# GLOBAL EXPORT COMPETITIVENESS OF NAMIBIAN HIDES AND SKINS

by


## GIDEON MAWENGE

**(Student number: 200841262)**


*Thesis submitted in partial fulfilment of the requirements for the degree of*

**Master of Agribusiness Management**

in the


**Department of Agriculture and Natural Resources Sciences**
**Faculty of Natural Resources and Spatial Sciences**
**Namibia University of Science and Technology**


Supervisor: Mr Salomo Mbai

**November 2020**

NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

## Declaration

I, Gideon Mawenge, declare that the thesis, entitled GLOBAL EXPORT COMPETITIVENESS OF NAMIBIAN HIDES AND SKINS is my own original work. I have not previously in its entirety or in part submitted it at any university or other higher education institution for the award of a degree.

Signature: 

Date: 09.11.2020

NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

## Retention and use of thesis

I, Gideon Mawenge, being a candidate for the degree of Master of Agribusiness Management at Namibia University of Science and Technology accept the requirements of Namibia University of Science and Technology relating to the retention and use of theses deposited in the Library and Information Services. In terms of these conditions, I agree that the original of my thesis deposited in the Library and Information Services will be accessible for purposes of study and research, in accordance with the normal conditions established by the Librarian for the care, loan or reproduction of theses.

## Dedication

This thesis is dedicated to my family. My Father, the late Nkomboyalombe Johannes Mawenge did not only raise and nurture me but also taxed himself dearly over the years for my education and intellectual development. Incidentally he met his demise too early to witness the returns on his investments in me on 24 January 2004. His legacy shall live on to the end of time. My Mother, Kavenahoni Hilma Johannes Mawenge has been a source of motivation and strength during moments of despair and discouragement. Her motherly care, unwavering support, and sacrifice of her last penny through selling her livestock for my education is incredible. Last but not the least this thesis is dedicated to my siblings who have supported me throughout the process and never left my side. Their endless love and encouragement will be cherished forever.

**Acknowledgements**

*"There are no short cuts to any place worth going" (Beverly Sills).*

To God be the Glory! Nothing would have been possible without God's Grace.

Several people supported me in many ways, and this enabled me to carry out this study successfully. I would like to express my heartfelt gratitude for being instrumental in the success of this study.

My gratitude is also extended to my study leader, Mr Salomo Mbai, Head of Department of Agriculture and Natural Resources Sciences at Namibia University of Science and Technology (NUST) for his immeasurable professional support and academic guidance. He nurtured me into an ambitious and dedicated Agribusiness student at NUST. Furthermore, I am indebted to Dr Thinah Moyo, the Project Coordinator in the Department of Agriculture and Natural Resources Sciences at NUST for her timely and professional advice to ensure the completion of this study without compromising quality.

To my colleagues and staff members in the Department of Agriculture and Natural Resources Sciences, I am humbled by your constant motivation.

Special gratitude goes to my Mother, Kavenahoni Hilma Johannes Mawenge for her inspiration, motivation, and prayers in my academic journey. Your emotional support, encouragement and being a consistent reminder about my goals made me realise my dream. My gratitude to you cannot be expressed in words and the same goes to all my siblings for their understanding and encouragement.

Finally, I would like to leave the remaining space in memory of my late Father Nkomboyalombe Johannes Mawenge (1949 – 2004).

# Abstract

## Global export competitiveness of Namibian hides and skins

**by**

**Gideon Mawenge**

| | | |
|---|---|---|
| Degree | : | Master of Agribusiness Management |
| Department | : | Agriculture and Natural Resources Sciences |
| Study Leader | : | Mr Salomo Mbai |


Globalisation increases competitive pressure and technological changes. Agribusiness in developing economies experiences these new challenges in an attempt to globalise their operations. These challenges have a continuous effect on the competitiveness of the Namibian economy in the hides and skins sector. It is, therefore, important that the hides and skins subsector prepares for intense competition to sustain and improve its operations. Analysis of hides and skins export competitiveness is thus important to measure overall sectoral performance.

The study provides an overview of the global and local hides and skins sector before a discussion on analysed export competitiveness of Namibia's hides and skins. Four indexes were used to measure Namibia's hides and skins export competitiveness for 18 years (2001-2018), and this includes, Revealed Comparative Advantage (RCA), Index of Contribution to Trade Balance (CTB), Grubel-Lloyd Index (GLI), and Michaely Index (MI). The analysed results show that

Namibia is globally competitive in the production and export of hides and skins. RCA index results reveal that Namibia maintained its comparative advantages for 14 uninterrupted years of the analysed 18- year period. The findings of the CTB index indicate that the hides and skins sector contribution to the overall trade balance is negative and there is no real surplus. The analysis of the GLI index reveals that in general, Namibia exports the same quantity as much as it imports for most of the hides and skins commodities. Results of the Grubel-Lloyd Index indicate that Namibia has a higher complementarity in the production and export of hides and skins. The results of the GLI index also show that Namibia has a great potential to increase its export competitiveness through improved production of hides and skins.

A paradigm shift is needed for Namibia to further enhance and maintain its export competitiveness of hides and skins. Overall contribution to trade balance showed a negative trend and this situation should be improved through increased production and export to enhance competitiveness. Increased off-take by improved production will significantly lead to more exports of hides and skins.

Communal farmers who are still practicing cultural livestock rearing, keeping large heads of livestock as a sign of wealth, need to be mentored on the importance of commercialising farming practices and value addition to hides and skins. A transformation strategy to change farmers' traditional farming philosophy should be established to enable farmers to practice commercial farming in a communal set up. Strategies such as frequent monitoring and evaluation, coaching and advice will help to inculcate modern farming practices into farmers' mind-sets to improve production, processing, and trade.

Key role players in the hides and skins sector need to be capacitated through technical, financial, and infrastructural support to improve flying and drying of hides and skins. Value chain actors should be informed of economic importance of hides and skins, how their role (as livestock producers, hides and skins processors) contributes to the quality of end products considering practiced farming systems.

The government should formulate policies to regulate the hides and skins sector with tailor-made management strategies at all levels of the value chain. Emphasis should be put on value addition, marketing, skilled workforce, sustainable animal husbandry, disease management strategies, improved slaughtering facilities and practices, preservation and handling procedures, tanning, and processing techniques and facilities.

***Keywords:*** *Competitiveness, Leather sector, Livestock, Hides and skins, Leather value chain.*

# Table of Contents

# LIST OF FIGURES

# LIST OF TABLES

# ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| COS | Company Operations and Strategies |
| CTB | Index of Contribution to Trade Balance |
| FDI | Foreign Direct Investment |
| GAIN | Global Agricultural Information Network |
| GCI | Global Competitiveness Index |
| GDP | Gross Domestic Product |
| GLI | Grubel-Lloyd Index |
| GNP | Gross National Product |
| HS | Harmonised Commodity Description and Coding System |
| ITC | International Trade Centre |
| MAWF | Ministry of Agriculture, Water and Forestry |
| MI | Michaely Index |
| MITSMED | Ministry of Industrialisation, Trade, and SME Development |
| N$ | Namibian Dollar |
| NCA | Northern Communal Area |
| NDP5 | 5$^{th}$ National Development Plan |
| RCA | Revealed Comparative Advantage |
| SSA | Sub-Saharan Africa |
| SSMS | Small Stock Marketing Scheme |
| TM | Trade Map |
| UNIDO | United Nations Industrial Development Organisation |
| USD | United States Dollar |
| VCF | Veterinary Cordon Fence |
| WITS | World Integrated Trade System |

# CHAPTER 1
# INTRODUCTION

## 1.1 Background

Globally, leather is one of the widely traded commodities that significantly contribute to the world's economy estimated to about USD[1] 100 billion global trade value per annum (UNIDO, 2010). Growing world population and the general increase in wealth result in increased demand for meat proportionally leading to the supply of animal by-products viz. hides and skins. According to Wangui (2016) and Leach & Wilson (2009), the term "hide" designates the external surface layers of large animals like cattle, while "skin" signifies the external surface layers of small animals like goats and sheep pointing to a renewable resource of national and international significance. Hides and skins start with animal husbandry and end with its recovery from slaughtered animals on farms and in slaughterhouses. Bovine hides, sheep and goat skins are the principal hides used and processed in tanneries before becoming leather used for technical products and upholstery (Memedovic & Mattila, 2008). Approximately, 65 percent of all leather comes from bovine material (UNIDO, 2010). According to Adem (2019), the words "hides and skins" are often used interchangeably; however, according to the British standard definitions, hide is the raw skin of mature animals of larger kinds, such as cattle, buffalo, horse, and other such large animals. Skin is the skin of fully-grown animals of smaller kinds, such as goats, sheep, pigs, reptiles, and birds (Gebrehiwot, 2017).

[1] Currency abbreviation for the United States of America Dollar.

In 2012, livestock production accounted for 36 percent global gross value of agricultural production while in developing countries like Namibia where population growth increases, consumption of meat as a livestock product grew at an annual average rate of 5.1 percent from 1970. However, growth rates have been on the decline up to 2.9 percent between 1997 and 2007, down from 6.1 percent in the preceding ten years (Alexandratos & Bruinsma, 2012). Such declines are as a result of different environmental elements both natural and human-caused.

In Africa, the common problem with the hides and skins value chain is the poor quality of raw materials, lack of efficient marketing structures, lack of incentives for quality production of hides and skins and export of raw and semi-processed hides and skins (Wangui, 2016). Hides and skins are animal end products of vital significance for any country at a national and international level. The production of hides and skins provides marketing opportunities and generate income to support and sustain livelihoods, especially in rural areas of developing countries like Namibia. Hides and skins account for a significant portion of the value of livestock output and for some countries, it is an important source of foreign exchange earnings. It is generally observed that the full potential of hides and skins as a product is not realised in most countries because of several reasons, the most important being low quality of the product produced with consequent poor demand in both domestic manufacturing industries and in the export market (Jabbar, Kiruthu, Gebremedhin, & Ehui, 2002).

Namibia whose name is derived from the Namib Desert which forms much of the country's territory is one of the driest nations on earth (NPC, 2018). Namibia's projections towards the real Gross Domestic Product (GDP) and GDP per capita is expected to expand between 4-5 percent annually and reach N$ 56,000 (USD 4,300) by 2022 respectively (NPC, 2018). Over the entire NDP5[2] period 2018 – 2022, the economy is projected to create about 200,000 jobs of which agriculture will be the single largest employer at 30 percent of the total employment. As an upper-middle income country, Namibia aims to graduate to a high-income country

[2] Namibia's 5th National Development Plan.

status according to this economic scenario. Middle-income nations risk stalling economically if they are unable to compete against advanced economies with high levels of innovation and value-adding activities, and at the same time, are unable to compete with less developed economies that offer relatively cheaper labour.

Namibia is a small and open economy with a total population of 2.4 million in 2017. In addition to the small population, the extremely unequal distribution of wealth and income limits the demand for domestically produced goods and services. In order to exploit economies of scale, companies need to explore export markets. Imports and exports combined accounted for 102.6 percent of GDP in 2017, which is below previous years' averages (Schade, 2019). Namibia is a small country in terms of the population but big in terms of land with a total area of about 824 000 $km^2$ of which 83.5 percent is available for agricultural land use (MAWF, 2018). The country is one of the youngest states on the African continent, gaining independence on 21 March 1990 after a century-long struggle against colonialism and apartheid. It is the driest country south of the Sahara, which has impacted not only on agricultural development but economic development at large and the location of investments. Being an arid country, it has various environmental constraints viz. bush encroachment and natural calamities like the recurring drought and poor rainfall affecting livestock producers and therefore affecting the production of hides and skins as end products. The situation is further exacerbated by farmers' diversification from livestock production to tourism and game farming significantly affecting hides and skins production. Therefore, Namibia can be regarded as being agriculturally unfriendly compared to other Southern and Central African countries.

Although the hides and skins industry is slowly growing, it is important to note that the leather value chain contributes roughly N$ 2.5 billion to the Namibian economy and has created approximately 2,071 jobs (MITSMED, 2015). In 2016, the agricultural sector remained the second main source of income for many households and was the largest employer by 20.1 percent. Currently, the sector employs one-third of the workforce with a marginal contribution of 3.8 percent to GDP. According to the report (Global Hides and Skins Market, 2008), the hides

and skins sector contributed about 12 percent to the total global export bill review of 2004-7 and Namibia contributed about 0.7 percent to the global market share. Namibia is a small player in the hides and skins sector at both regional and global levels, but also the relatively small livestock population in the country estimated at 6,650,045 in 2015 (Global Hides and Skins Market, 2008).

The Namibian economy fell heavily as it shrank by 2.6 percent between April and June 2019 resulting in the 11$^{th}$ consecutive quarter with no growth. One of the main contributors to the continued slump is the agricultural sector which significantly dropped by 28.1 percent (Erastus, 2019). However, the agriculture and fishing sectors absorbed the largest share of the labour force, although its share decreased by more than 9 percentage points from 29.5 percent in 2014 to 20.1 percent in 2016 (Schade, 2019). More than 74,000 jobs were lost in these sectors over the period as a result of severe droughts in Namibia, especially in the communal areas. Surprisingly, despite a growing body of literature on livestock marketing in Namibia, MITSMED (2015), argued that not much is known about the marketing of hides and skins owing to a limited number of studies on the sector.

There are many categories of hides and skins according to species such as bovine (cattle) hide, sheepskin, pigskin, goat and kidskin, ostrich skin, wild animals' skin, and reptiles' skin. However, this study will only focus on bovine hides, sheepskin, goat, and kids' skins. This study will analyse Namibia's competitiveness of hides and skins export on the global market.

## 1.2 Problem statement and motivation

Trade liberalisation increased emphasis in primary and processed products, influenced an increase in the global market, and significantly changed the concept of competitiveness. Paradigms in global trading regime and changes in trade policies forced producers to position themselves as capable competitors in the global free market environment to increase their market share.

Historically, most African countries lack competitive export capacity for the products they produce, and since manufacturing is a complex issue, the establishment and running of tanneries in these countries largely depended on the protection against competition they obtained from their governments (Wangui, 2016).

In Namibia, livestock rearing is the most important agricultural economic activity by far. However, Namibia does not have a regulatory mechanism for the hides and skins trade other than veterinary requirements for exports and more particularly for raw material movement from the quarantine area in the north to the south crossing the Veterinary Cordon Fence (VCF).

Namibia is ranked the 90$^{th}$ most competitive nation out of 137 countries in the world (Davos-Klosters, 2018). Competitiveness rank in Namibia averaged 83.42 from 2007 to 2018, reaching an all-time high figure of 92 in 2013 and a record low figure of 72 in 2007. Namibia needs to grow and maintain its global market position in hides and skins. On the contrary, Namibia's competitiveness of hides and skins export on the global market is not yet known. To date, there is no known study that was carried out to investigate the competitiveness of Namibia on the export of hides and skins. Existing reports on Namibian livestock sector focuses more on livestock sales (live/carcass) including value addition to a certain extent of carcass cuts and processed meat with assumptions of the sector players having control over the entire value chain. These have resulted in the exclusion of commercial production of hides and skins, its value addition and leather production as immediate end products not to be properly documented. There is, therefore, a lack of market intelligence and baseline data crucial for monitoring and evaluating the competitiveness of Namibia's hides and skins on the global market. The lack of adequate and accurate market intelligence related to trade data and statistics leads to poor decision making for this market segment.

To address the dearth of information on the export competitiveness of Namibia's hides and skins on the international market, this study analyses the hides and skins performance on local and global markets. Henceforth, there is a need to determine

and promote the competitiveness of Namibia's hides and skins market for effective decision making and market penetration drawing the basis of this research.

Namibia's hides and skins competitiveness in the international market is not well documented and needs further investigations and promotion to shed more light on the country's performance and market share. Despite these facts, insufficient attention is paid to the analysis of Namibia's hides and skins export competitiveness on the international market. It is within this context that this study focuses on providing insight into the export competitiveness of Namibia's hides and skins on the global market.

Special attention is given to:

- Outlining the competitiveness of hides and skins on the international market,
- Analysing the hides and skins market in Namibia,
- Benchmarking hides and skins on the international market,
- Determining Namibia's share in the international market,
- Promoting competitiveness of Namibia's hides and skins on the global market, and
- Understanding the performance of hides and skins at local and international markets.

Results of the competitiveness indicators can be used towards evidence-based policymaking to maintain and/or improve the trade performance of hides and skins. In addition, the research results can be used to promote competitiveness on the global market.

## 1.3 Objectives

The primary objective of this study is to analyse the hides and skins export competitiveness of Namibia on the international market. To reach the primary objective, several secondary objectives need to be met, namely to:

- Present an overview of the current production and trade situation of hides and skins in Namibia and globally.
- Analyse export competitiveness of hides and skins sector on the international market.
- Measure contributions of the hides and skins sub-sector to the National Trade Balance.
- Analyse the degree of specialisation of Namibia in the export of hides and skins.

## 1.4 Methodology and data used

The material required for achieving the relevant outputs from secondary data were obtained based on an analysis of available literature dealing with export competitiveness problem of sectors and countries and based on foreign trade statistics of the Namibian hides and skins sub-sector. The present research of competitiveness is based on using statistical methods to assess comparative and competitive advantages. In fact, there is not only one indicator comprehensively expressing the level of competitiveness. Some indicators are only applicable to the entire economy, some may measure competitiveness at the level of a country as a whole as well as at lower levels of economic structures (Sujova, Hlavackova, & Marcinekova, 2015).

Based on the study of literature and methodologies of international organisations dealing with the evaluation of competitiveness at different levels, a system of indicators was developed for evaluating the competitiveness of the sector and its internal structure. Thus, this study applied theoretical and empirical principles of Revealed Comparative Advantage (RCA), Index of Contribution to Trade Balance (CTB), Grubel-Lloyd Index (GLI), and Michaely Index (MI) to better understand the competitiveness and export of hides and skins in Namibia using four digits Harmonised Commodity Description and Coding System (HS) of raw hides and skins of bovine (4101), raw skins of sheep or lambs, fresh, or salted, dried, limed, pickled or otherwise preserved (4102), tanned or crust hides and skins of bovine

"incl. buffalo" or equine animals (4104), tanned or crust skins of sheep or lambs, without wool on (4105), and tanned or crust hides and skins of goats or kids, pigs, and other animals (4106) data from 2001 to 2018. Trade data was obtained from the International Trade Centre (ITC), the Trade Statistics for International Business Development.

Trade data on locally sold and exported heavy, medium, and light bovine (cattle) hides and skins (goats and sheep) were obtained from the United Nations commodity trade statistics (UN COMTRADE), measured to determine their competitiveness on the international market. The data series used in this research was from 2001 to 2018 due to data availability and dynamic situations experienced during those years.

