image)

Source of data: Author’s own calculations based on International Trade Centre (ITC), 2010.

The top ten exporting countries internationally of articles of iron or steel according to export statistics in the year 2010 can be seen in Figure 4.2 (ITC, 2010). The most aspirant exporters are the nations with large market shares in 2010 and relatively low export growth rates between 2006 and 2010. Therefore, the most aspirant exporters of HS Code 73 were China (16.5%; 7%), Germany (11.3%; - 1%) and Italy (7.5%; - 2%). The most prominent exporters are the nations with substantial market shares in 2009 and relatively high export growth rates.
between 2006 and 2010. Therefore, the most prominent exporters of HS Code 73 were Republic of Korea (3.3%; 7%), Netherlands (3%; 7%) and USA (6.8%; 3%) (Refer to Annexure A).

From Figure 4.2 it is evident that the top ten exporter countries for articles of iron or steel experienced favourable untouched growth rates of exports in US Dollar Thousand value for the year 2008. Therefore correlating with Figure 4.1, the ‘before’ period of the GFC did not impact exports internationally adversely. However in 2010, the ‘during’ period of the GFC did indeed impact the export figures in US Dollar Thousand value for the exporting countries adversely. In 2010, the ‘after’ period of the GFC, all exporting countries, except for Italy and France, represented increasing growth rates in US Dollar Thousand values.

The relative attractiveness of the different importing markets internationally for articles of iron or steel in 2010 will subsequently be explained.

**Figure 4.3: Top ten importing countries for articles of iron or steel internationally, 2008 to 2010**

*Source of data: Author’s own calculations based on International Trade Centre (ITC), 2010.*
The top ten importing countries of articles of iron or steel according to import statistics in the year 2010 can also be referred to in Annexure B (ITC, 2010). The most significant importers are the nations with large market shares in 2010 and relatively low import growth rates between 2006 and 2010. Therefore, the most significant importers for articles of iron or steel were USA (11.6%; - 4%), Germany (7%; 0%) and France (4.4%; 11%). The most prominent importers are the nations with substantial market shares in 2010 and high import growth rates between 2006 and 2020. Therefore the most prominent importers for articles of iron or steel were Netherlands (2.7%; 5%) and the Russian Federation (2.5%; 5%).

Figure 4.3 contributes to the findings in Figure 4.1 with the ‘before’ period of the GFC stating no adverse impact of the GFC on importing countries growth figures of imports of articles of iron or steel in USD Dollar Thousand value. However, 2010, the ‘during’ period indeed illustrates decreases in imports for importing countries in US Dollar Thousand value, implying the GFC’s adverse impact on the international steel trade industry. In 2010, except for the Netherlands, the rest of the importing countries displayed positive growth rates in imports of articles of iron or steel in US Dollar Thousand value.

4.4 TRADE FLOW FOR ARTICLES OF IORN OR STEEL TRADED BY SOUTH AFRICA

In order to establish the South African steel trade industry’s position internationally, the following section of this study will focus on South Africa’s trade flow to and from the world in comparison with the previous international results.
Table 4.2: South Africa’s international exports for articles of iron or steel in 2010

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td></td>
<td>1157018</td>
<td>114991</td>
<td>5</td>
<td>27</td>
</tr>
</tbody>
</table>


Table 4.3: South Africa’s international imports for articles of iron or steel in 2010

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td></td>
<td>1042027</td>
<td>114991</td>
<td>4</td>
<td>18</td>
</tr>
</tbody>
</table>


The approximate trade value for articles of iron or steel traded by South Africa in 2010 amounted to $2,199,045 million (1,157,018 USD thousands exports and 1,042,027 USD thousands imports). The annual average growth in export value between 2006 and 2010 for articles of iron or steel exported by South Africa was 5%. The annual average growth in import value between 2006 and 2010 for articles of iron or steel imported by South Africa was 4%. The positive increase in the annual average growth for both the export value and import value indicates a growth in trade between 2006 and 2010. Based on the annual average growth in export and import value for articles of iron or steel there is a clear indication that South Africa supplied more articles of iron or steel than what it demanded during 2006 and
South Africa is the 35th largest exporter of articles of iron or steel and the 48th largest importer of articles of iron or steel internationally.