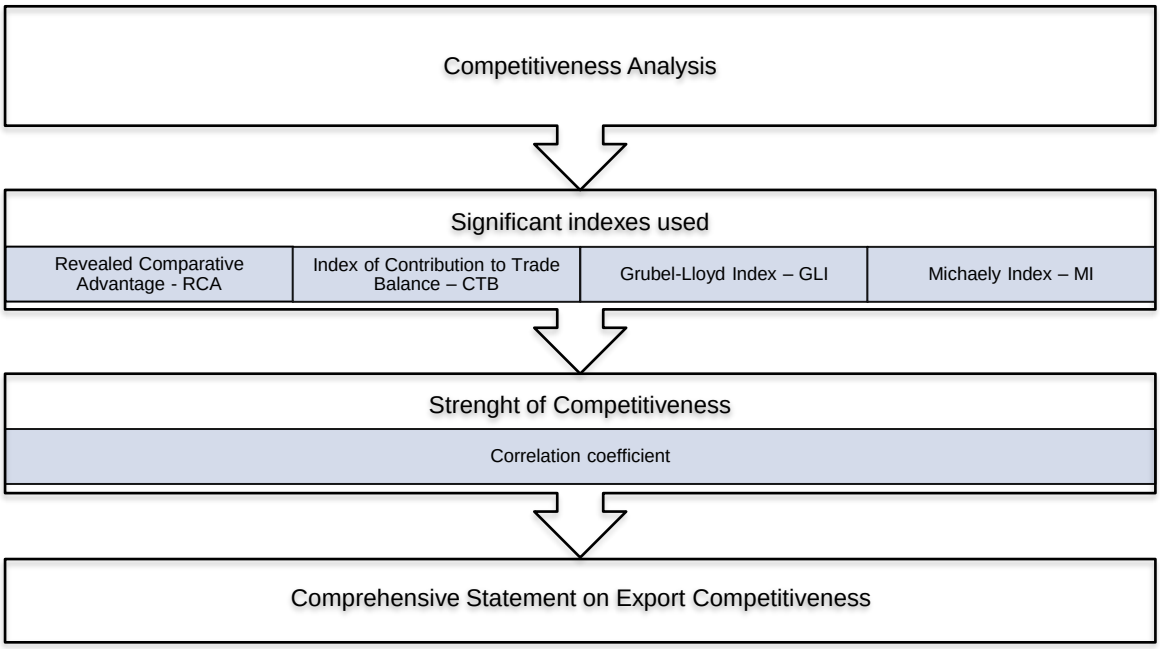


**Figure 1.1: Framework for measuring competitiveness**

Source: Author's own computation.

## 1.5 Chapter outline

The study is outlined in the following chapters:

**Chapter 1** under review.

**Chapter 2** comprises of literature review, hides, and skins competitiveness at local and international levels, challenges faced by the sector and suitable strategies to overcome identified shortcomings.

**Chapter 3** depicts the international and local overview of hides and skins.

**Chapter 4** demonstrates the competitiveness indicators used in the study to measure the comparative and competitive advantages of hides and skins export.

**Chapter 5** measures Namibia's export competitiveness of hides and skins and analysed the country's comparative and competitive advantage.

**Chapter 6** provides a conclusion, recommendations, further research interactions, and action plans.

# CHAPTER 2

# LITERATURE REVIEW

## 2.1 Introduction

Given the rapid technological change, political polarisation, and a fragile economic recovery, it is critical that we define, assess, and implement new strategies and approaches to growth and prosperity (Schwab, 2018). With productivity, being the most important determinant of long-term growth and income, more light should be shed on newly emerging elements critical for sustainable productivity of an economy as a proxy to competitiveness. This chapter is devoted to thorough discussions starting with defining competitiveness as seen by amongst others; (Gonfa, 2012), and Porter (1990), followed by deep dives into understanding the complexity of competitiveness at the national and international levels. Challenges faced by the hides and skins sector and counter competitiveness factors to overcome the identified challenges are discussed in detail before the chapter concludes.

## 2.2 Definition of competitiveness

Over the last decades, economists and policymakers have been trying to thoroughly understand the core concepts of competitiveness and its key role in improving economic well-being and wealth distribution (Gonfa, 2012). However, the debate of competitiveness in both academia and policy remains hobbled by confusion about what the term means (Delgado, Ketels, Porter, & Stern , 2012). Hallatt (2005) cited Porter (1990) that, the most important factor for

competitiveness is the nation's productivity, although it is not the only factor needed to make a country competitive at a global level mainly because of technology. Gonfa (2012) also quoted Porter (1990), defining competitiveness at macro-level; *"competitiveness is identified with a steady upward trend measured by GDP growth, productivity of resources and factors of production growing in the macro-terms, and economic expansion onto the international market (enlargement of existing markets as well as entry into new market), that is, with the capacity of offering new, better and cheaper goods and services in a competitive environment"*.

Schwab (2015) argued that trade and investment integration can improve competitiveness through two channels: firstly, by increasing available market size to local firms; and secondly, by driving productivity and innovation, exposing firms to international competition, expertise, and technology (Figure 2.1). Hoffman (2005), argued that competitiveness is defined by the dictionary as an individual and/or firm striving against others to attain a goal. Hoffman (2005) further cited the National Competitiveness Council of Ireland defining competitiveness as the ability to achieve success in markets leading to better standards of living for all people. According to Porter, Delgado, Ketels, & Stern (2008), competitiveness is measured by productivity. Productivity depends on the value of the nation's products and services measured by the prices they can command in open markets and the efficiency with which these products can be produced. Productivity supports high wages, a strong currency and attractive returns to capital resulting in a high standard of living. Therefore, prosperity is determined by the productivity of an economy, which is measured by the value of goods and services produced per unit by the nation's human, capital, and natural resources.


**Figure 2.1: Defining competitiveness**

Source: Porter (2017).

Competitiveness is born from a number of factors, notably firm-level competitiveness and a supportive business environment that encourages innovation and investment, which, if combined leads to strong productivity growth, real income gains and sustainable development. Auzina-Emsina (2014) argued that labour productivity and economic prosperity are key factors to any economy. Labour productivity depends on the availability and quality of labour resources and technologies applied heavily influencing the production process and production costs. We, therefore, need a new perspective and approach to competitiveness that grows directly out of an analysis of internationally successful industries, without regard for traditional ideology or current intellectual fashion to know what works and why and then we need to apply it (Porter, 1990). A nation should be competitive to the extent that firms operating there are able to compete successfully in the national and global economy while maintaining or improving wages and living standards for the average citizen. Successful economic development requires improving competitiveness at national and global export levels.

## 2.3 What is competitiveness at global and national levels?

In section 2.2 definition and foundation of competitiveness was discussed. Section 2.3 discusses global and local levels of competitiveness.

### 2.3.1 Global competitiveness

#### 2.3.1.1 Global investment attractiveness

A nation's competitiveness becomes pivotal based on the ability of that country to attract investment. According to Delgado *et al.* (2012), investment inflows influence economic dynamism and growth, even if they are not in any simple way related to prosperity. Thus, global attractiveness is a location's foundational competitiveness relative to the cost of factor inputs. Delgado *et al.* (2012) cited Porter (2006) that, this concept measures whether a country's cost levels can be supported by its underlying competitiveness, because countries with low factor costs relative to foundational competitiveness are more likely to be attractive for investment resulting in more rapid growth, while countries with high costs relative to competitiveness, may find sustaining levels of prosperity challenging. As a measure of the gap between competitiveness and factor costs, global investment attractiveness is a diagnostic for understanding the dynamics of foreign direct investment, international trade patterns, and potentially pressures on exchange rates. In open markets, the imbalances between costs and foundational competitiveness should disappear over time, with wages adjusting up or down. But the labour market structures in many countries can allow such imbalance to persist over time, making differences in global attractiveness an important empirical feature of international competitiveness.

A comparative analysis of the results for 2007 and 2015 in Table 2.1 can help us understand how the global financial crisis has created new obstacles for doing business across the world. This highlights previous existing weaknesses and how they changed the priorities of firms in countries at all stages of development. Strict regulations in the banking sector and uncertain economic prospects makes it

difficult, especially for small and medium-sized enterprises to obtain finance. Access to finance is now almost as problematic in advanced as in developing economies, where it has risen from 3rd in 2007 to become the number 1 priority in 2015 as depicted in Table 2.1 and Figure 2.2 below.

**Table 2.1: The most problematic factors for doing business in 2007 and 2015: Global crisis impacts**

| ADVANCED ECONOMIES | | | |
|---|---|---|---|
| 2007 | | 2015 | |
| Factor | Score* | Factor | Score* |
| Government bureaucracy | 13.6 | Government bureaucracy | 14.2 |
| Restrictive labor regulations | 13.6 | Tax rates | 13.1 |
| Tax rates | 11.9 | Restrictive labor regulations | 12.8 |
| Complexity of tax regulations | 10.7 | Access to finance | 10.8 |
| Inadequately educated workforce | 9.0 | Complexity of tax regulations | 8.8 |
| **EMERGING MARKET AND DEVELOPING ECONOMIES** | | | |
| 2007 | | 2015 | |
| Factor | Score* | Factor | Score* |
| Government bureaucracy | 12.3 | Access to finance | 11.7 |
| Corruption | 11.4 | Corruption | 11.4 |
| Access to finance | 9.8 | Government bureaucracy | 11.3 |

Source: Schwab (2015).

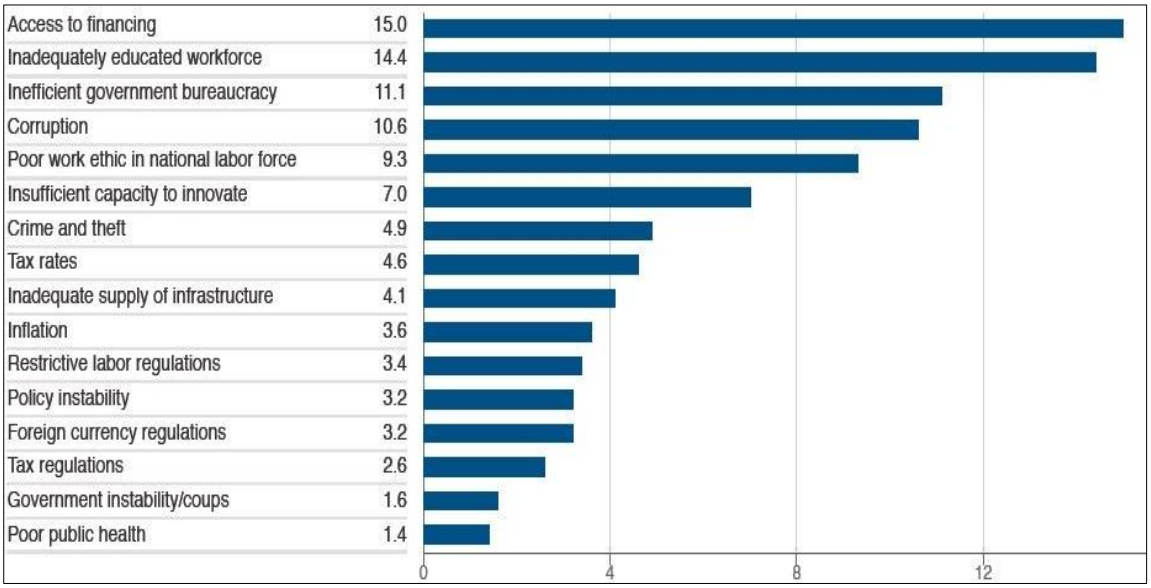


**Figure 2.2: Most problematic factors for doing business: Namibia**

Source: Schwab (2015).

The top four problematic factors for doing business in Namibia are access to finance, inadequately educated workforce, inefficient government bureaucracy, corruption, and poor work ethics in the national labour force. The factors listed in Figure 2.2 are important as they affect any firm's operations and contributions to production and export of goods.

### 2.3.2 National competitiveness

There is no universally accepted definition of competitiveness as applied to a nation, because, the concept of a competitive enterprise is clear, while the concept of a competitive nation is not. Many schools of thoughts exist with different concepts that define national competitiveness. The main reason for the multiplicity of definitions of national competitiveness is the complexity of the term; its composite character; moreover, the system concept of the category itself. Competitiveness is a complex multidimensional concept. At some point, according to one of the world's leading authorities on competitiveness and economic development Professor Michael Porter as praised by Snowdon and Stonehouse (2006), national competitiveness is defined as a function of cheap and abundant labour. Contrary, Germany, Switzerland and Sweden have prospered with high

wages and labour shortages. Others argue that competitiveness is linked with bountiful natural resources, while countries like Germany, Japan, Switzerland, and Singapore, just to mention a few, have all succeeded beyond a reasonable doubt with limited resources (Porter, 1990). Sujova, Hlavackova, & Marcinekova (2015) defined competitiveness as the ability of the firms, industries, regions, nations and transnational regions to generate a high level of income and employment, while exposed to foreign competition. Today, the competitiveness of countries and industries in the world markets is the basis for the theory of international trade and economic growth, while in comparison with classical and the neoclassical economic theory of international trade, it highlights innovative, realistic sources of trade and economic development.

Porter (1990), stated that the only meaningful notion of competitiveness at national level is productivity, because, productivity is the prime determinant of a nation's long-run standard of living and the root cause of national per capita income with which labour and capital are employed. This is validated by literature that identified productivity as the central driver of cross-country differences in prosperity (Delgado *et al*. 2012; Hall & Jones, 1999 and Lewis, 2004).

A nation's standard of living depends on its companies' capacity to achieve and sustain increasing productivity levels over time to upgrade its economy continuously and ceaselessly. A prerequisite to improved productivity is improving product quality, adding desirable features, and boosting production efficiency. Therefore, national companies must develop capabilities to compete more in existing and new sophisticated industries. According to Porter (1990), we must therefore understand the determinants of productivity and its rate of growth by focusing on specific industries and their segments as to how and why commercially viable skills and technology are created. When a national environment is conducive and supports rapid accumulation of specialised assets and skills affords better ongoing information and insight into products development and process needs pressures innovation and investments, companies gain both competitive advantages and upgrade those advantages over time.

Porter *et al.* (2008) indicated in the 2008 Global Competitiveness Report that, assessing a country's competitiveness is a challenging task because of the wide-ranging number and variety of influences on national productivity. Different datasets and alternative econometric approaches have led to different and often conflicting claims about the specific drivers of competitiveness. To measure competitiveness across countries, Porter *et al.* (2008) took a decision to develop a new approach in order to calculate the Global Competitiveness Index (GCI) to reveal the important new insights into the causes of competitiveness. Therefore, the underlying causes of productivity are three overall building blocks of the framework: **endowments**, **macroeconomic competitiveness**, and **microeconomic competitiveness** (Figure 2.3). Theory and empirical evidence suggest that many things matter for competitiveness (Porter *et al.* 2008). Thus, improving a country's position requires improvement of interrelated elements and factors not just influencing one or two isolated weaknesses.

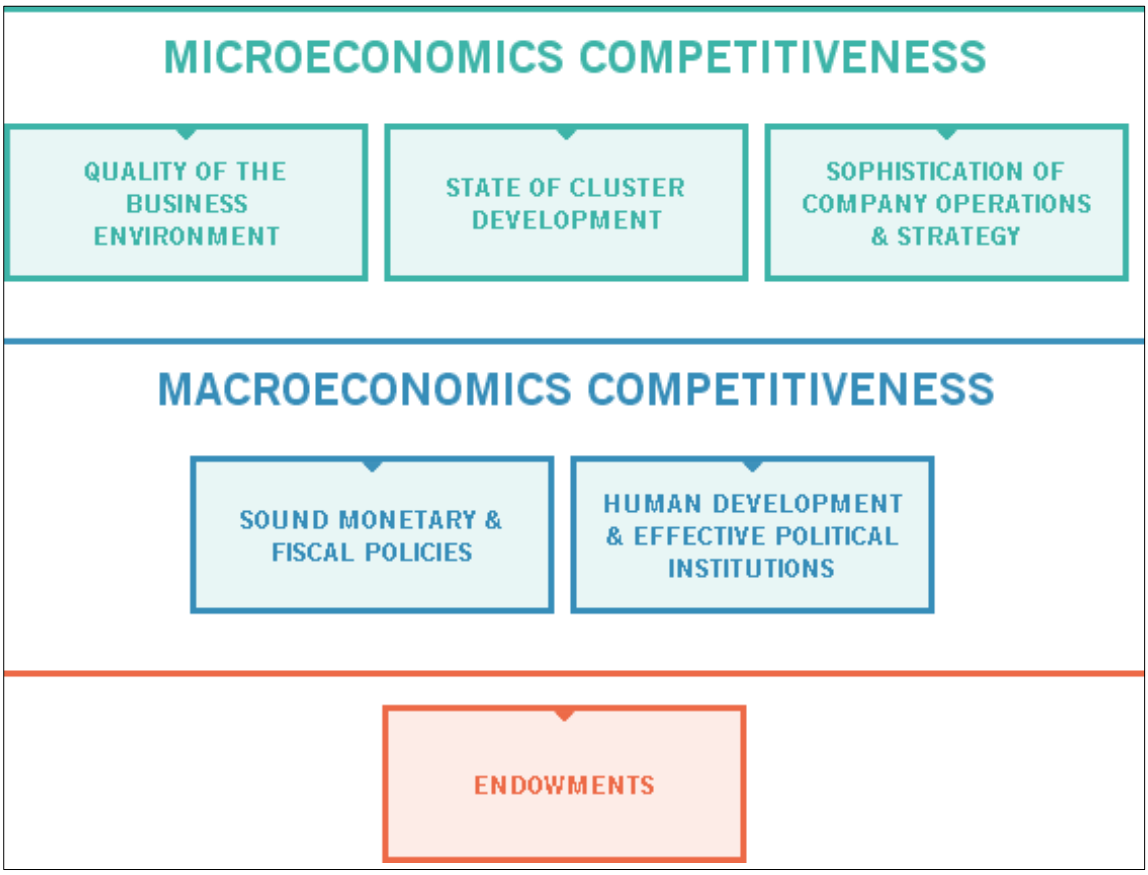


**Figure 2.3: Foundations of productivity**

Source: Porter (2017).

“Productivity ultimately depends on improving the microeconomic capability of the economy. Many things matter; there is no silver bullet.” (Porter, 1990).

Endowments affect prosperity directly through inherited natural resources, geographic location, or a large home market. Access to valuable resources has positive effects such as export revenues appreciating exchange rate, that in turn drives production factors into local activities like retailing that have lower long-term potential for productivity growth. A country’s geographic location is another possible external factor influencing wealth because living in proximity to the equator exacerbated by climatic conditions that expose a country to tropical diseases might lead to lower agricultural productivity. The country size and population affect prosperity, despite little empirical evidence on direct effects of country size on growth (Porter *et al.* 2008).

#### 2.3.2.1 Macroeconomic competitiveness

Macroeconomic competitiveness is determined by a relationship between the nature of a range of institutions and prosperity encompassing *macroeconomic policy*, *social infrastructure,* and *political institutions* (Delgado *et al.* 2012). Macroeconomic policies involve fiscal and monetary policy. Fiscal policy, being government spending and financing decisions, has an impact on short-term fluctuations of economic activity. Empirical literature suggests that the impact of fiscal policy on long-term productivity differences is weak, especially after controlling for the quality of political institutions. Monetary policy, especially the level of the money supply, is usually treated primarily in the context of short-term fluctuations in economic activity. Monetary policy can also have long-term effects: high and volatile inflation can, for example, render price signals hard to interpret and thus distort decisions away from investments that lead to higher productivity. According to Porter *et al.* (2008), social infrastructure and political institutions have three main dimensions: *human capacity*, *political institutions,* and *rule of law*. There is an emerging consensus that institutions have a strong effect on productivity, especially when accounting for their endogenous effects on other economic and social policies.

Delgado *et al.* (2012) further stated that more studies validate that a significant sustainable relationship between the nature of institutions and prosperity include quality of governance, the impact of corruption, education, health care and public safety as overall social infrastructure is necessary to enable productive economic activity. This is confirmed by the negative impact the afore-mentioned elements have on the national economy. Lack of literacy would reduce the activeness of the community to participate in economic activities, while epidemic diseases would result in unproductive communities as they will concentrate on sustaining their basic health.

#### 2.3.2.2 Microeconomic competitiveness

Microeconomic competitiveness encompasses factor conditions with a direct influence on enterprise productivity and labour force mobilisation. Quality and quantity affect company creation and productivity. Physical infrastructure plays an important role in productivity though according to Delgado *et al.* (2012), it remains unclear about the size of its effect. Business formation and productivity requires quantity and quality of workforce training, higher education, managerial education, and economic research to enhance economic prosperity. According to Delgado *et al.* (2012), company productivity, influenced by innovation incentives, and high levels of competition are very crucial for high company performance.

Openness to international competition through trade and investment enables nations to improve local productivity, access advanced knowledge and technology from abroad which gives an opportunity to local firms to be exposed to high levels of competitive pressure (Delgado *et al*. 2012). Prior studies have suggested geographic location, natural resource deposits, and country size as endowments that affect prosperity. The sophistication of Company Operations and Strategies (COS) of enterprises operating in a country, including production practices, marketing, organisational practices, and extent of internalisation significantly contributes to national economic growth. Clearly the productivity of an economy at

a national level is the sum of the productivity of firms in that specific economy or country.

Microeconomic competitiveness is distinguished in three broad categories namely, the sophistication of company operations, quality of the business environment and state of cluster development (Figure 2.4).

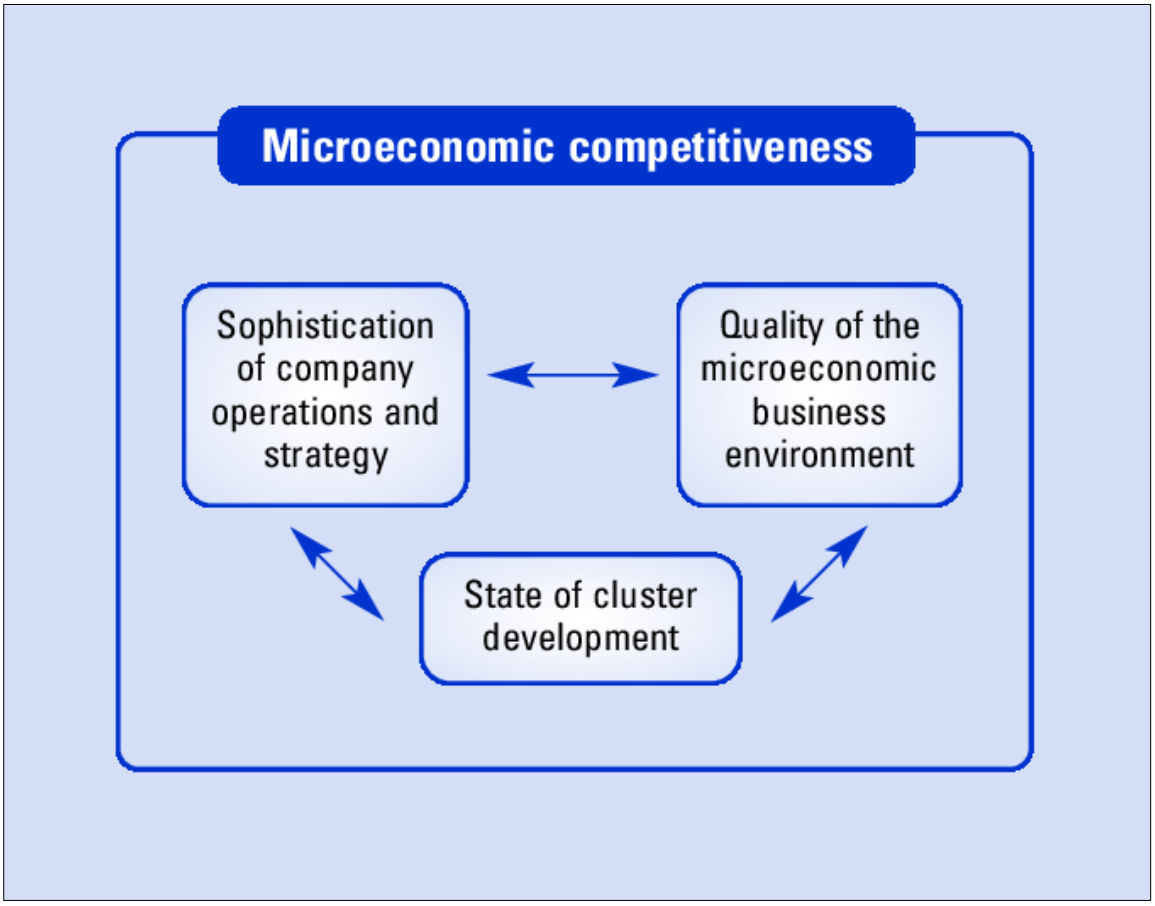


**Figure 2.4: Microeconomic competitiveness**

Source: Porter *et al.* (2008).

*Company sophistication* is measured by company strategies and operational practices on economic growth. Porter *et al.* (2008) states that, a country's economy can only be competitive if its companies are competitive because productivity rises based on the improved operational effectiveness of activities and assimilation of world best practices. These involve achieving distinctive strategies, unique products, innovative means of productivity and service delivery.

*Business environment quality* refers to more highly skilled workforce, more efficient administrative infrastructure, improved physical infrastructure, better suppliers, more advanced research institutions, and more intense competitive pressure (Porter *et al.* 2008). The business environment is understood in terms of four interrelated dimensions: the quality of factor (input) conditions, the context of rules in which the firm strategy and rivalry take place, the quality of local demand conditions and, the presence of the related and supporting industries strongly represented by deep clusters. The four areas are collectively referred to the "*diamond*" because of their geographical representation (Figure 2.5).

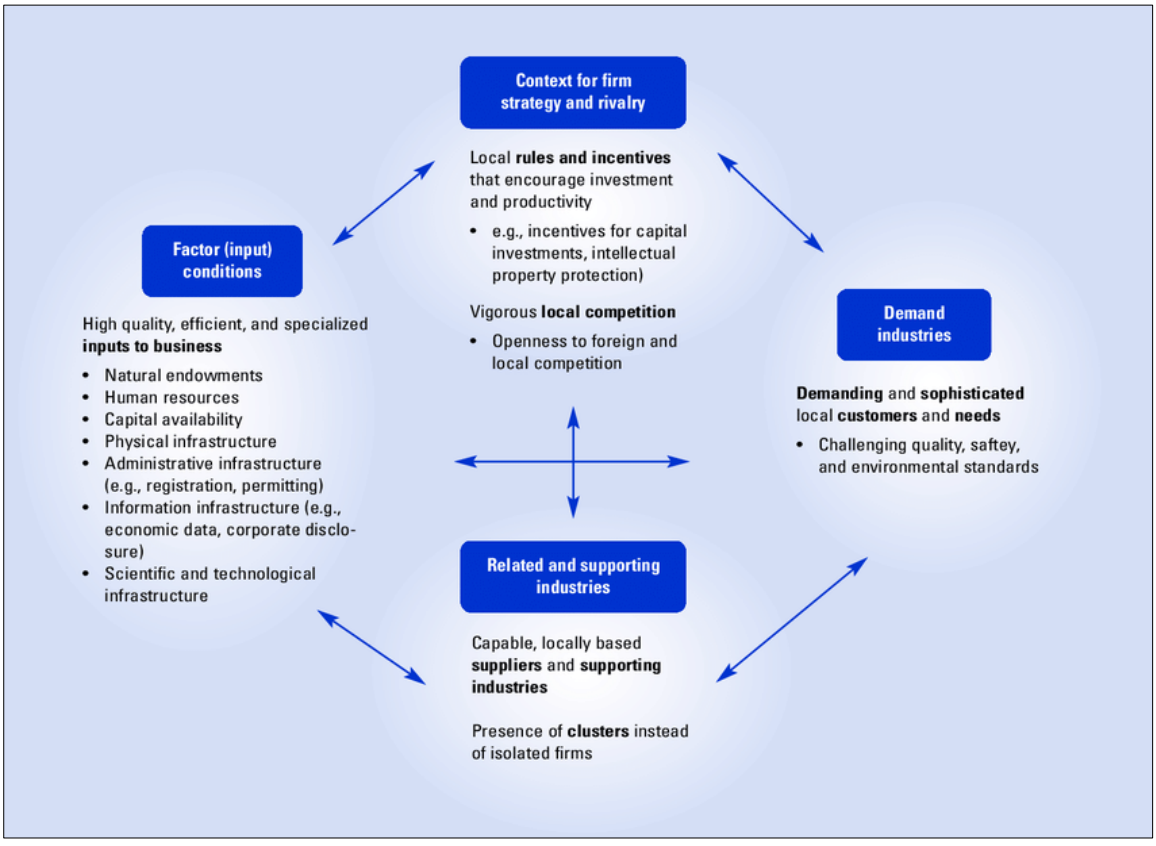


**Figure 2.5: The diamond: Business environment quality**

Source: Porter *et al.* (2008).

*Clusters* offer an intermediate unit of productivity drivers between general *business environment quality* and *firm-level of sophistication*. Clusters contribute to the international economy, with an increasingly significant role, where competitive firms serve wider markets unprotected by national borders.

*The diamond refers to the environmental quality* competitiveness of businesses and is assumed to be related to the performance of other businesses. The diamond model helps firms to identify factors that can build advantages at national level and establish how they can translate national advantages into international advantages. Successful economic development is a process of successive upgrading, in which the business environment improves to enable increasingly sophisticated ways of competing.

## 2.4 Challenges faced by the hides and skins sector and recommended actions

### 2.4.1 General production challenges faced by economies

Schwab (2017) stated in the Global Competitiveness Report that the GCI highlights three main challenges and lessons relevant to economic progress, public-private collaboration, and policy action: firstly, financial vulnerabilities pose a threat to competitiveness and to economies' ability to finance innovation and technological adoption; secondly, emerging economies are becoming better at innovation but more can be done to spread the benefits; thirdly, labour market flexibility and worker protection are needed for competitiveness and shared prosperity in the Fourth Industrial Revolution. Further challenges faced by the economies is productivity slowdown, caused by the traditional GDP measurement that fails to account for much of the value created in recent years. Another possible contributor to declines in aggregate productivity is the reallocation of resources towards less-productive sectors. Schade (2019) states that Namibia currently does not have the capacity to supply large mass markets like the USA. It is therefore important to produce distinguishable commodities from goods imported from other countries and regions and to identify and target specific niche markets. In this respect, the branding and labeling of Namibian products play an important role. Certification, including eco-certification, by internationally-recognised organisations such as fair-trade bodies and the Forest Stewardship Council (FSC) could be an additional strategy to distinguish Namibian goods from other products.

### 2.4.2 Hides and skins sector challenges

It is generally observed by several academics and economists (Jabbar, Kiruthu, Gebremedhin, & Ehui, 2002) that the full potential of hides and skins is not realised in most countries because of several factors. The most vital factor being low product quality and low demand in domestic manufacturing industries as well as in the export market. Other factors influencing the quality of hides and skins are mainly low off-take rates, low yields, and non-collection of a significant proportion of hides and skins. These factors result in much lower African shares of global hides and skins production relative to the share of different species of livestock populations. Jabbar *et al.* (2002), stated that the African hides and skins carry a poor image in the global market because of various drawbacks found at different stages of the production chain viz. animal husbandry and disease management, slaughtering facilities and practices, post-slaughter preservation and handling, and tanning and processing techniques and facilities (Table: 2.2).

#### 2.4.2.1 Animal husbandry and disease management

In Africa, especially in Tanzania, the Sudan and Senegal, most of the animals are local breeds raised in pastoral systems by nomadic and semi-nomadic herders and a small proportion is raised by small-holder crop-livestock mixed farmers. There are only a few countries like Namibia and Zimbabwe, where there is a large commercial sector raising exotic and high-grade cattle alongside a communal smallholder sector raising local cattle and small ruminants. Consequently, except in the commercial sector, the quality of hides and skins on the live animal is generally poor due to poor nutrition, not culling animals until old age, damages on hides and skins caused by scratches and horn rakes, branding and tick bites. Branding, a major cause of damage and poor quality of hides, is commonly practiced for providing ethnic identity and protecting animals from theft.

#### 2.4.2.2 Slaughtering facilities and practices

Outside the commercial sector, majority of the animals are not slaughtered in organised slaughterhouses or abattoirs either because such facilities are absent, or inadequate or existing facilities are not managed properly. Common problems observed include limited height of the abattoir, lack of hoists and running water, lack of proper flaying knives and hide pullers, and lack of or inadequate waste disposal outlets. Variety of flaying techniques and practices are used by unskilled and inexperienced people causing different kinds of damages on the hides and skins. In Namibia, slaughtering has a skewed pattern with peak slaughtering occurring at cultural festival times. Most such slaughters, especially of small stock, take place in homesteads. In most cases, adequate commercial channels are not established to purchase raw hides produced in large quantities, hence there is an inadequate recovery of hides and skins produced at peak slaughtering times. Surges in supply during different festival times and degradation of quality within a short period in the absence of adequate preservation techniques and facilities means the butchers generally obtain low prices and this influences the efforts they put in taking care of the quality of raw hides and skins during and after slaughter.

## Table 2. 2: Drawbacks of hides and skins sector in Africa

| Issues | | Main problems | Recommended actions |
|---|---|---|---|
| Animal Husbandry and disease management | 1. Unreliable pasture availability | • Poor nutrition<br>• Use of poor branding methods<br>• Scratches on animal skins and hides e.g. from horn rakes | • Promote commercialisation of livestock rearing<br>• Develop and promote programmes on livestock feeds and upgrading of pasture quality<br>• Create awareness on the importance and value of hides and skins amongst pastoral communities<br>• Improve veterinary extension service<br>• Create and promote efficient livestock and livestock products trading channels |
| | 2. Lack of efficient veterinary disease control and extension services | • High calf mortality<br>• Heavy infestation by ticks and other ecto-parasites | |
| | 3. Absence of organised marketing system for livestock and livestock products | • Undervaluing and unfair compensation to farmers by middlemen<br>• Lack of commercial purpose for rearing livestock; rearing done as a sign of wealth and selling only in cases of emergencies | |
| Slaughter facilities and practices | 4. Poor enforcement of existing legislation on the meat sector governing minimum requirements for slaughterhouses and slaughter slabs | • Rubbed grain, bad pattern and flay cuts, scores or gouge<br>• High levels of reject and defect in hides and skins<br>• Lack of designated collection points leading to high expenses for collection of hides and skins | • Promote centralised slaughtering by enforcing existing legislation especially in urban centres where kill is high<br>• Municipalities and Councils should charge fees commensurate with service rendered<br>• Improve and upgrade slaughter facilities and tools including installation of hide pullers whenever possible<br>• Launch awareness campaign and training of butchers, flayers, traders as well as hides and skins extension workers on flaying and preservation techniques |
| | 5. Lack of adequate slaughter facilities in designated slaughterhouses where the height of abattoir may be a limitation; lack of hoists; lack of proper flaying knives and adequate hide pullers | | |
| | 6. Perceived high fee charged to butchers when they slaughter in abattoirs | | |
| | 7. Inadequate infrastructure where slaughterhouses are located and in homesteads; for instance, lack of piped water | | |
| Processing of hides and skins, and manufacturing technology | 8. Lack of backward and forward linkages in the African Leather sector | • There is no compensation for high quality by the parties up the chain thus no incentive by the butcher at the lower level to produce high quality hides & skins<br>• Lack of a common grading or accreditation system<br>• Weak and uncompetitive leather processing sector in many countries | • Initiate programmes promoting purchase of hides and skins according to quality<br>• Introduce common grading standards such as the CFC/ESALIA standard for raw hides and skins<br>• Promote utilization of leather processing capacity |
| | 9. Access to appropriate technology | • During handling and preservation of hides of skins; grain cracks, bacterial damage and framing defects are a major problem<br>• During storage, packaging and transportation; scratches and tearing, wetting, contamination, infestation are major problems | • Introduce better handling and preservation techniques through training |
| | 10. Environmental issues | • Water pollution due to dumping of waste into rivers<br>• Air pollution; mainly from hydrogen sulphide gas, ammonia, and the bad odour emanating mainly from tanneries<br>• Poor management of solid waste from tanneries | • Promote cleaner production methods in leather processing |
| Investment and macroeconomic policy | 11. Privatisation of the leather sector | • In general, most enterprises where government has not divested are inefficient due to slow decision-making process | • Government should complete divesture in those enterprises which remain partially or wholly Government owned |
| | 12. Impact of trade liberalisation | • High costs of operations due to non-conducive trade environment, e.g. unfair competition from cheap Asian imports<br>• Exports of raw hides and skins leading to lack of raw materials for the local tanneries and leather companies<br>• Low value addition due to high costs of processing<br>• Low capacity utilisation and closures of companies | • Studies should be carried out to assess the impact of trade liberalisation.<br>• Measures should be introduced to create a level playing field in leather trade<br>• Promote higher utilization of existing tanning capacities by discouraging exports of raw materials through enactment of tariff barriers |
| | 13. Financial considerations | • High cost of capital<br>• Unavailability of credit<br>• Rigid requirements on collateral and environmental compliance by lending institutions | • Promote foreign investment and joint ventures in order to attract cheaper capital |
| Manpower and skills | 14. Few training institutions for the Leather sector<br>15. Poorly equipped and outdated technology in the existing training institutions<br>16. Lack of employees' skills upgrading and poor compensation for high skills by companies<br>17. Low investment in research and development by companies | • Employees' inefficiency; low productivity and low quality<br>• Shortage of trained manpower<br>• High levels of obsolescence and redundancy | • Upgrade/rehabilitate existing training institutions<br>• Initiate relevant capacity building in technical skills in hides and skins as well as leather technology |

Source: Jabbar *et al.* (2002).

#### 2.4.2.3 Processing and manufacturing hides and skins

The causes of post-slaughter damages that reduce quality also lie with a wide range of people from hide collectors and traders to tanners and leather manufacturers. Hides and skins are processed into leather and subsequently manufactured into different finished leather products such as belts, shoes, handbags, just to name but a few. Tanning is the process of converting raw hides and skins into leather. There are two forms of leather processing: *modern leather processing* in tanneries and *traditional tanning using hands*. Traditional tanning is practiced mainly in northern parts of Namibia (Kunene region) which involves processing skins into leather for traditional attires and artisanal products, e.g., Ovazimba (Ovazemba) traditional attire and floor mats respectively. The volumes of raw hides and skins used for this purpose are low and of less economic significance. However, modern leather processing has different facets related to its economic significance in terms of foreign exchange earnings and the creation of employment opportunities. The issues related to hides and skins processing and manufacturing are a lack of backward and forward linkages in the African leather sector and access to appropriate technology.