**Figure 4.4:** Trade estimates for articles of iron or steel traded by South Africa between 2006 and 2010

![Graph showing trade estimates](image)

**Source of data:** Author’s own calculations based on International Trade Centre (ITC), 2010.

The South African market for articles of iron or steel experienced favourable export and import growth rates between 2006 and mid 2008. The GFC was introduced to the world in late 2008 with an increase in the Rand value towards the US dollar and decreasing international demand levels, while the South African economy was forced into a recession during 2009 with a minus GDP growth rate of -1.7%. Therefore, the depressing export and import growth rates for articles of iron or steel in 2009. This can also be supported by the results seen in Figure 4.1 to 4.4. The GFC’s ‘during’ period was the most influential on all steel trade industries internationally. The year 2010 showed increasing export and import growth rates for the South African market of articles of iron or steel as international demand recovered (ArcelorMittal, 2010:5). These results can be correlated with Figure 2.1 and Table 3.2 with regard to the GFC on the South African steel trade industry. The industry was untouched during 2008 at the origin year of the GFC but steel trade figures fell dramatically in 2009 with the GFC in full swing, and as the GFC decreased in 2010, the country’s steel trade figures recovered to increasing scales. A clear indication that the country’s economy
was adversely manipulated by the ‘during’ and ‘after’ period of the GFC and as a result impacted the steel trade industry through its relevance on the country’s GDP growth rates.

The next section of this study examines South Africa’s trading partners and how they were impacted by the GFC. Therefore, the information gathered from the next section will shed light on South Africa’s steel trade industry position ‘before’, ‘during’ and ‘after’ the GFC, by screening it in a more internal point of view for the country.

**Figure 4.5: Top ten importing countries for articles of iron or steel exported by South Africa, 2008 to 2010**

![Bar chart showing top ten importing countries for articles of iron or steel exported by South Africa, 2008 to 2010]

*Source of data: Author’s own calculations based on International Trade Centre (ITC), 2010.*

Figure 4.5 indicates that South Africa’s top ten importing countries were all impacted by the GFC’s ‘during’ period except for the Republic of Korea. China indicated to be the number one importer of articles of iron or steel from South Africa, followed by Germany and the USA. These countries’ trade growth figures in US Dollar Thousand value also indicated their recovery in the ‘after’ period of the GFC. Figure 4.4 and 4.5 are therefore positively correlated with one another, and is evident to influence one another in all circumstances as proven with the GFC’s impact. China contributed 31.2% to South Africa’s imports in 2010, thus a key importing market for South Africa and its economy as a determinant of economic growth.
Figure 4.6: Top ten supplying markets for articles of iron or steel imported by South Africa, 2008 to 2010

Source: International Trade Centre (ITC), 2010.

Figure 4.6 illustrates South Africa’s top ten supplying countries of articles of iron or steel between 2008 and 2010. Mozambique, Zimbabwe and Angola are the only three countries indicating that the GFC did not impact exports to South Africa for the countries with minimal increases in exports in the ‘during’ period of the GFC in 2009. This could be as a result of South Africa importing from these countries in preparation of infrastructure expansion during 2009 for the FIFA World Cup in 2010 with the stronger Rand value ‘during’ the GFC period. For the rest of the seven supplying countries, their exports were indeed adversely impacted by the GFC’s ‘during’ period with decreased export values in US Dollar Thousand, leading to the overall decrease in South African imports as seen in Figure 4.4.

South Africa’s steel trade industry was not only impacted directly by the GFC, but the ripple effect of the GFC indirectly impacted the industry through its influential position from its importing and supplying markets as well as on a national position in terms of the South African industry’s competitors.
4.5 SUMMARY

This chapter outlined the impact of the GFC on the South African steel trade industry and determined the extent of the GFC’s impact on the ‘before’, ‘during’ and ‘after’ periods of the GFC.

The South African steel trade industry was recognised as a promising growth region with its strong position in the international steel trade industry, contributing to its competitive advantage position for South Africa’s economic profile.

The five key carbon steel producers that make up the South African steel trade industry were glanced at to determine the inner-industry’s outcome in terms of the GFC periods. It was found that the GFC’s ‘before’ period in 2008 did not impact the industry itself, although in 2009, the industry was adversely impacted by the ‘during’ period of the GFC with major financial losses and decreases in demand and production. In 2010, the ‘after’ period of the GFC, the industry itself picked up with increased demand levels due to stocking up phases after the harshness of the GFC’s impact in the previous year.

The GFC’s impact on the steel trade industry was further measured on an international and national level to support the in-depth impact of this crisis on the industry itself. On an international level, it was established that the GFC’s ‘before’ period in 2008 did not impact the international trade flow of articles of iron or steel adversely. However, the ‘during’ period in 2009, corresponds with the rest of the study’s findings in terms of its impact on the South African economic growth rates, key determinants of economic growth, the influential sectors of an economy and the inter related industry’s affairs, with adverse results on the trade of articles of iron or steel in the international market. In 2010, the ‘after’ period of the GFC, international trade flows recovered with demand levels exceeding export levels.