#### 2.4.2.4 Investment and macro-economic policy

Most African countries rely on agriculture as the mainstay of the economy and investment and macro-economic policies are based primarily on livestock or plant resources. The key issues related to investment and macro-economic policy are lack of efficient and effective management of the leather sector and the impact of trade liberalisation. Trade liberalisation has been introduced in many African countries without instituting appropriate legislative, legal and regulatory framework, which would safeguard the domestic sector from unfair competition. The leather sector has been adversely affected in many cases through the export of high-quality raw materials rather than processing for value addition on the one hand and import of cheap footwear and second had leather products on the other.

#### 2.4.2.5 Manpower and skills

Available manpower in the sector for pre to post-slaughter activities is highly inadequate as well as of poor quality. This is also a reason for poor-quality hides and skins produced in Africa.

### 2.5 Key factors that necessitate competitiveness

Companies achieve competitive advantage through acts of innovation by approaching it from its broadest sense including new technologies and new ways of doing things and manifesting it in new product design, new production process, new marketing approach and new way of conducting training (Porter, 1990) as illustrated in Figure 2.6. Competitive advantage can be created by perceiving a completely new market opportunity or serving a niche market segment that others have ignored. Analysis of different scholars and international rating agencies supports the idea that the factors that mostly determine the competitiveness of a country under globalisation could be GDP, FDI[3] inflows, foreign trade balance, and

[3] FDI - Foreign Direct Investment

export. Porter (1998) was cited by Kharlamova and Vertelieva (2013) that there are three stages of economic development characterised by different criteria in competition, productivity level, and income: factor-dependent economy, investment-dependent economy, and innovation-dependent economy.

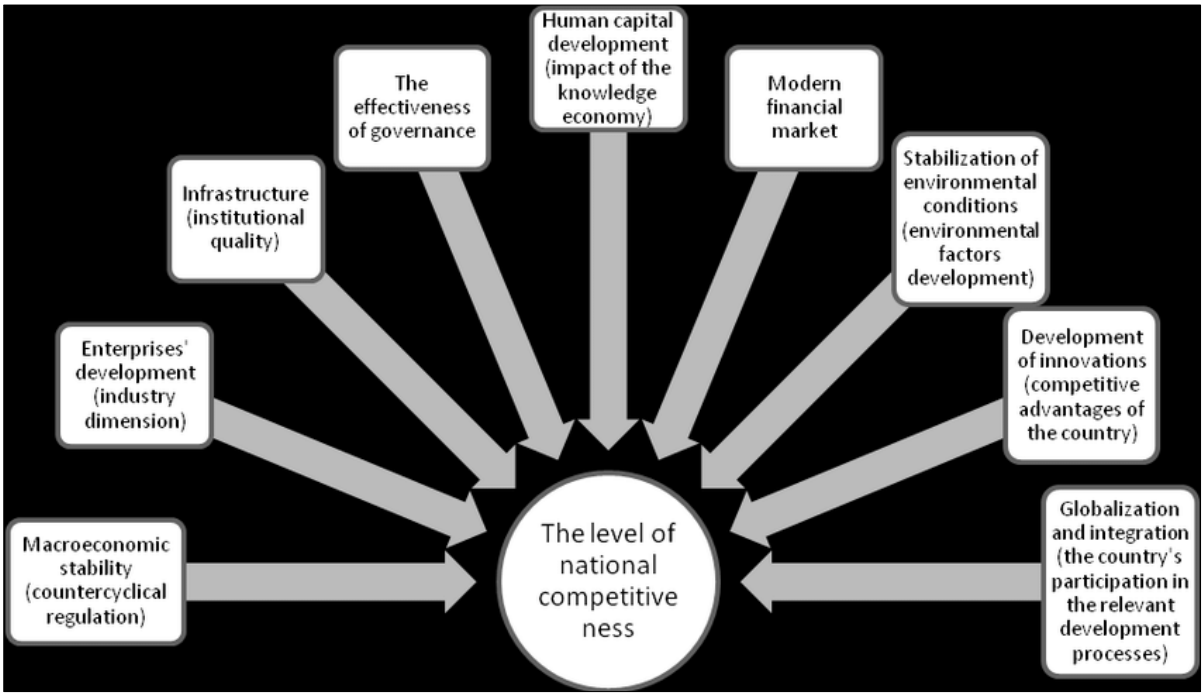


**Figure 2.6: Factors that can support enhancing of national competitiveness**

Source: Kharlamova and Vertelieva (2013).

Kharlamova and Vertelieva (2013), stated that generally, national competitiveness encompasses mechanisms of conditions and resources formation that contribute to solving national hitches (security, economic development and improving people's life). A nation with non-economic institutions that are as efficient as economic ones, like political and cultural (in the view of its impact at economic processes inside a country), may be regarded as competitive and has huge potential not only for competitive advantage at the global market, but as well as the benefits associated with the distinguishing functioning of the political, cultural and social systems (Kharlamova & Vertelieva, 2013). A model on clustering states, according to their competitiveness level by Kharlamova and Vertelieva (2013) showed that the greatest way to affect national competitiveness level is changing

the country's volume of foreign trade balance (the difference between the value of exports and that of imports between two countries). According to Auzina-Emsina (2014), the key factors to maintain and improve the competitiveness of a nation in the international market is labour productivity and economic growth as it was also evidenced by Porter (1990) and Porter *et al.* (2008).

Economic performance encompasses a full range of factors that shape national prosperity especially the influence of public policy and business practice. In order to directly tie competitiveness to economic performance, two elemental concepts should be considered; *fundamental competitiveness* and *global investment attractiveness*. Therefore, the element of fundamental competitiveness defined by Delgado *et al.* (2012) is discussed as the expected level of output per working individual given the overall quality of a nation as a place to do business. This goes beyond the expected level of productivity per employed workforce because prosperity is ultimately deep-rooted in the ability to achieve high productivity and mobilisation for a high share of the available workforce. The fundamental competitiveness notion links to a related concept, *global investment attractiveness,* defined as the gap between national fundamental competitiveness and national current factor costs (Delgado *et al*. 2012). According to Porter (2006), an attractive nation, is a country which provides low factor costs relative to potential productivity, because, international investment and trade flows are influenced by global investment attractiveness. As a result, nations with high attractiveness are more likely to grow quicker than peer nations with similar competitiveness but high factor costs which eventually supports prosperity growth enabling fundamental competitiveness to improve as well.

Delgado *et al.* (2012) and Porter (1990) established that both the quantity and quality of training and higher education in an economy revealed a positive impact on prosperity levels. There is also escalating evidence that globalisation has increased skill premia in both advanced and developing economies. On the contrary, there is no correlation between increased spending on education and productivity because some countries have recorded academics reaching higher education levels while productivity rates remained low. According to Porter (2017),

there are dual challenges of development and this includes economic development and social development. There is a powerful link between the two because improving competitiveness requires improving the economic and social context simultaneously.

### 2.5.1 The 12 pillars of competitiveness and their interrelation

Determinants of competitiveness are many and complex. Hundreds of econometric studies show that many of the explored conjunctures are, in fact, simultaneously true (Schwab, 2009). The 12 pillars of competitiveness are interdependent and tend to reinforce each other. The pillars are institutions, infrastructure, macroeconomic stability, health and primary education, higher education and training, goods and market efficiency, financial market sophistication, technological readiness, market size, business sophistication and innovation (Figure: 2.7).

Based on different kinds of literature, it is clear that different pillars affect different countries differently: the best way for Namibia to improve its competitiveness is not the same as the best way for Switzerland. This is because Namibia and Switzerland are in different stages of development.

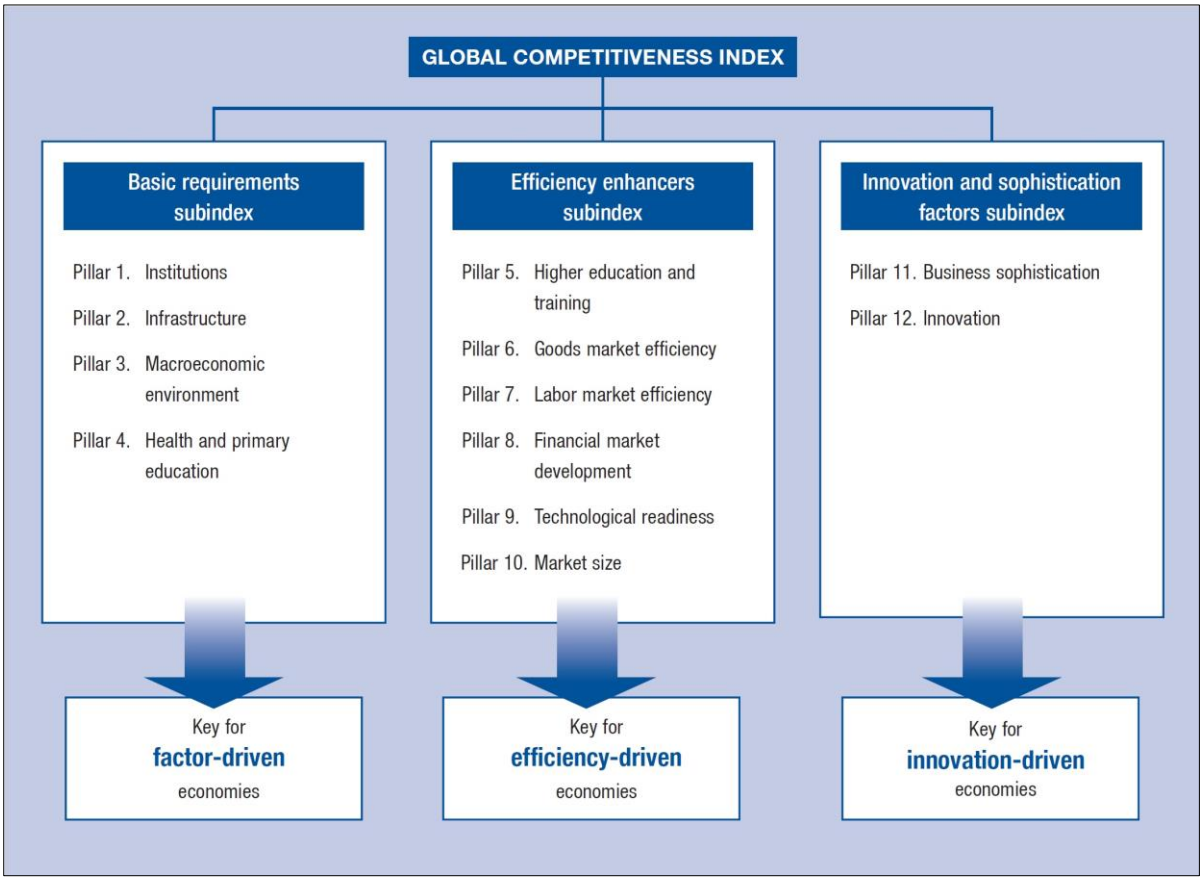


**Figure 2.7: The 12 pillars of competitiveness**

Source: Schwab (2017).

According to Schwab (2009), the GCI indicates that, in the first stage of development, the economy is *factor-driven* and countries compete based on their factor endowments: primarily unskilled labour and natural resources. Companies compete on the basis of price and sell basic products or commodities, with their low productivity reflected in low wages. Maintaining competitiveness at this stage of development hinges primarily on well-functioning public and private institutions (pillar 1), well-developed infrastructure (pillar 2), a stable macroeconomic framework (pillar 3), and a healthy and literate workforce (pillar 4).

As wages rise with advancing development, countries move into the efficiency-driven stage of development, when they must begin to develop more efficient production processes and increase product quality. At this point, competitiveness is increasingly driven by higher education and training (pillar 5), efficient goods markets (pillar 6), well-functioning labor markets (pillar 7), sophisticated financial

markets (pillar 8), a large domestic and/or foreign market (pillar 10), and the ability to harness the benefits of existing technologies (pillar 9).

Finally, as countries move into the innovation-driven stage, they are able to sustain higher wages and the associated standard of living only if their businesses are able to compete with new and unique products. At this stage, companies must compete through innovation (pillar 12), producing new and different goods using the most sophisticated production processes (pillar 11).

Putting growth back on a sustainable path will require reforms to build up human and physical capital and leverage new technologies. Another possible remedy to decline in aggregate productivity is for policymakers to remove regulatory rigidities that hinder structural adjustments.

The question on most economists' table when reviewing their economies is, as stated by Schwab (2017), *what are the most pressing issues related to the health of global economy and its ability to provide sustainable economic growth and well-being?* The GCI answers to this question by pointing out three main challenges and lessons that are relevant for economic progress, *public-private collaboration* and *policy action*. Maintaining a sound financial sector is not only important to prevent recessions with deep and long-lasting effects on productivity and growth, but also to sustain innovation. In fact by providing adequate funds and instruments to support the most productive and innovative ideas.

## 2.6 Conclusion

This chapter has reviewed competitiveness complexity, its main drivers to economic growth with updated thinking and special emphasis on the 12 pillars of competitiveness considering the most recent evidence and economic research. The definition and scope of competitiveness will remain a work in progress, possibly until partial consensus is reached, either in its definition or in its spheres of application. The main reason for the multiplicity of definitions of competitiveness

is its complexity, composite character, and systematic concept of itself as a category. Porter (1990) and Kharlamova & Vertelieva (2013) revealed that there is strong evidence that the higher the level of national competitiveness a country has, the more sustainable the level of the economy and the higher the living standard that occurs in that specific country. Productivity ultimately depends on improving the microeconomic capability of the economy. However, many things in the business environment matter for competitiveness, because there is no silver bullet to prosperity.

Three main challenges and lessons relevant for economic progress are, public-private collaboration, and policy action. Meanwhile, the African hides and skins carry a poor image in the global market because of more various drawbacks found at different stages of the production chain viz. animal husbandry and disease management, slaughtering facilities and practices, post-slaughter preservation and handling, and tanning and processing techniques and facilities.

Determinants of competitiveness are many and complex. But the 12 pillars of competitiveness are interdependent and tend to reinforce each other. The next Chapter (Chapter 3), provides a detailed overview of the international and local hides and skins sector.

# CHAPTER 3

# INTERNATIONAL AND LOCAL OVERVIEW OF THE HIDES AND SKINS SECTOR

## 3.1 Introduction

This chapter distills global and local findings on hides and skins trade performance. The hides and skins have a value chain that includes the core processes, main actors, product flow, service providers, operating environment and extends to other countries when exported. Although the value chain includes a lot of levels, only export competitiveness of hides and skins on the global market is considered in this study. Activities taking place at all levels of the value chain are worth studying and could be a subject for future research.

The chapter, thus, begins with detailed discussions on the production of hides and skins both globally and locally as understood by the Leach & Wilson (2009). Following hides and skins production is hides and skins international and local prices. The last section of the chapter presents global and local hides and skins trade patterns before the chapter concludes.

## 3.2 Overview of the global and local hides and skins sector

Globally, hides and skins are known as byproducts of the meat processing industry (United States Agency for International Development, 2016). The overall global hides and skins production increased at 1.32 percent annually while in Africa the growth rate was 2.22 percent with meat consumption in Sub-Saharan Africa (SSA)

projected to increase from about 5 million tons in 1993 to 12 million tons in 2020 as a result of rapidly increasing population, urban growth and a modest increase in per capita income (Jabbar, Kiruthu, Gebremedhin, & Ehui, 2002). Eventually, this is likely to increase the share of hides and skins production at regional and national levels by 2020.

In Namibia, agriculture plays a significant contribution to GDP. According to Schwab (2018), in 2017 and 2018, the sector's contribution to GDP was 4.5 percent and 4.6 percent respectively compared to an average of 5.6 percent for the period between 2001 and 2017. The livestock production system in Namibia is traditional and contributes to both subsistence and cash generation. From the traditional production systems, the livestock sub-sector accounts for 80 percent of national agricultural production and 80 percent of the export trade in the sector thus justifying its level of importance to the economy (OABS, 2019).

As discussed in Chapter 2, the researcher reviewed the complexity of competitiveness at international and national levels, discussed the challenges faced by the hides and skins sector, and provided tailor-made strategic solutions to the sector.

According to MITSMED (2015), the Namibian leather industry consists of various formal and informal hides and skins collectors, and over 350 employees working at the tanneries. In terms of meat processing, Namibia has seven export abattoirs, about 65 small abattoirs, and one operational feedlot. There are three major tanneries and these are Meatco (Okapuka), Nakara, and Brukkaros. There are also a few community-based tanneries. All of these faciltities serve as key players in the hides and skins sector.

In the Namibian rural areas, hides and skins have been commonly used since ancient times by the Ovazimba (Ovazemba) and Ovahimba communities as shoes, clothes (traditional attires), belts and bedding. Surplus has been fed to dogs as the economic importance of hides and skins was and is still not fully known by some, if not most of the community members in Kaokoland or rather Kunene region

especially in Ruhakana (Ruacana). In urban areas, hides and skins are processed to make modernised handbags, shoes and leather jackets contributing to the growth of other value chains in the agricultural sector. Figure 3.1 maps the value chain for Namibian leather and leather products.

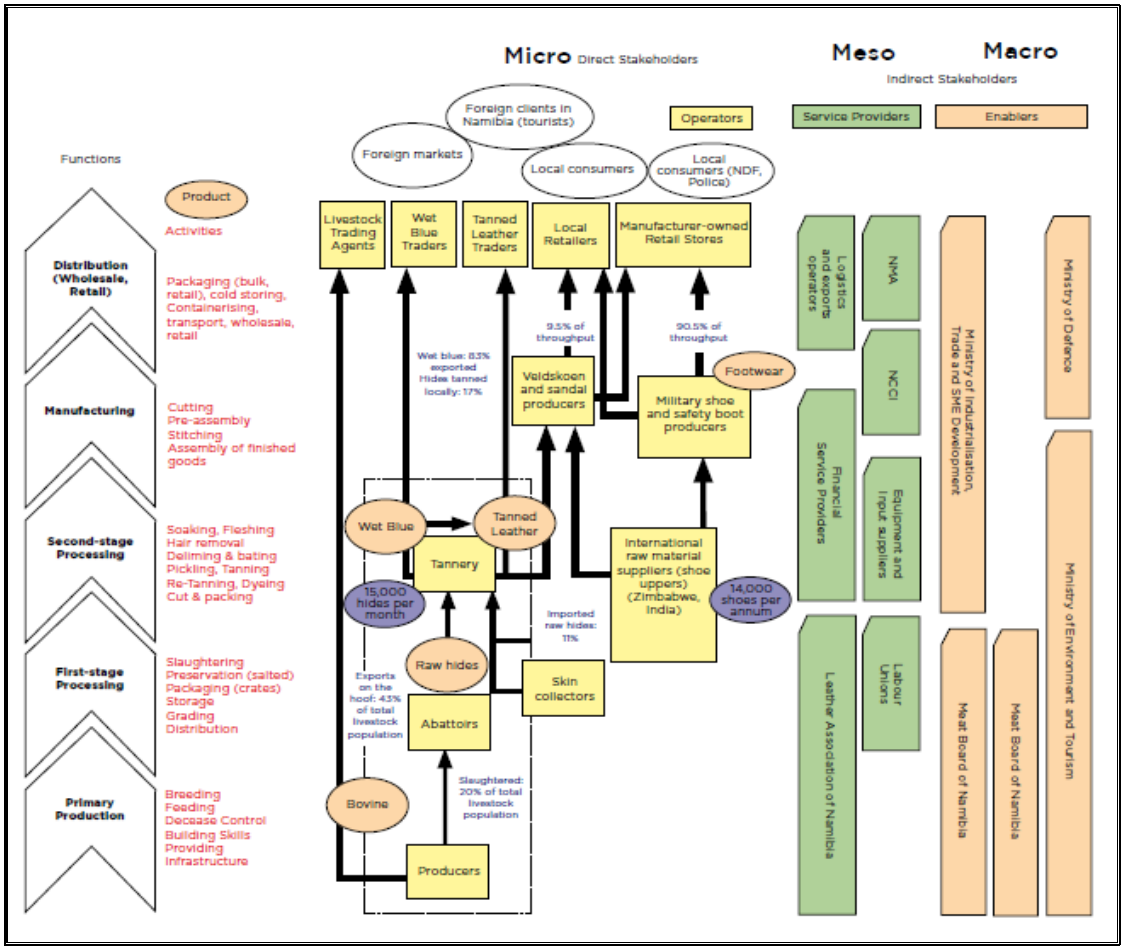


**Figure 3.1: Namibian leather products value chain map**

Source: MITSMED (2015).

## 3.3 Global and local production of hides and skins

This sub-section presents production of hides and skins at global and national levels. The Namibian production trends of hides and skins are compared to the global trends based on production and trade.

### 3.3.1 Global production of hides and skins

The global economy maintained its modest above three percent growth estimated at three percent in 2016 and 3.7 percent in 2017 driven by cyclical upswing which has continued strengthening since 2016, among others (NPC, 2018). According to Schwab (2018), the SSA registered its lowest growth, since 2012, of 1.4 percent in 2016 estimated to have rebounded to 2.7 percent in 2017.

Figure 3.2 evidently illustrates that rawhides of cattle have dominated the global production for 18 uninterrupted years, although there is a decreasing trend experienced by raw skins of sheep and raw skins of goats. This is supported by Figure 3.3 equally depicting a marginally increasing trend of cattle production between 2005 and 2018. Leading producers of rawhides of cattle are China, the USA, and Brazil.

Raw skins of sheep were the least produced with a relatively sharp decreasing trend. All commodities experienced a decreasing trend in production, a positive trend of more than 221,700,000 tons per annum was produced globally across the board from 2001 to 2018 (Figure 3.1).

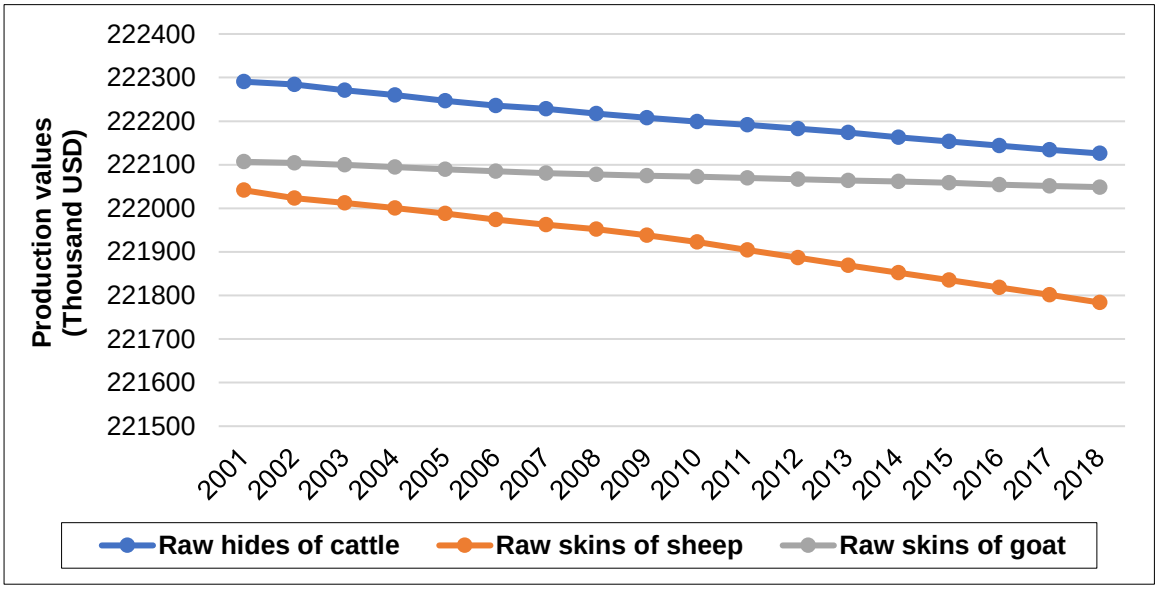


**Figure 3.2: Global production of hides and skins (tons)**

Source: Author's own computation based on FAOSTAT data (2020).

The production of hides and skins, as a by-product, is highly linked to livestock production (cattle, sheep, and goat) and trade for red meat (beef, mutton, and chevon). This is supported by Figure 3.2 showing a sharp decrease in the production of raw skins of sheep interrelated to a significant decrease in sheep production (Figure 3.2) from 2011 to 2018.

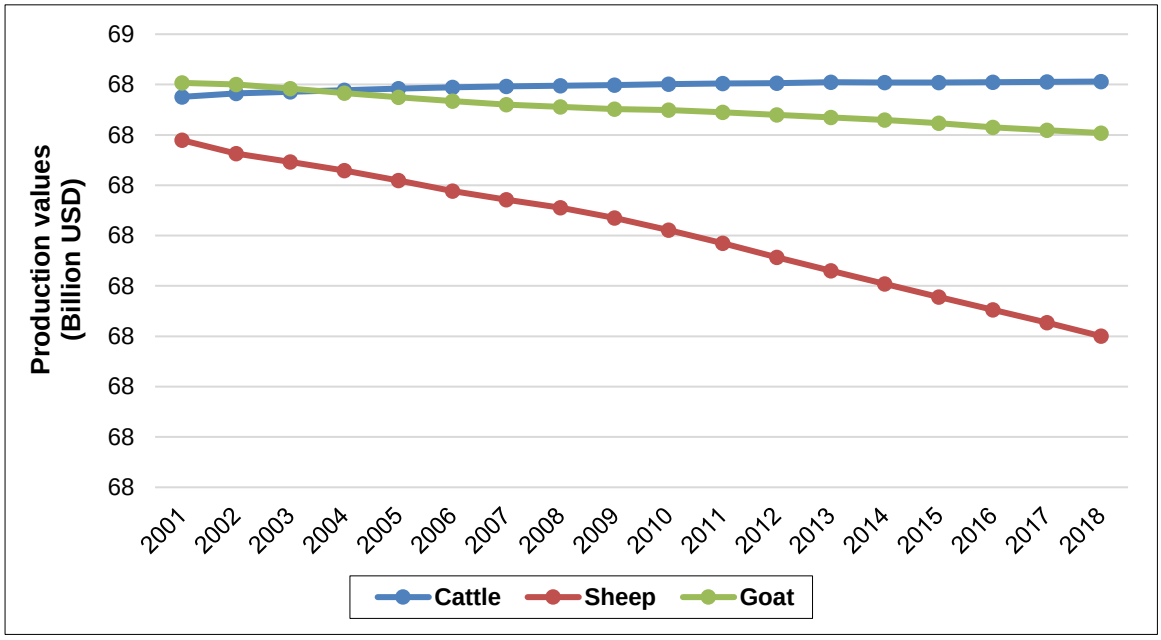


**Figure 3.3: Global production of livestock**

Source: Author's own computation based on FAOSTAT data (2020).

The African continent occupies a relatively low position in production and trade of hides and skins within the global leather sector although it has significant livestock population and low labour cost. According to Adem (2019), and Fereja, Lamaro, Berhe, & Berhe, (2017), Ethiopia is believed to have the largest livestock population in Africa estimated to about 54 million cattle, 26 million sheep, and 24 million goats. As seen by Jabbar *et al.* (2002), this is a reflection of the leather sector's weakness in numerous value chain levels of leather production. There is a declining trend in cattle numbers in Namibia. The total cattle population in 2012 was 2.9 million. This number declined to 2.8 million in 2015 and in 2017 the herd size had shrunk to 2.7 million. Total sheep numbers declined from 2.7 million in 2012 and to 1.7 million in 2016; however, increased to 2.05 million in 2017. The

total goat production in 2017 was 1.6 million head, which represents a 17.46 percent decline from the 2017 estimate of 1.96 million head of goats (OABS, 2019). One of the most significant factors influencing Africa's production of hides and skins, of which Namibia is of no exception, is the "cultural factor" in livestock rearing pointing to the tradition of keeping livestock as a sign of wealth, which discourages commercialisation of livestock and livestock products. The other noteworthy challenge facing the sector is how to overcome these weaknesses and fully exploit the opportunities presented by the availability of hides and skins as a readily available renewable resources.

In Africa, trade in hides and skins is hampered by amongst others the poor image of the sector in overseas markets and lack of information flow when approached from the market side (Jabbar *et al.* 2002). Trade approached from the production side is affected negatively by poor prices obtained at the producer level and subsequent poor quality of raw materials.

### 3.3.2 Namibia's production of hides and skins

The domestic economy experienced a slow growth of just above one percent in 2016 due to weak performance by the secondary, tertiary, and primary industries. Namibia was ranked as the 100$^{th}$ most competitive country in the world out of 140 countries (Schwab, 2018). According to Schade (2019), the agricultural sector represents approximately five percent of the Gross National Product (GNP).

Namibia is gifted with an abundance of hides and skins from livestock farming that could potentially boost the leather sector (Schade, 2019). Though, in the Northern Communal Areas (NCA), hides and skins are not systematically collected for further processing. Hides and skins are often also not of outstanding quality but marked with scratches from bushes or caused by horns of other livestock. Namibia exports hides and skins in the dry and in the wet state including wet blue (tanned but not dried, dyed, or finished) as well as various leather products. The tanneries have been experiencing tough years over the past 15 years due to ceaseless drought in Namibia.

Figure 3.3 shows the number of bovine hides produced by Meatco from 2010 to 2018. In 2010, the Meatco tannery produced 163,249 hides compared to 173,849 hides in 2011. In 2012, Meatco produced 117,922 hides which was the lowest number produced over an eight-year period (Figure 3.3).

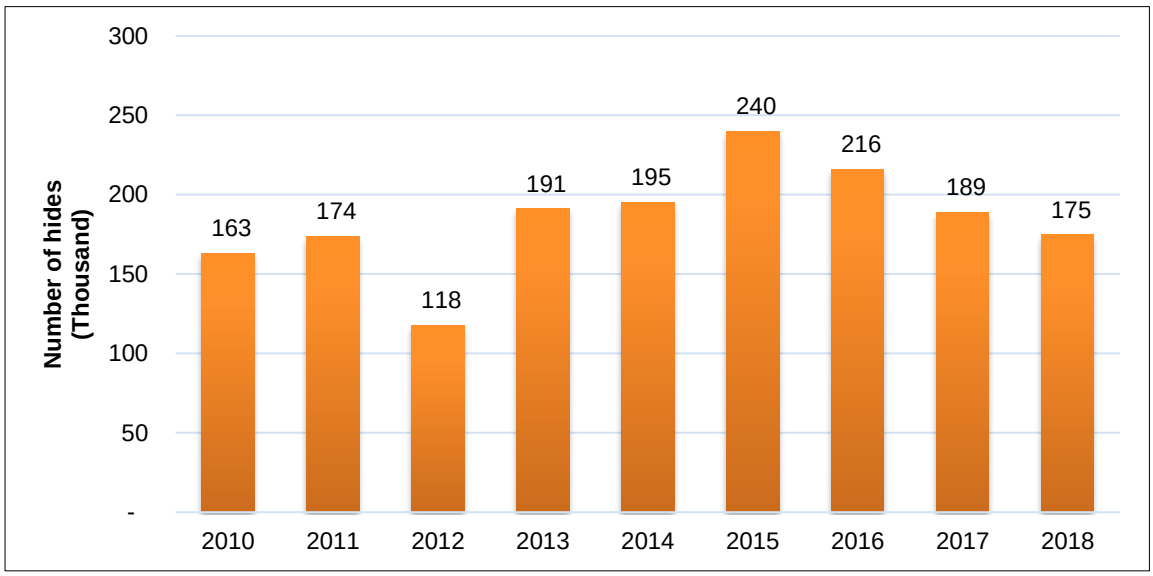


**Figure 3.4: Number of hides produced by Meatco (2010-2018)**

Source: Author's own computation based on Meatco data (2019).

The highest number of hides produced by Meatco was in 2015 with a total number of 239,875. Hides produced by Meatco is showing a decreasing trend from 2016 to 2018. The decrease in hides produced by Meatco corresponds to the decreasing number of cattle slaughtered by Meatco over the last three years. Overall, Meatco produced a total number of 1,661,243 hides from 2010 to 2018. From the total number of hides produced by Meatco in 2016, 90 percent was exported to Italy and ten percent to China (Meatco, 2017).

The recurring drought affected the agricultural sector in many ways, such as declining income from livestock production and an increase in hunting and ecotourism resulted in some Namibian farmers practicing or considering game ranching as an alternative or additional farming system to cattle ranching. The shift from traditional livestock farming to more natural resource-based wildlife farming

is likely to increase with climate change, as well as with the political uncertainty concerning land ownership resulting from unresolved land reform policy issues.

Jabbar *et al.* (2002) state that generally, hides and skins produced in Africa carry a poor image in the global markets because of various constraints found at different value chain stages viz. lack of slaughter facilities, poor handling, and preservation of these raw materials. Hides and skins are some of the valued by-products from the livestock and meat sector for their use as raw materials in the leather industry. Revenue realised from sales of hides and skins serves to foster the competitiveness of livestock activities by enhancing the value of animal offtake.

Livestock rearing in Namibia is done under very diverse conditions varying from open Savannah grasslands, organised commercial farms, zero and semi-zero grazing. The quality of products obtained from livestock reared in these varying environments is directly influenced by these conditions. In the case of hides and skins, the quality and yield of leather obtained from such animals are dependent on these factors. The stronger players on the global market as export destinations for hides and skins of Namibia include China, Italy, Brazil, and India (MITSMED, 2015).

Raw hides of cattle recorded the highest production trend experienced by a marginally continuous decreasing trend from 2006 to 2018 (Figure 3.4). Production of raw skins of sheep and raw skins of goat shows variable trends during the period under review. The total production of raw skins of goat increased slightly from 2005 to 2013, whereas the total production of raw skins of sheep experienced the largest increase. Raw hides of cattle recorded decreasing fluctuating trends over the last 5 years, whereas raw skins of goat experienced a marginal increasing trend while raw skins recorded a marginally decreasing trend. These trends are shown in Figure 3.4.

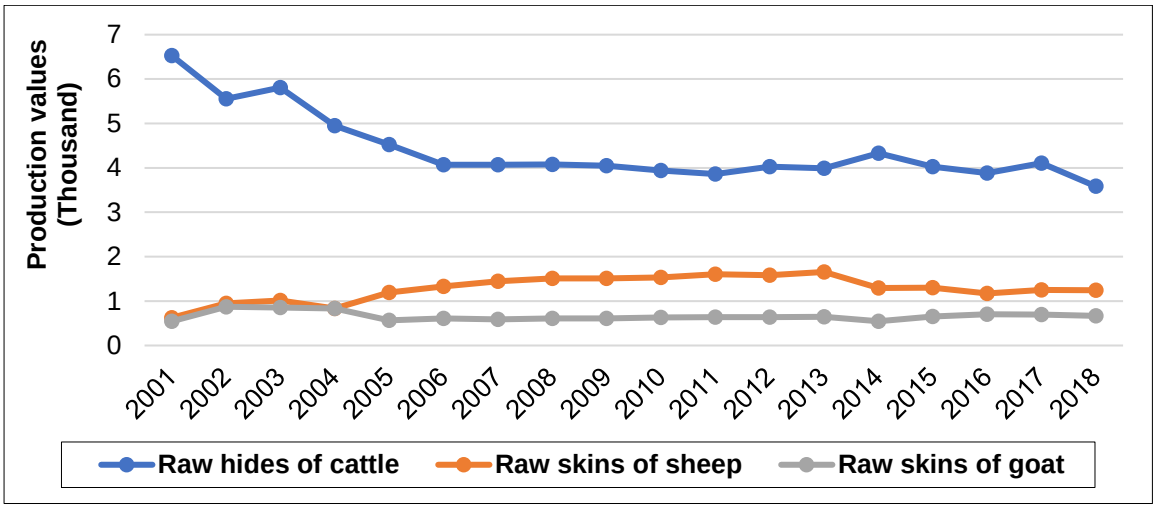


**Figure 3.5: Namibia's production of hides and skins**

Source: Author's own computation based on FAOSTAT data 2020.

## 3.4 Global and local prices of hides and skins

Udell (1964) argued that the most economic theory relating to business behaviour is pricing. Lewis (2017) stated that trade responds asymmetrically to exchange rate changes because exports are more responsive in the short run to dollar appreciations, and imports initially rise in response to dollar depreciation. In this section, global and local price trends of hides and skins are discussed. The international and local price trends depicted in Figure 3.4 and Figure 3.5 are based on data availability.

### 3.4.1 Global prices of hides and skins

Figure 3.5 depicts the prices of rawhides and skins on international markets. No data could be obtained from 2010 to 2018 and as a result the graph only cover the period from 2001 to 2009. Prices of rawhides of cattle experienced a significant increase from 2001 with the highest recorded price observed in 2006. Besides rawhides of cattle prices maintaining high trends, it is the opposite for all other skin commodities, its price dropped significantly between 2006 and 2009. Raw skins of sheep prices experienced a marginal increase from 2003 to 2006 with a slight decrease between 2008 and 2009.