On a national level, the GFC’s impact on the South African steel trade industry for articles of iron or steel, displayed the same results as the international market due to its influential and major position in the market as identified in this study. In 2009, the adversity of the GFC’S impact on the industry resulted in trade figures decreasing from +/-130 000 US Dollar Thousand in value to +/- 90 000 US Dollar Thousand in value with exports exceeding imports. Exports recovered faster than imports due to South Africa’s relationship with China,
a country identified as the key drive factor for the market’s demand levels internationally and nationally.

South Africa’s supplying markets and importing markets of iron or steel supported the findings of the industry’s position during the ‘before’, ‘during’ and ‘after’ period of the GFC. Therefore the overall summary that the ‘before’ period did not impact the industry, the ‘during’ period impacted the industry adversely and the ‘after’ period impacted the industry indirectly due to its recovering growth rates in trade with high demand levels.

Chapter 5 will provide the conclusion for this study as well as discuss suitable recommendations.
CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

5.2 SUMMARY AND CONCLUSIONS

5.3 RECOMMENDATIONS

"South Africa was ranked the 21st largest crude steel producing country in the world by the World Steel Association (Worldsteel) in 2010. South Africa is also the largest steel producer in Africa, producing about 47% of the total crude steel production of the continent during 2010."

5.1 INTRODUCTION

The aim of this study was set in Chapter 1, namely to determine the impact of the 2008-2009 GFC on the South African steel trade industry. For this reason, all data and literature used throughout this study, were in light of the 'before', 'during' and 'after' periods of the GFC which identified not only the impact of the GFC on the South African Steel Trade Industry, but also the extent of it. South Africa’s economy as a whole was analysed throughout this study to correlate its relevance and influence that it has on the industry and vice versa throughout the GFC periods.

This chapter will provide a summary and recommendations that were derived in this study based on the findings of this study. This chapter will also recommend areas for further research.

5.2 SUMMARY AND CONCLUSION

Research has indicated that South Africa has been adversely affected through the GFC’s presence in 2008 to 2010, identified in this study as the ‘before’, ‘during’ and ‘after’ periods of the GFC. The reason for the influence of the GFC on the South African economy is due to the country’s inter-relations with the international financial market. In order to enhance the country’s economic position on the international frontier, which would lead to several economic benefits such as increased GDP growth rates, increased foreign investment and so on, the country has to identify its sector that mostly contributes to the economy in terms of value and international presence. This sector, based on economic theories, is the trade sector of South Africa, as trade has been correlated positively with increased economic growth rates. The industry within the trade sector that is most influential on the positioning of the sector in the South African economy has been identified as the steel industry.

Chapter 1 provided the background of the study on the South African Steel Trade Industry as well as the motivation and problem statement, theoretical perspectives, literature review and research questions.
The research questions of this study were based on three set periods of the GFC. First, the impact of the GFC on the South African steel trade industry, in its introduction stage, known as the ‘before’ period in 2008. Secondly, the ‘during’ period of the GFC on the South African steel trade industry in 2009. Thirdly, the ‘after’ period of the GFC period on the South African steel trade industry in 2010. These three questions were used to assess the extent of the impact that the GFC had on the South African Steel Trade Industry, an industry identified by Porter’s competitive strategy and diamond theory, as a competitive advantage industry for South Africa.

In relation to the primary objective, the secondary objectives further narrowed the scope of this study and provided an economic profile of South Africa, as well as high contributing factors towards the country’s GDP.

The two theoretical aspects used in this chapter is the Neo-Classical Model theory that bases economic growth on the foundation of investment in relation to savings and technological innovation. This theory adds to the connotation of openness, in all aspects namely trade, policies, information etc., that a country should strive to achieve. The second aspect, the Endogenous Growth theory states that steady levels of capital and labour will result in increased levels of output that lead to economic growth. These theories add to the connotation of openness, in all aspects namely trade, policies, information, capital and more, that a country should strive to achieve, therefore identifying trade as one of the root aspects of economic growth.

Chapter 2 studied the most influential economic sector and most competitive advantaged industry for South Africa in terms of the weight it has on the economy in light of the GFC’s impact.

Both imports and exports were identified as an economic growth factor, relating to the trade sector’s importance on economic growth for a country. This also gave light to why the GFC had such an influential impact on the South African economy. Supporting and relating to the trade sector of South Africa, was the mining and agricultural sector with correlated patterns of growth during the ‘before’, ‘during’ and ‘after’ period of the GFC on the overall economy.
It was evident in this chapter that the ‘before’ period of the GFC did not have a substantial impact on these sectors, but clearly impacted these sectors adversely with decreasing growth rates, and an equally decreased GDP growth rate in 2009, classified as the ‘during’ period of the GFC. In 2010, the ‘after’ period of the GFC, showed recovering growth rates in support of the recovering GDP growth rate.