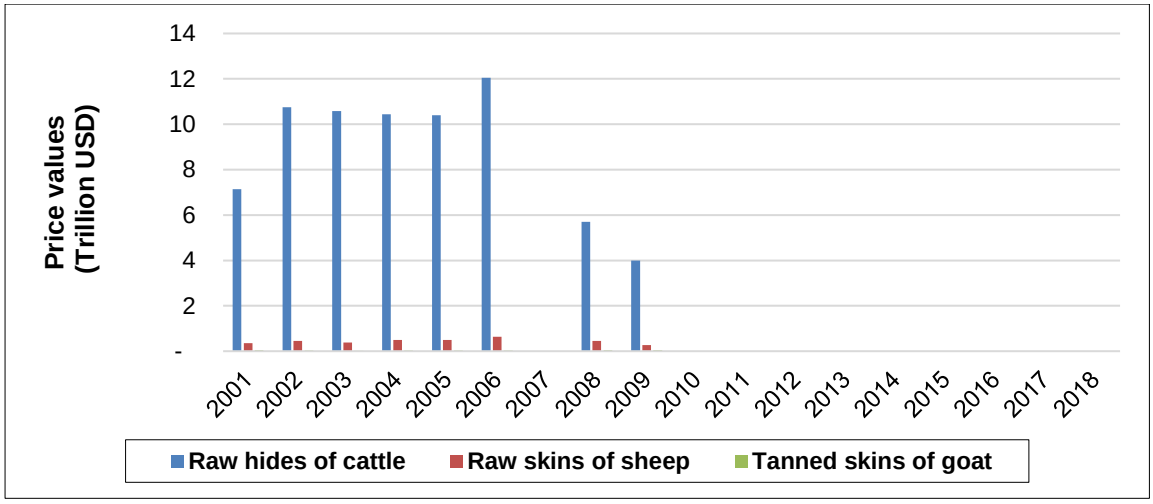


**Figure 3.6: Global price trends of hides and skins**

Source: Author's own computation based on ITC data (2019).

Figure 3.6 depicts a global price trends for tanned skins of goats. Tanned skins of goats recorded the lowest prices below 47 million per annum relative to rawhides and skins of cattle and sheep in Figure 3.5.

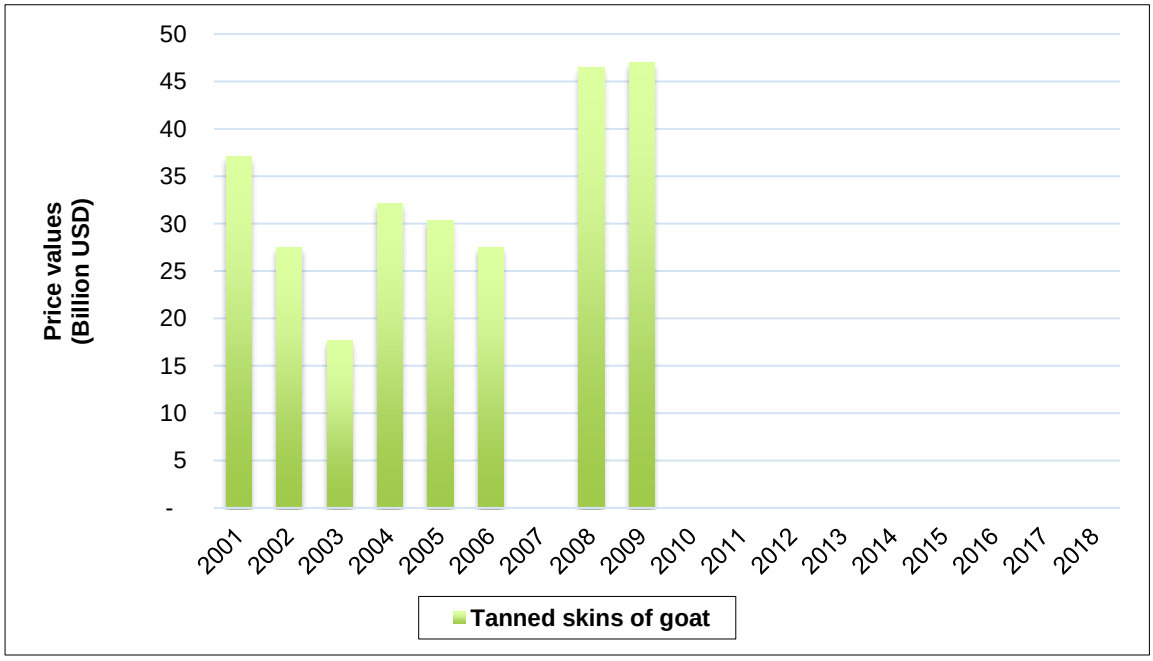


**Figure 3.7: Global price trends of tanned skins of goats**

Source: Author's won computation based on ITC data (2019).

Tanned skins of goats recorded decreasing price trends over the first three years (2001-2003) with a marginal price increase in 2004. However, in 2008 and 2009, tanned skins of goats experienced the highest price above 45 million between 2001 and 2009.

### 3.4.2 Namibia's prices of hides and skins

The price trends of rawhides of cattle recorded the highest but fluctuating trends over the first three years. Price trends for raw skins of sheep experienced decreasing trends over the first two years and ended with marginally increasing trends from 2016 to 2017. Raw skins of sheep price trends are frequently fluctuating with the highest significant increase recorded between 2012 and 2013. The prices for tanned skins of goat experienced the lowest trends relative to other skins and hides. However, this commodity experienced its highest record of USD 66,930 in 2015.

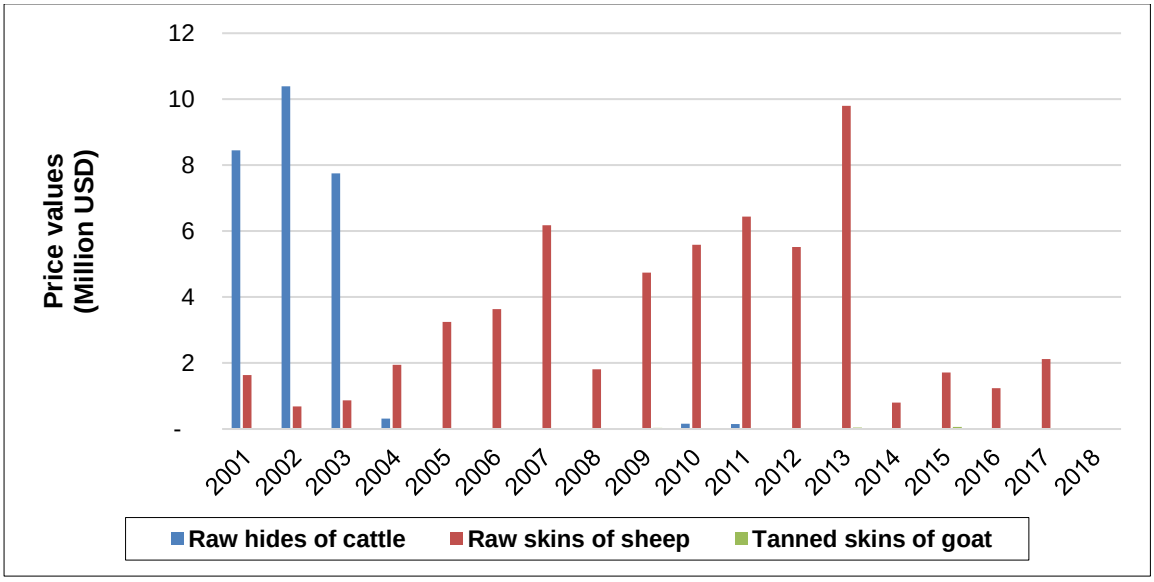


**Figure 3.8: Namibia's price trends of hides and skins**

Source: Author's own computation based on ITC data (2019).

## 3.5 Global and local trade volume trends of hides and skins

Total volumes of hides and skins traded globally and from Namibia is discussed in this section.

### 3.5.1 Global trade trends of hides and skins

Leather is one of the widely traded commodities in the world with significant contribution to the world's economy with an estimated global trade value of USD 100 billion per annum (UNIDO, 2010). Approximately, 65 percent of all leather comes from bovine material. According to the Global Hides and Skins Market; a review of 2004-2007 and prospects for 2008, the hides and skins sector contributed about 12 percent to the total global export bill review of 2004 to 2007 and Namibia contributed about 0.7 percent to the global market share.

#### 3.5.1.1 Export trade volume trends of hides and skins

The export volume trends of hides and skins began with lightly fluctuating trends in the first eight years and experienced a significant decrease in 2009. Hides and skins export volumes experienced an increasing trend between 2009 and 2013 (Figure 3.7). Rawhides of cattle recorded the highest export volumes in 2014 followed by a significant decrease in the last 4 years. Raw skins of sheep and goat experienced marginally decreasing export trends in the last 5 years. Tanned skins of goat export prices reached a high value of 1,355,907 tons in 2010 which was the highest over the 18- year period (2001-2018).

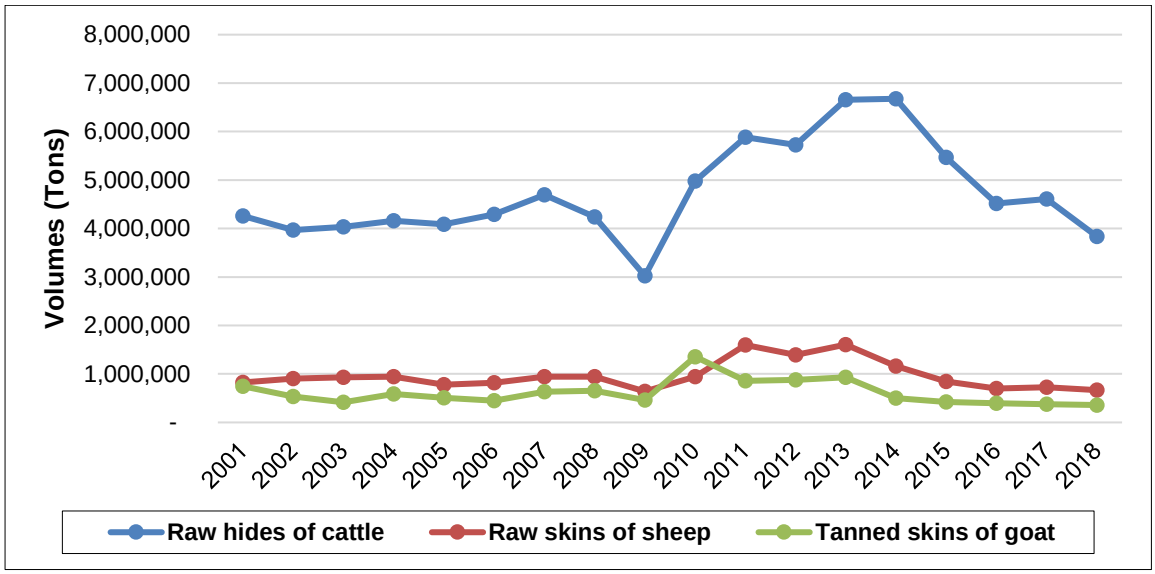


**Figure 3.9: Global export trends of hides and skins**

Source: Author's own computation based on ITC data (2019).

### 3.5.2 Namibia's trade trends of hides and skins

The MITSMED (2015) stated in its report, *growth strategy for Namibia's leather industry and associated value chains,* that the hides and skins industry is growing on a slow pace although it has significant contribution of about N$ 2.5 billion to the Namibian economy. In 2008, the agricultural sector recorded a marginal contribution of 3.8 percent to GDP. Namibia is gifted with an abundance of hides and skins from livestock farming that could potentially boost the leather sector (Schade, 2019). Though, in the Northern Communal Areas (NCA), hides and skins are not systematically collected for further processing. Hides and skins are often also not of outstanding quality but marked with scratches from bushes or caused by horns of other livestock. Namibia exports hides and skins in the dry and in the wet state including wet blue (tanned but not dried, dyed, or finished) as well as various leather products.

Schade (2019) argued that the export value of hides and skins (HS4101 to HS4106), including products assessed in this research, showed some strong fluctuations over time (2008-2017). Schade's findings are supported by Figure 3.8 showing strong fluctuations between 2008 and 2017. The value dropped

continuously from N$ 148.7 million in 2008 to N$ 88.1 million (2011) before it increased again to N$ 209.4 million in 2014 but fell back to N$ 134.4 million in 2017. Hides and skins' contribution to total exports over the 10-year period averaged to 0.3 percent. Exports to the USA amounted to N$ 1.4 million in 2008 but ended the 10-year period slightly higher at N$ 1.5 million. The EU was the main destination absorbing 92.6 percent of these exports in 2017 and on average 66.8 percent over the 10 years compared to 1.2 percent destined for the USA. Hides and skins exports to EU accounted for 0.7 percentage during the 10-year period.

#### 3.5.2.1 Namibia's total exports of hides and skins

Figure 3.8 shows that rawhides of cattle dominated the total export of all other commodities with an increasing trend in the first 3 years. However, this followed a sharp significant decrease between 2003 and 2005 with marginal decreasing trends in the last 7 years. Tanned skins of goat started with a slight increase between 2001 and 2002 and ended with a marginal increase between 2017 and 2018. Raw skins of sheep experienced fluctuating increasing trends from 2008 to 2013 before a significant decrease in 2014. The export of raw skins of sheep recorded a marginal increase in the last five years relatively higher than trends recorded between 2002 and 2005.

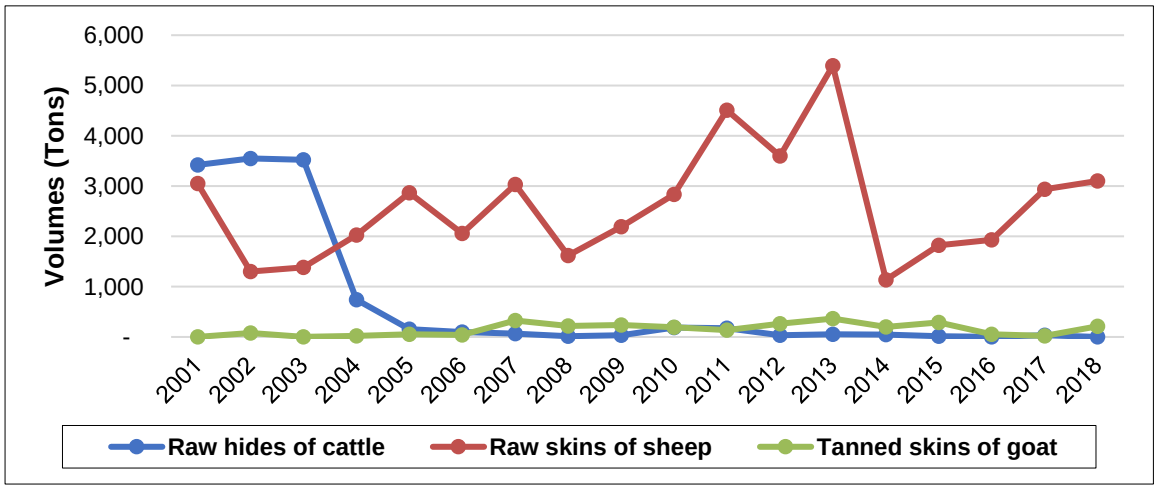


**Figure 3.10: Namibia's export trends of hides and skins**

Source: Author's own computation based on ITC data 2019.

Production, trade and price data of hides and skins of Namibia is captured by traders (Meatco Okapuka Tannery and Nakara) and is not readily available in the public domain or databases. As a result, the paucity of data poses a major challenge for hides and skins economic analysis.

## 3.6 Conclusion

This chapter provided an overview of international and Namibian leather sector, with special focus on rawhides of cattle, raw skins of sheep and tanned skins of goat. The total production of hides and skins in Namibia is on a decreasing trend resulting from lower livestock sales in the market due to severe drought experienced over a period of the last 15 successive years. The hides and skins sector is growing on a slow pace but all the same it is still significant in its contribution to the Namibian economy.

Rawhides of cattle are the most produced commodities globally and in Namibia compared to skins of sheep and goat. Rawhides of cattle are still the most globally traded commodities while in Namibia, the most traded commodity is raw skins of sheep. The hides and skins export destinations include China, Italy, Brazil, and India as the strongest players on the global market. It had been projected that consumption of meat in the SSA would increase from about 5 million tons in 1993 to 12 million tons in 2020 due to rapidly increasing population and urban growth and a modest increase in per capita income which would most likely increase in the share of hides and skins production at national and regional levels.

The African continent occupies a relatively low position in production and trade of hides and skins within the global leather sector even though it has significant livestock population and low labour cost. One of the most significant factors influencing Africa's production of hides and skins, of which Namibia is of no exception, is the "cultural factor" in livestock rearing tradition of keeping livestock as a sign of wealth, which discourages commercialisation of livestock and livestock products.

# CHAPTER 4

# COMPARATIVE ADVANTAGE AND COMPETITIVE EXPORT PERFORMANCE OF NAMIBIA'S HIDES AND SKINS SECTOR

## 4.1 Introduction

Globalisation increased competitive pressure and the rapid technological changes have brought the business world to a point in history, and therefore, developing economies are the hardest hit and experience new challenges in an attempt to globalise their operations and become competitive (Ocloo, Akaba, & Worwui-Brown, 2014). According to Godfrey (2008), competition is central to the operation of markets, and fosters innovation, productivity, and growth, all of which create wealth and reduce poverty. Zereyesus (2003), cited in Hallatt (2005) points out that trends relating to the globalisation of markets, trade liberalisation, consumer preferences, and improved logistics are exerting pressure on industries worldwide to become more competitive. Competitiveness is largely influenced by the performance of supply chains within and across economies. Having a comparative advantage and being competitive in a sector have become pivotal factors for most supply chains in Africa.

Ocloo *et al.* (2014) argued that competitiveness relates to the extent to which the nation's goods can compete in the market largely depending on relative prices and quality of domestic vis-à-vis foreign goods and services. This implies that the products and services offered must have an edge over competitors for continued survival in the marketplace.

Understanding comparative advantage and international competitiveness of the Namibian hides and skins industry is imperative to compile several indexes. Revealed Comparative Advantage – RCA, Index of Contribution to Trade Balance – CTB, Grubel-Lloyd Index – GLI and Michaely Index – MI, are discussed in this chapter as result orientated indexes. A detailed discussion on comparative and competitive advantage is captured in the subsequent sections.

## 4.2 Comparative and competitive advantage

Gupta (2015) stated that there is a considerable amount of controversy about the models of comparative advantage and its applicability to international business as a guide to the success of nations in the international market. The two frameworks may not be applicable to all circumstances in the international business, however, they are valid models that offer significant predictions in a variety of circumstances. In addition, using the two models together, comparative advantage and competitive advantage, offers a much richer analysis of international trade normally not available with either the model(s) of comparative advantage or the model(s) of competitive advantage alone.

### 4.2.1 Competitive advantage

Competitive advantage is a set of qualities that gives businesses leverage over their competition. It allows businesses to offer their target market a product or service with a higher value than sector competitors. When considering a competitive advantage, it is important to understand comparative advantage as well. The two concepts heavily influence one another, but they are not one and the same. Comparative advantage is when a business can produce goods or provide services at a lower opportunity cost than their competition. Having a lower opportunity cost means having to give up less when making a choice between two things. Having a comparative advantage can be one element that contributes to a company's competitive advantage. However, holding comparative advantage does not always guarantee a competitive advantage. Hallatt (2005) argued that

comparative advantage and competitiveness are two significant fundamentals for understanding the importance of international trade in agriculture and enlightening the primary factors responsible for current trade patterns.

Several kinds of research cited by Liu (2010), strongly recommend a high level of involvement by manufacturing managers in the strategic planning process of business units for the attainment of superior competitive performance.

According to Poth (2014), competitive advantage is based on two qualities: “The capacity to identify and understand the competitive forces in play and how they change over time, linked with the competence to mobilise and manage the resources necessary for the chosen competitive response through time.”

Economists and scholars cited by Coplin (2002), state that for a resource to be a potential source of competitive advantage, it must permit the enterprise to implement strategies that will improve its efficiency and effectiveness by measuring customer needs and preferences. This implies that the resources must meet other conditions and that there are complementarities between the resource-based view of the firm and environmental models of competitive advantage. Understanding the essential principles of competitive advantage is important for creating an effective business strategy, investing successfully, and understanding the economy on a national and global scale. Though competitive advantage is a basic economic concept, it is also one of the most important concepts.

### 4.2.2 Comparative advantage

Comparative advantage is widely believed by economists to be a key determinant of international production and trade patterns (Gupta, 2015). Adam Smith’s principle of “absolute advantage” and David Ricardo’s principle of “comparative advantage”, in general, are based on the technological superiority of one country over another country in producing a commodity. Strategies that yield a position of competitive advantage and superior financial performance will do so because they rely on those resources in which the firm has a comparative advantage over its

rivals. All firms seek superior financial performance, thus, competitors of a firm having a comparative advantage will attempt to neutralise their rival's advantage by obtaining the same value-producing resource. Therefore, sustained superior financial performance occurs only when a firm's comparative advantage in resources continues to yield a position of competitive advantage despite the actions of competitors. The comparative advantage theory explains why market-based economies are more innovative, and diverse in size, scope, and the profitability of firms in each sector on several grounds (Hunt & Morgan, 2001). All in all, competition in the comparative advantage theory is the constant struggle for a comparative advantage in resources that will yield a marketplace position of competitive advantage and, thereby, superior financial performance. All activities that contribute to positions of competitive advantage are presumptively competitive and marketing activities are no exception to this rule. Firms specialising within the industries that have a comparative advantage are on a much stronger footing to derive competitive advantage in producing differentiated products within that industry. In this framework, technology, resources, demand, and the trade-enhancing policies are the four main forces influencing the comparative advantage of a nation in a commodity/service vis-à-vis another country.

## 4.3 Indexes used to measure competitiveness

Competitiveness can be measured at macro and micro levels. This study focused on macro-level analysis of competitiveness.

According to Jovovic[4] & Jovovic[5] (2018), there are result-oriented indicators that provide detection of ex-post competitive position and are used for determination of competitiveness at the micro and macro levels. These indicators are specifically pronounced for their significance: Revealed Comparative Advantage (Balassa Index) – RCA, Index of Contribution to Trade Balance – CTB, Grubel-Lloyd Index – GLI and Michaely Index – MI.

[4] Dusanka Jovovic
[5] David Jovovic

The indexes used to measure the export competitiveness of hides and skins of Namibia was used by Jovovic & Jovovic (2018) to analyse the competitiveness of food manufacturing of The Republic of Serbia. The indexes were also used by Sujova, Hlavackova, & Marcinekova (2015) to evaluate the competitiveness of wood processing industry. These indexes include Revealed Comparative Advantage (Balassa Index) – RCA, Index of Contribution to Trade Balance – CTB, Grubel-Lloyd Index – GLI, and Michaely Index – MI.

Therefore, this study applied theoretical and empirical principles of RCA, CTB, GLI, and MI to better understand the export competitiveness of hides and skins in Namibia using 4 digits Harmonised Commodity Description and Coding System (HS).

### 4.3.1 Employing indexes:

The following abbreviations were used in calculations of the indicators to analyse competitiveness:

$x_{ij}$ - export value of commodity group „$i$“within sector„$i$“in country „$j$“

$m_{ij}$ - import value of commodity group „$i$“within sector„$i$“in country „$j$“

$X_j$ - value of total export from country „$j$“

$M_j$ - value of total import to country „$j$“

$X_i$ - world export value or export of integration group (e.g.EU) in commodity group „ $i$“

$X$ - total world export value or total EU export

### 4.3.2 Revealed Comparative Advantage – RCA

According to Seleka & Kebakile (2017), it is commonly accepted in international economics literature that RCA index can be used to measure the international competitiveness of a country’s export. RCA index represents post-trade relative prices and a prevailing factor as well as product market distortions (Sabonine, 2009). Hallatt (2005) stated that Muchavela (2000) identified RCA developed by Balassa (1965), as one of the measurements of economic efficiency. Jovovic &

Jovovic (2018), argued that RCA is the most used indicator for measuring comparative advantage of economies of specific countries in international trade. RCA was developed by Bella Balassa to represent the *Balassa index* or *Revealed Comparative Advantage* – RCA in 1965.

RCA indicator presents comparative advantage or disadvantage of export and its competitive ability. The formula for its calculation is mathematically expressed as:

$$RCA = In\ [(x_{ij}/m_{ij}) : (X_j/\ M_j\ )] \quad \text{..... (1)}$$

RCA < 0 points to comparative disadvantages of a product; RCA > 0, points to the existence of certain comparative advantage in the export of product or sector to which the product belongs, and RCA > 1 points to internationally competitive product and industry.

According to Jovovic & Jovovic (2018), the Austrian Institute for Economic Research - WIFO Vienna, made significant modifications to the Balassa RCA mathematical formula to enable the expression of competitiveness at a national level. As a result, the Competitiveness growth index – $RCA^1$ was developed enabling measurement of a nation's competitiveness in both regional and global markets. $RCA^1$ is calculated by comparing export of certain commodity group in total export of the country in consideration relative to the value of global export of the specific commodity group and the total global value of export. The formula for its calculation is mathematically expressed as:

$$RCA^1 = (x_{ij}/X_j) : (X_i/X) \quad \text{..... (2)}$$

$RCA^1$ >1 denotes comparative advantage of the sector on the global market. $RCA^1$ <1 denotes a group of commodities that has no competitive capability on the relevant market.

Index of net business performance - $RCA^2$ quantifies a comparative advantage of export sector or a product and its competitive capability (Jovovic & Jovovic, 2018). It is calculated as a percentage difference between export and import sector and

sum of export and import of those sectors. The formula for its calculation is mathematically expressed as:

$$\text{RCA}^2 = (x_{ij} - m_{ij}) : (x_{ij} + m_{ij}) \quad \text{(3)}$$

$\text{RCA}^2$ = -1, means that there is no export of commodity, thus $x_{ij}$ equates to zero. Interval values of $-1 < \text{RCA}^2 < 0$, points to comparative disadvantages. $\text{RCA}^2 = 0$, points to equal values of commodity in export and import, meaning export equals to import. Interval values of $0 < \text{RCA}^2 < 1$, points to the revealed comparative advantage. $\text{RCA}^2 = 1$ means there is no import, thus $m_{ij}$ equates to zero.

### 4.3.3 The Contribution to Trade Balance Index – CTB

CTB measures the contribution made by the sector to the national trade balance and it is obtained as difference between real and expected balance in an economy. The formula for its calculation is mathematically expressed as:

$$\text{CTB} = \frac{x_{ij} - m_{ij}}{X_{j+} M_j} - \frac{x_{ij} - m_{ij}}{X_{j+} M_j} * \frac{x_{ij} - m_{ij}}{X_{j+} M_j} * 100 \quad \text{(4)}$$

The left part of the equation represents the real balance of trade sector based on its share in the total foreign trade of the country, which is a cross-sectoral trade, and the right part of the equation measures the expected trade balance in the sector (commodity group) provided that each commodity contributes to the overall trade balance according to their weight in total trade. The difference between the actual and the expected trade balance defines a specific contribution to the total trade balance (Sujova, Hlavackova, & Marcinekova, 2015).

CTB > 0 means that actual surplus is higher than expected and the relative trade deficit is lower than expected, thus the sector has a positive contribution to the total trade balance. CTB < 0 means that the sector has a negative contribution to the total trade balance, the actual results in comparison with the expected are negative or insufficient.

### 4.3.4 Grubel-Lloyd Index – GLI

The Grubel-Lioyd Index – GLI analyses the level of representation of commodities with intrasectoral character of foreign trade. Higher levels of representation is symptomatic of higher level of national competitiveness intended to be measured. The original GLI measures export ability on the macroeconomic level. It has been modified for the evaluation at the sector level, and its calculation indicates the level of commodity representation in intrasectoral foreign trade of the country. The formula for its calculation is mathematically expressed as:

$$GLI = 1 - \frac{x_{ij}}{X_j} - \frac{m_{ij}}{M_j} / \frac{x_{ij}}{X_j} + \frac{m_{ij}}{M_j} \quad \text{..... (5)}$$

The values of GLI are in interval from 0 to 1 (0 <GLI< 1). If GLI = 1, there is a good level of intra-sectortrade. This means the country in consideration, exports the same quantity of commodity as much as it imports. Conversely, if GLi = 0, there is no intra-sectortrade at all. This would mean that the country in consideration only either exports or only imports the commodity. The closer GLI is to 1, the more it reveals approximately the same structure of production and export, i.e. higher complementarity of the two markets and vice versa (Jovovic & Jovovic, 2018).

### 4.3.5 Michaely Index – MI

MI enables to demonstrate the degree of specialisation, or the lack of specialisation of a country in the commodity group, or in the industry. Calculation of the index has been adjusted at two levels, sectoral (S-MI) and national (N-MI). However, special focus is given to N-MI because we are measuring competitiveness at a national level of Namibia but not necessarily at the sectoral level. N-MI measures the share of commodity group in total national export and share of commodity group in total national import (Jovovic & Jovovic, 2018). To highlight the degree of specialisation, or the lack of specialisation of Namibia in hides and skins, the following mathematical formula is used to calculate MI:

$$\text{N-MI} = \frac{x_{ij}}{\sum_{i=1}^{n} X_j} - \frac{m_{ij}}{\sum_{i=1}^{n} M_j} \quad \text{..... (6)}$$

The range of values from 0 < MI < 1, depicts a certain degree of specialisation of the country in the commodity group. The range of values from -1< MI < 0 indicates insufficient specialisation of the country in the commodity group.

### 4.3.6 Coefficient of correlation - r

Coefficient of correlation – r is a statistical method of correlation analysis used to measure the degree of association between variables to estimate the strength of the relationship. The formula for its calculation is mathematically expressed as:

$$\textit{Correl (X, Y)} = r = \frac{\sum(x-\bar{x})(y-\bar{y})}{\sqrt{\sum(x-\bar{x})^2 \sum(y-\bar{y})^2}} \quad \text{..... (7)}$$

The *X* represents a dependent and the *Y* represents an independent variable. The strength of the relationship between variables is articulated in numerical values of coefficient of correlation ranging from +1, 0 to -1, 0, meaning the closer the coefficients are to 1 (+1, 0 and -1, 0), the stronger the connection between the variables is (Jovovic & Jovovic, 2018).

## 4.4 Conclusion

Understanding comparative advantage and international competitiveness of the Namibian hides and skins industry is pivotal to compile several indexes used by economists to analyse past economic performance. These indexes include Revealed Comparative Advantage – RCA, Index of Contribution to Trade Balance – CTB, Grubel-Lloyd Index – GLI and Michaely Index – MI as discussed in this chapter. In Chapter 5, the indexes are assessed and discussed to find out the competitiveness level of Namibia's hides and skins on the international market.

# CHAPTER 5

# NAMIBIA'S HIDES AND SKINS IMPERICAL RESULTS AND DISCUSSIONS

## 5.1 Introduction

This chapter presents research results and discussions of export competitiveness of Namibia's hides and skins on the global market. To determine export competitiveness, other things matter, there is no silver bullet. Thus, comparative, and competitive advantages for Namibia's hides and skins were measured using the theoretical and empirical principles of indexes used to assess economic competitiveness.

## 5.2 Measuring the competitive performance of Namibia's hides and skins

Secondary data was analysed to obtain information about these facts by calculating the coefficients of RCA, $RCA^1$, and $RCA^2$, as well as coefficients of CTB, GLI, and MI. Trade data was sourced from trade statistics for international business development (TRADE MAP) in terms of total world export, total exports, and imports of Namibia, as well as exports and imports of assessed commodities of hides and skins in the leather industry. The time series analysis of competitiveness indicators depicts the change in competitiveness and comparative advantages or disadvantage of Namibia's hides and skins over the assessed 18 -year period from 2001 to 2018.

Trade data on locally sold and exported heavy, medium, and light bovine (cattle) hides and skins (goats and sheep) were obtained from the United Nations commodity trade statistics (UN COMTRADE), measured to determine their competitiveness on the international market. The data series used in this research are from 2001 to 2018 due to data availability and dynamic situations experienced during those years.

Five different hides and skins products are assessed in this chapter.

**Table 5. 1: Rawhides and skins specifications and product categories**

| Number | HS code | Specification | Categories |
|---|---|---|---|
| 1 | 4101 | Rawhides and skins of bovine | Hides and skins of bovine animals fresh or salted, dried, limed, pickled, or preserved, dehaired or split (excluding tanned, parchment-dressed, or further prepared) |
| 2 | 4102 | Raw skins of sheep or lambs | Raw skins of sheep or lambs fresh, or salted, dried, limed, pickled, or preserved, dehaired or split (excluding those with wool on, parchment-dressed or further prepared) |
| 3 | 4104 | Tanned or crust hides and skins of bovine | Tanned or crust hides and skins of bovine animals, without hair on, whether split (excluding further prepared) |
| 4 | 4105 | Tanned or crust skins of sheep or lambs | Tanned or crust skins of sheep or lambs, without wool on, whether split (excluding further prepared) |
| 5 | 4106 | Tanned or crust hides and skins of goats or kids | Tanned or crust hides and skins of goats or kids without wool on, and leather of hairless animals, whether split (excluding further prepared and leather of bovine and equine animals, sheep, and lambs) |

Source: ITC data (2019).

### 5.2.1 Summary statistics

Table 5.2 and Table 5.3 are summary statistics based on the 2001 to 2018 data used to calculate the six indices. The values in the tables are means over a period of 18 years. RCA and RCA[1] reveal competitiveness of hides and skins exports.

However, $RCA^2$ index for raw hides and skins of bovine was not competitive over the same period of analysis (Table 5.2).

**Table 5. 2: Summary statistics of RCA, $RCA^1$, and $RCA^2$ (Derived from 2001-2018 ITC export data)**

| RCA | | | | |
|---|---|---|---|---|
| **HS code** | **Maximum** | **Mean** | **Minimum** | **SD** |
| 4101 | 14.335 | 0.796 | 0.000 | 1.667 |
| 4102 | 167.587 | 9.310 | 3.092 | 3.197 |
| 4104 | 14.581 | 0.810 | 0.006 | 0.667 |
| 4105 | 98.537 | 5.474 | 2.434 | 1.520 |
| 4106 | 28.551 | 1.586 | 0.000 | 2.799 |
| **$RCA^1$** | | | | |
| **HS code** | **Maximum** | **Mean** | **Minimum** | **SD** |
| 4101 | 10.725 | 0.631 | 0.000 | 1.558 |
| 4102 | 150.912 | 8.877 | 3.092 | 2.696 |
| 4104 | 14.575 | 0.857 | 0.055 | 0.656 |
| 4105 | 96.103 | 5.653 | 2.787 | 1.357 |
| 4106 | 28.551 | 1.679 | 0.000 | 2.856 |
| **$RCA^2$** | | | | |
| **HS code** | **Maximum** | **Mean** | **Minimum** | **SD** |
| 4101 | -6.333 | -0.352 | -1.000 | 0.709 |
| 4102 | 15.104 | 0.839 | 0.375 | 0.204 |
| 4104 | 0.681 | 0.038 | -0.984 | 0.558 |
| 4105 | 17.013 | 0.945 | 0.763 | 0.070 |
| 4106 | 1.000 | 0.000 | 0.000 | 0.000 |

Source: Author's own computation.

Table 5.3 depicts that the export of hides and skins from Namibia over 18 years was not competitive as indicated by the CTB, GLI and MI indices. The hides and skins sector reveal negative contribution to the total trade balance because the actual weight in total trade is less than expected. Namibia imports more hides and skins relative to what it exports pointing to lower complementarity of the local and international markets. These demonstrates insufficient specialisation of Namibia in hides and skins.

**Table 5. 3: Summary statistics of CTB, GLI and MI (Derived from 2001-2018 ITC export data)**

| CTB | | | | |
|---|---|---|---|---|
| **HS code** | **Maximum** | **Average** | **Minimum** | **SD** |
| 4101 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4102 | 0.0009 | 0.0003 | 0.0001 | 0.0002 |
| 4104 | 0.0000 | 0.0000 | -0.0001 | 0.0000 |
| 4105 | 0.0019 | 0.0010 | 0.0004 | 0.0004 |
| 4106 | 0.0001 | 0.0000 | -0.0002 | 0.0001 |
| **GLI** | | | | |
| **HS code** | **Maximum** | **Average** | **Minimum** | **SD** |
| 4101 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4102 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4104 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4105 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4106 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| **MI** | | | | |
| **HS code** | **Maximum** | **Average** | **Minimum** | **SD** |
| 4101 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4102 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4104 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4105 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |
| 4106 | 0.0011 | 0.0001 | -0.0001 | 0.0004 |

Source: Author's own computation.

### 5.2.2 RCA of hides and skins

The positive values of RCA index from 2001 to 2018 reveals that the hides and skins sector from Namibia has comparative advantages on domestic and export markets (Figure 5.1). RCA values of rawhides and skins of sheep are greater than 1, pointing to international competitiveness. The calculated values of raw skins of sheep or lamb show international competitiveness over an eighteen-year retrospect, with the highest recorded RCA value of 16.68 in 2001 and the lowest RCA value of 3.09 in 2014. The average RCA index of 9.31 reveal a strong comparative advantage of raw skins of sheep or lamb from 2001 to 2018.

Drought has a significant impact on export competitiveness on all raw and processed hides and skins due to the number of livestock marketed per year. Namibia experienced drought in 2008 and from 2011 to 2018. The 2008 drought forced farmers to sell more sheep, resulting in an increase in the number of raw skins of sheep from 1,118 in 2008 to 1, 817 in 2013. Increasing sales of sheep

from 2008 to 2013 coincided with the increase in international competitiveness for the same period. Namibia experienced severe drought from 2011 to 2018 resulting in farmers selling more sheep during this period coinciding with an increase in competitiveness (Figure 5.1). Oversupply of skins of sheep has a negative impact on overall demand for skins. According to the USDA Foreign Agricultural Service (2018), in the Global Agricultural Information Network (GAIN) Report, China is by far the largest importer of hides and skins in the world, supplying the massive leather-production industry. However, imports from 2014 to 2017 have been largely stagnant, and recently imports have begun declining especially in the first quarter of 2018 where imports went down by nearly 10 percent from the same period in 2017. A combination of both internal and external factors has contributed to the reduction of demand and has increased the cost of production of leather in China. These factors include:

- Material substitution: The leather industry faces severe competition from substitution with petroleum based synthetic material, primarily in shoe manufacturing.
- Rising labour costs: Increasing labour costs are also impacting the industry.
- Tightening environmental regulations: Along with labour costs, both tanners and shoe manufacturers have reported that environmental regulations have tightened over the past few years. Environmental regulators are clamping down on wastewater, solid waste and gas released from tanners and shoemakers.
- Industry consolidation: As a result of environmental regulations, many smaller tanneries that cannot comply with more stringent policies are closing down.
- Trade tensions: The uncertainty surrounding the ongoing trade tension between China and the United State is causing concern among the Chinese leather industry for both imports of hides from the United States, as well as exports of finished products to the United States.