With the trade sector’s influence on the economy, a need to identify an industry supporting this sector, as well as the influence that the GFC had on this economic sector resulted to Porter’s trade theories of competitive strategy and diamond theory being discussed.

The steel industry, an industry within the trade industry also related and supported by the mining, agricultural and manufacturing sectors, was identified by Porter’s competitive strategy as a competitive advantage industry based on five influential factors of competitiveness. The trade sector was then connected to this competitive advantaged industry by Porter’s diamond theory that indicated that the trade sector of South Africa with its relation to the steel industry also possessed a competitive position based on the founding principles of the theory.

Therefore the relevance and extent of importance of the South African steel trade industry’s position in the South African economy. A signal to why the GFC had such an impact on the country and its steel trade industry.

Chapter 3 analysed the the socio-economic profile of South Africa. From a demographic point of view, population and unemployment figures rose during the three periods of the GFC, while employment decreased. The future labour force percentage of South Africa was found to decrease as overall enrolment figures for education decreased during the GFC periods. On the development side of the economy, South Africa was categorised in the Medium Human Development group, with characteristics of decreasing life expectancy figures, literacy levels and standard of living ratios. South Africa’s most recent Gini-coefficient indicated that a majority of the wealth or income are earned by lesser amount of households in comparison with the size of the population. Poverty was the only factor that was not impacted to such an extent as the rest, with poverty levels decreasing during the GFC periods.
The economic activity in South Africa was adversely impacted by the ‘during’ period of the GFC but steadily recovered in the ‘after’ period. The same statement can be made of the country’s GVA growth levels which fell to a minus in 2009 and increased to positive percentages in 2010.

A description of the study’s data was also present in this chapter. The Harmonised Commodity Description and Coding System was referred to, in order to identify the study’s appropriate HS Code that defined this study, namely HS Code 73 articles of iron or steel.

Chapter 4 focused on the South African steel trade industry that was recognised as a promising growth region with its strong position in the international steel trade industry, contributing to its competitive advantage position for South African economy.

The internal profile of the South African steel trade industry, five key carbon steel producers that make up the South African steel trade industry, was determined. The GFC’s ‘before’ period in 2008 did not impact the industry itself, although in 2009, the industry was adversely impacted by the ‘during’ period of the GFC with major financial losses and decreases in demand and production. In 2010, the ‘after’ period of the GFC, the industry itself picked up with increased demand levels due to stocking up phases after the harshness of the GFC’s impact in the previous year.

The GFC’s impact on the steel trade industry was further measured on an international and national level to support the in-depth impact of this crisis on the industry itself. On an international level, it was established that the GFC’s ‘before’ period in 2008 did not impact the international trade flow of articles of iron or steel adversely. However, the ‘during’ period in 2009, corresponds with the rest of the study’s findings in terms of its impact on the South African economic growth rates, key determinants of economic growth, the influential sectors of an economy and the interrelated industry’s affairs, with adverse results on the trade of articles of iron or steel in the international market. In 2010, the ‘after’ period of the GFC, international trade flows recovered with demand levels exceeding export levels.

On a national level, the GFC’s impact on the South African steel trade industry for articles of iron or steel, displayed the same results as the international market due to its influential and major position in the market as identified in this study. In 2009, the adversity of the GFC’S
impact on the industry resulted in trade figures decreasing from +/-130 000 US Dollar Thousand in value to +/- 90 000 US Dollar Thousand in value with exports exceeding imports. Exports recovered faster than imports due to South Africa’s relationship with China, a country identified as the key drive factor for the market’s demand levels internationally and nationally.

South Africa’s supplying markets and importing markets of iron or steel supported the findings of the industry’s position during the ‘before’, ‘during’ and ‘after’ period of the GFC. Therefore the overall summary that the ‘before’ period did not impact the industry, the ‘during’ period impacted the industry adversely and the ‘after’ period impacted the industry indirectly due to its recovering growth rates in trade with high demand levels.

This study has made the following contributions. Firstly, the sector that contributes greatly to the South African economy was identified as the trade sector. Secondly, the trade sector’s most influential industry was identified as the steel industry. Thirdly, the South African steel trade industry’s performance relevance towards the country’s overall economic welfare in terms of growth. And finally, the extent of the adverse impact of the Global Financial Crisis on the South African steel industry in 2009 and 2010, as no impact was made on the industry in 2008.

5.3 RECOMMENDATIONS

The accessibility of research on the South African steel trade industry is not adequate enough to provide the country with the needed tools to enhance their competitive advantage position in the international market. This study led to a level of input with regard to this issue. Assembling of data and locating applicable research on a national level also led to limitations, as data is not updated annually, and is not easily accessible to the public or students. Government entities and private entities could alleviate these information constraints by focusing on developing research sections within their entities, to allow access to the public as well as to stay up to date with data. More in-depth studies on this topic could also lead to a wider range of knowledge and input on economic issues.
Expanding this study could also be beneficial for the economy of South Africa with specific reference to:

- The interrelated industries that make up the steel trade industry in terms of their individual contributions to the industry itself as limited information exist on these industries as a whole.

- Conducting more research on the South African steel trade's competitors in terms of information, trends, forecast and more, to identify new opportunities for the industry itself in terms of expansion and growth.

- Promoting the South African steel trade industry on an international level through trade fairs and so on., leading to increased possible growth rates and increase trade flows for the country.

This study set the task to determine the impact of the Global Financial Crisis on the South African steel trade industry. This was accomplished firstly by identifying the steel trade industry as a competitive advantaged sector for the country’s economic growth trends. Secondly, by the measuring of the extent of the impact on the industry through three main periods indicating that the industry was indeed adversely impacted by the GFC in the ‘during’ period in 2009 and led to the country’s recovering phase throughout the ‘after’ period in 2010. Much information was obtained and the most important findings were reported in this dissertation. The major contribution of this study is that it provides South Africa, with the knowledge of an identified competitive advantaged industry in terms of realising positive economic growth rates for the future. This should be an ongoing research project, updated continually and extended to all the sectors and industries of South Africa.
REFERENCES


Relative competitiveness of different exporting markets internationally for articles of iron or steel:

<table>
<thead>
<tr>
<th>Exporters</th>
<th>Value exported in 2010 (USD thousand)</th>
<th>Trade balance in 2010 (USD thousand)</th>
<th>Annual growth in value between 2006-2010 (%)</th>
<th>Annual growth in value between 2009-2010 (%)</th>
<th>Share in world exports (%)</th>
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</table>

The top ten exporting countries of articles of iron or steel, according to export statistics in the year 2010, are represented by this table (ITC, 2010). The table consists of: the exporting country, the value exported internationally in 2010 by the particular country, the country’s trade balance in 2010, the annual growth in value between 2006 and 2010 (%), the annual growth in value between 2009 and 2010 (%) and the country’s share in world exports (%). The export value is listed in US$ as this is the exchange rate that is used to convert currencies from countries around the world.
APPENDIX B

Relative attractiveness of the different importing markets internationally for articles of iron or steel:

<table>
<thead>
<tr>
<th>Importers</th>
<th>Value imported in 2010 (USD thousand)</th>
<th>Trade balance in 2010 (USD thousand)</th>
<th>Annual growth in value between 2006-2010 (%)</th>
<th>Annual growth in value between 2009-2010 (%)</th>
<th>Share in world imports (%)</th>
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The top ten importing countries of articles of iron or steel according to import statistics in the year 2010, are represented by this table (ITC, 2010). The table consists of: the importing country, the value imported internationally in 2010 by the particular country, the country’s trade balance in 2010, the annual growth in value between 2006 and 2010 (%), the annual growth in value between 2009 and 2010 (%) and the country’s share in world imports (%). The import value is listed in USA as this is the exchange rate that is used to convert currencies from countries around the world.
APPENDIX C

Top ten importing countries for articles of iron or steel exported by South Africa:

<table>
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The top ten importing countries of articles of iron or steel according to import statistics in the year 2010, are represented by this table (ITC, 2010). The table consists of: the importing country, the value imported to South Africa in 2010, the country’s trade balance in 2010, the annual growth in value between 2006 and 2010 (%), the annual growth in value between 2009 and 2010 (%) and the country’s share in South African imports (%). The import value is listed in US$ as this is the exchange rate that is used to convert currencies from countries around the world.
APPENDIX D

Top ten supplying markets for articles of iron or steel imported by South Africa:

<table>
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The top ten exporting countries of articles of iron or steel according to export statistics in the year 2010, are represented by this table (ITC, 2010). The table consists of: the exporting country, the value exported to South Africa in 2010, the country’s trade balance in 2010, the annual growth in value between 2006 and 2010 (%), the annual growth in value between 2009 and 2010 (%) and the country’s share in South Africa’s exports (%). The export value is listed in US$ as this is the exchange rate that is used to convert currencies from countries around the world.