The global economic recession of 2007 to 2009 had a negative impact on the competitiveness of raw and processed hides and skin products (Figure 5.1).

Besides drought, sector specific policies have an influence on the number of livestock and livestock products traded over a specific period. According to the Meat Board of Namibia (2019), the Small Stock Marketing Scheme (SSMS) resulted in the number of sheep marketed declining from 1.3 million in 2003 to 25,498 thousand in 2018. In 2004, the Namibian Government implemented the SSMS with the aim of value addition. Implementation of the policy imposed a 1:1 slaughter export ratio for sheep. As a result, raw skins of sheep or lamb quantitates increased by 70 percent from 2,025 skins in 2004 to 2,866 skins in 2005 significantly correlating with RCA values increase from 7.68 to 13.91 respectively. In 2005, the slaughter export ratio was amended to 2:1 and a further 6:1 in 2006 resulting in another significant export increase of raw skins of sheep with 68 percent between 2006 and 2007. This is evidenced by an increase in revealed comparative advantage between 2006 and 2007 (Figure 5.1). In 2013, the Government re-introduced the SSMS 1:1 slaughter-export ratio as a drought mitigating measure to relieve pressure on pastures. The effect of the revised policy contributed to an increase in RCA values from 3.09 in 2014 to 11.97 in 2018 pointing to comparative advantage.

Tanned hides and skins of bovine also revealed international competitiveness from 2001 to 2018. The lowest RCA value of tanned bovine of 2.43 was recorded in 2001 while the highest RCA value of 7.86 was recorded in 2008 (Figure 5.1). The average value of the RCA index of tanned or crust hides and skins (wet blue) for the study period was 5.47 revealing international export competitiveness and export specialisation.

Reduction in competitiveness from 2016 to 2018 is linked to a number of factors such as:

- Global oversupply of raw bovine hides due to an increasing number of cattle slaughtered to mitigate against drought.
- Decreasing demand for genuine leather products due to economic downturn leading to consumers opting for synthetic leather products.

- Closure of automotive industries in South Africa.

Rawhides and skins of bovine shows international competitiveness from 2001 to 2003 with the aiming period (2004 to 2018) showing domestic competitiveness with an index value of less than one. Rawhides and skins of bovine average RCA value from 2001 to 2018 was competitive on domestic market with a value of 0.80.

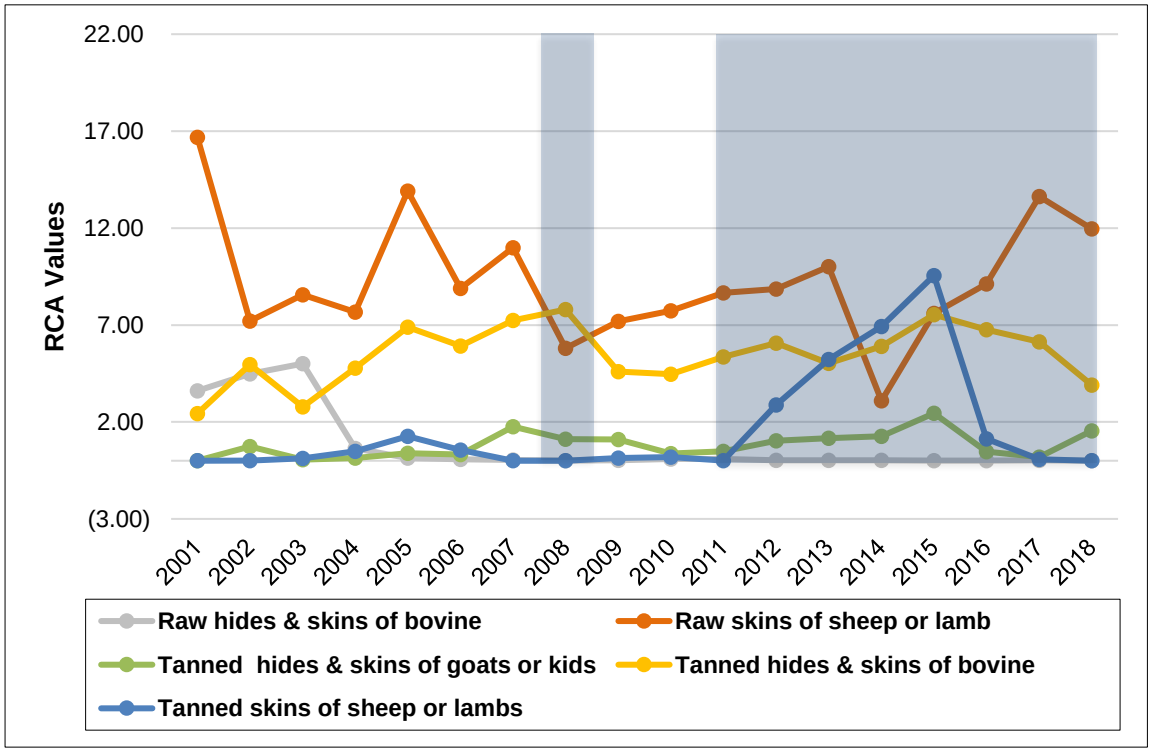


**Figure 5.1: RCA index of the hides and skins sector**

Source: Author's own computation based on ITC data (2019).

Tanned hides and skins of goats or kids reveal competitiveness for the period under review. International competitiveness was achieved from 2007 to 2009 and again 2012 to 2015 and 2018 (Figure 5.1). Tanned hides and skins of goats or kids average RCA value reveal that the product is not internationally competitive with a value of 0.81.

Tanned skins of sheep or lambs reveal competitiveness on domestic and international markets. International competitiveness was achieved in 2005 and

from 2011 to 2016. Average RCA value of tanned or crust skins of sheep or lamb was internationally competitive with an RCA index value of 1.59 (Figure 5.1).

Namibia has maintained a comparative advantage for 14 consecutive years without interruption. This is supported by Bojnec & Ferto (2014), who argued that the stability of the value of the RCA indices (RCA >1) on the global market reveal comparative advantage.

Economic, environmental and policy related impacts discussed under section 5.2.1 have a significant impact on the results of RCA (Indext of competitiveness growth), Net Trade Performance indicator, Contributions to Trade Balance, and Michaely indexes.

RCA[1] (Index of Competitiveness Growth ) reveal values that are greater than 1 during the entire period, which points to a significant degree of competitiveness of Namibia's hides and skins on the international market. The raw skins of sheep or lamb and tanned hides and skins of bovine recorded the highest levels of competitiveness, with significant fluctuations, relative to other measured commodities from 2001 to 2018. Raw hides and skins of bovine started from a significant level of competitiveness from 2001 to 2003, but marginally decreased to values less than 1 from 2004 to 2018 denoting that this specific product has no competitive advantage on the international market relative to other measured products (Figure 5.2). Tanned hides and skins of goat or kids started from an insignificant level of competitiveness from 2001 to 2006, but marginally increased to a significant level of competitiveness from 2007 to 2009 and from 2012 to 2015. This commodity ended with a significant increased level of competitiveness in 2018 relative to other measured commodities (Figure 5.2).

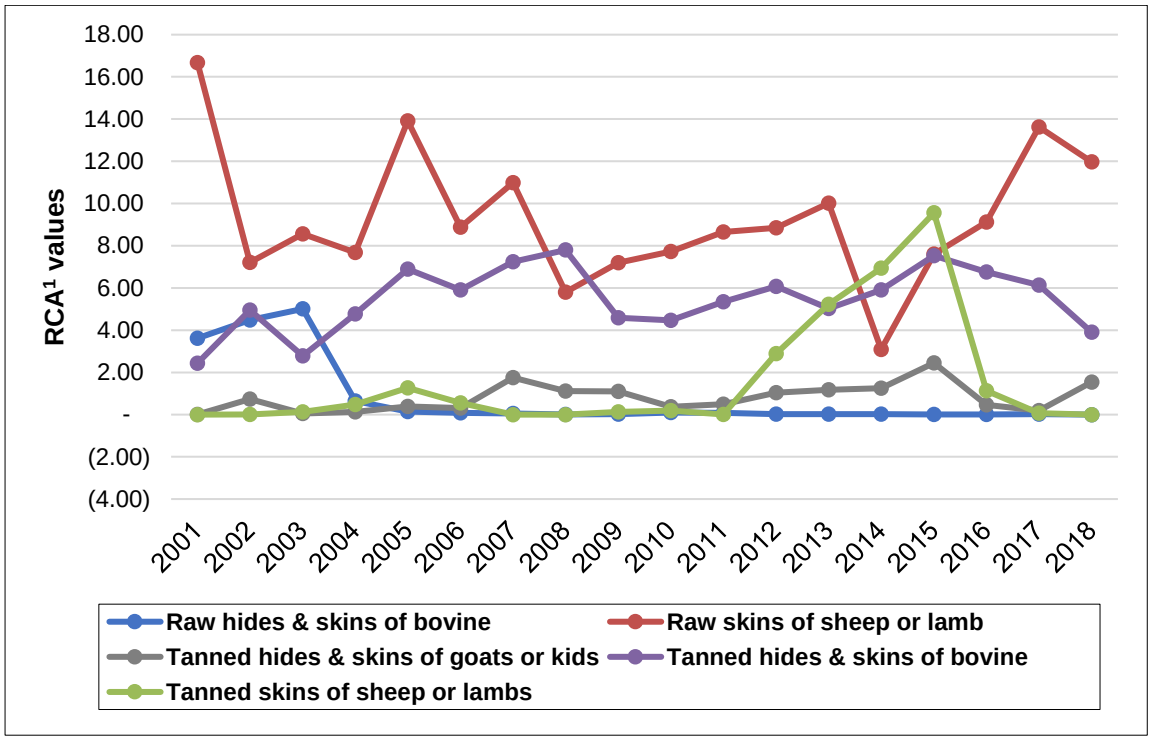


**Figure 5.2: RCA[1] index of the hides and skins sector**

Source: Author's own computation based on ITC data (2019).

RCA[2] (Net Trade Indicator) recorded marginally flactuating positive and negative values for different commodities of hides and skins from 2001 to 2018 (Figure 5.3). The raw skins of sheep or lamb and tanned hides and skins of bovine are the only two commondities that maintained uninterrupted positive values of RCA[2] pointing to revealed comparative advantage of the sector in these specific products. The rest of the measured commodities in Figure 5.3 point to comparative disadvantages. However, rawhides and skins of bovine maintained positive values of RCA[2] for the first four uniterrupted years (2001 to 2004) followed by negative values recorded from 2005 to 2018). Tanned or crust hides and skins of goats or kids recorded negative values in 2001 and from 2003 to 2005, but achieved an uninterrupted revealed comparative advantage from 2011 to 2016.

Tanned skins of sheep or lamb recorded negative values (RCA[2]) 2001 to 2003, but achieved an uninterrupted revealed comparative advantage from 2013 to 2016 (Figure 5.3). The RCA[2] indicator is related to index of Contribution to Trade Balance. CTB index indicate positive contribution of the sector to the national trade

balance and economic growth from 2001 to 2004. However, it points to negative influence of the sector of hides and skins in the creation of national trade balance from 2005 to 2018 proven by two commoditries, rawhides and skins of bovine and tanned skins of sheep or lamb, dominated with $RCA^2$ values less than 0.

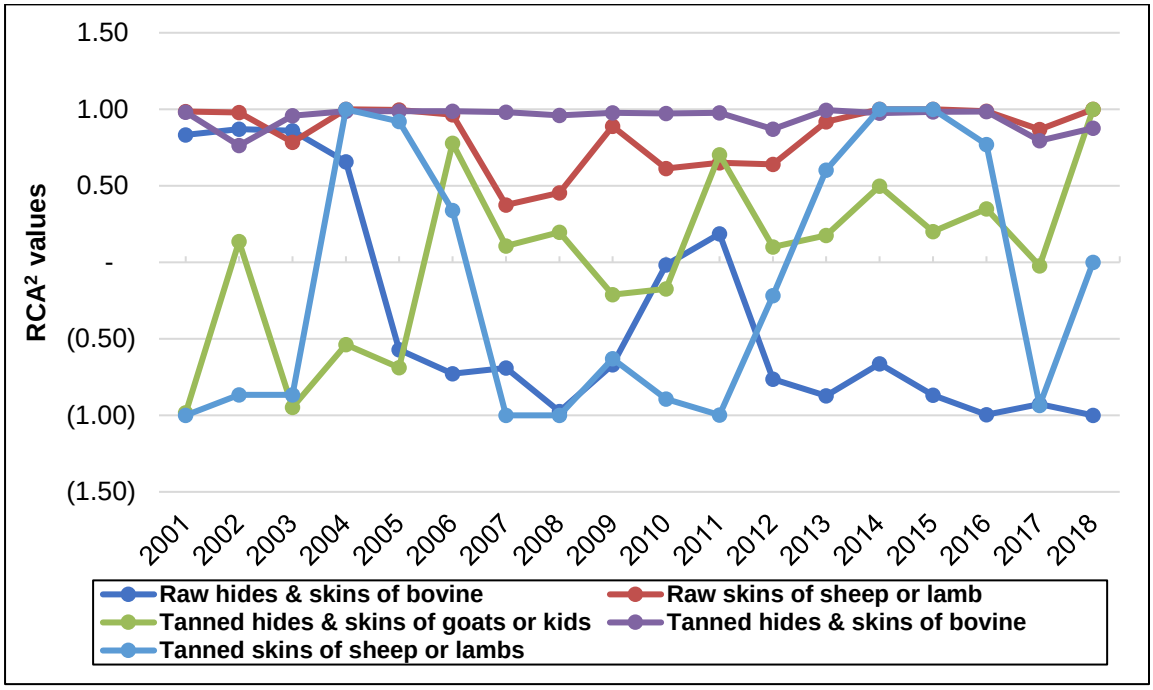


**Figure 5.3: $RCA^2$ index of the hides and skins sector**

Source: Author's own computation based on ITC data (2019).

### 5.2.3 CTB of hides and skins

The negative CTB values achieved in some commodities of the hides and skins sector shows that the contribution of the sector to the overall trade balance is negative and that there is no real surplus. This in turn means that the relative trade deficit is smaller than expected. Negative results of CTB were observed in the rawhides and skins of bovine and tanned skins of sheep or lamb, where negative values have been recorded from 2005 to 2010 and from 2001 to 2003 respectively. Figure 5.4 shows that raw skins of sheep or lamb and tanned hides and skins of bovine maintained uninterrupted positive CTB values from 2001 to 2018.

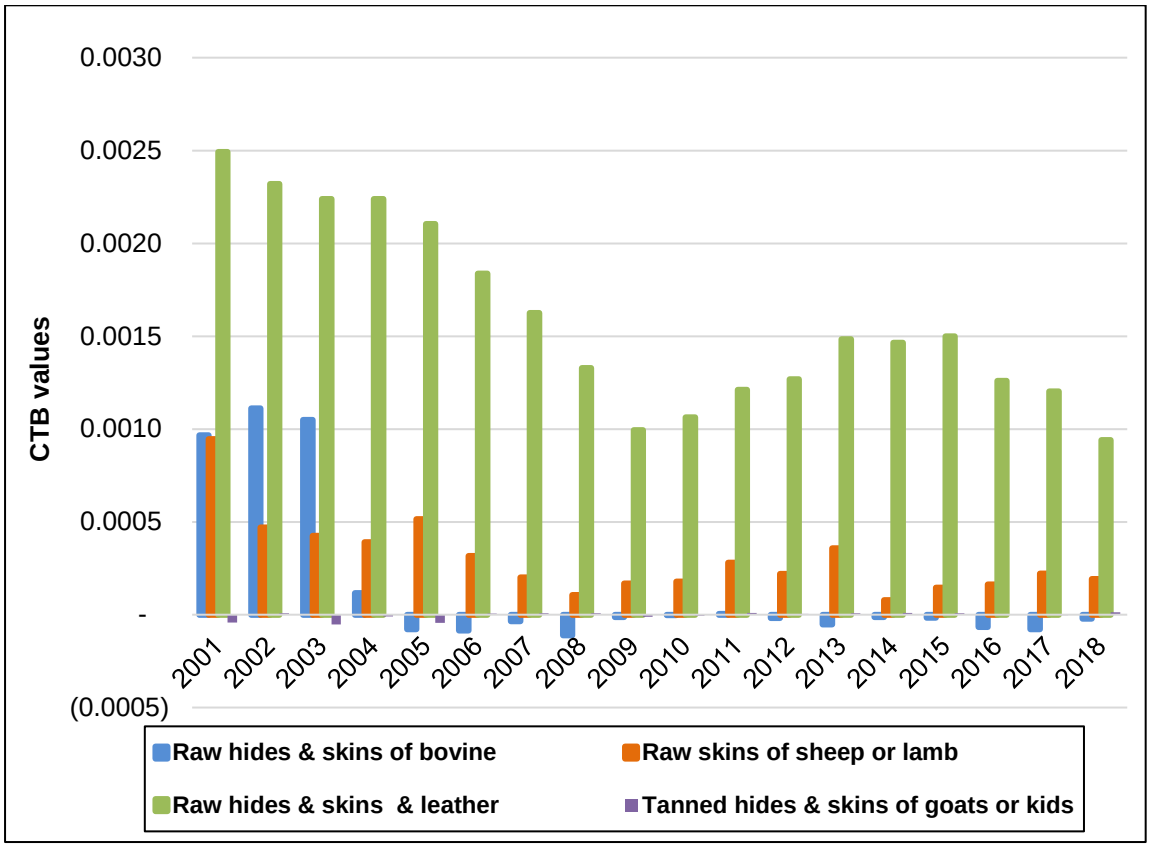


**Figure 5.4: CTB index of the hides and skins sector**

Source: Author's own computation based on ITC data (2019).

The CTB results for three commodities (rawhides and skins of bovine, tanned hides and skins of bovine and raw skins of sheep or lamb) recorded values greater than 0 for the first four years. Namibia had a higher actual surplus of rawhides and tanned skins of bovine and raw skins of sheep and a relative trade deficit from 2001-2004 (Figure 5.4).

### 5.2.4 GLI of hides and skins

The GLI values in Figure 5.5 shows a high degree of representation commodities of intra-sectoral character of foreign trade and an individual high share of commodities in the hides and skins sector. This means that Namibia exports the same quantity of hides and skins as much as it imports for most of the commodtities. This is clearly demonstrated by rawhides and skins of bovine from 2005 to 2010 and from 2012 to 2018 pointing to a very good level of intra-sectoral

trade. However, raw skins of sheep or lamb and tanned hides and skins of bovine significantly contributed to a no intra-sectortrade from 2005 to 2013 where GLI values were 0 or closer to 0. This implies that Namibia exports more of those two commodities relative to what it imports. The rawhides and skins of bovine and tanned skins of sheep or lamb experienced higher GLI values, though with frequent fluctuations, pointing to higher levels of national competitiveness in these specific commodities. Overall, the GLI values are closer to 1, revealing approximately the same structure of production and export of hides and skins in Namibia. This means that there is a higher complementarity in production and export of hides and skins.

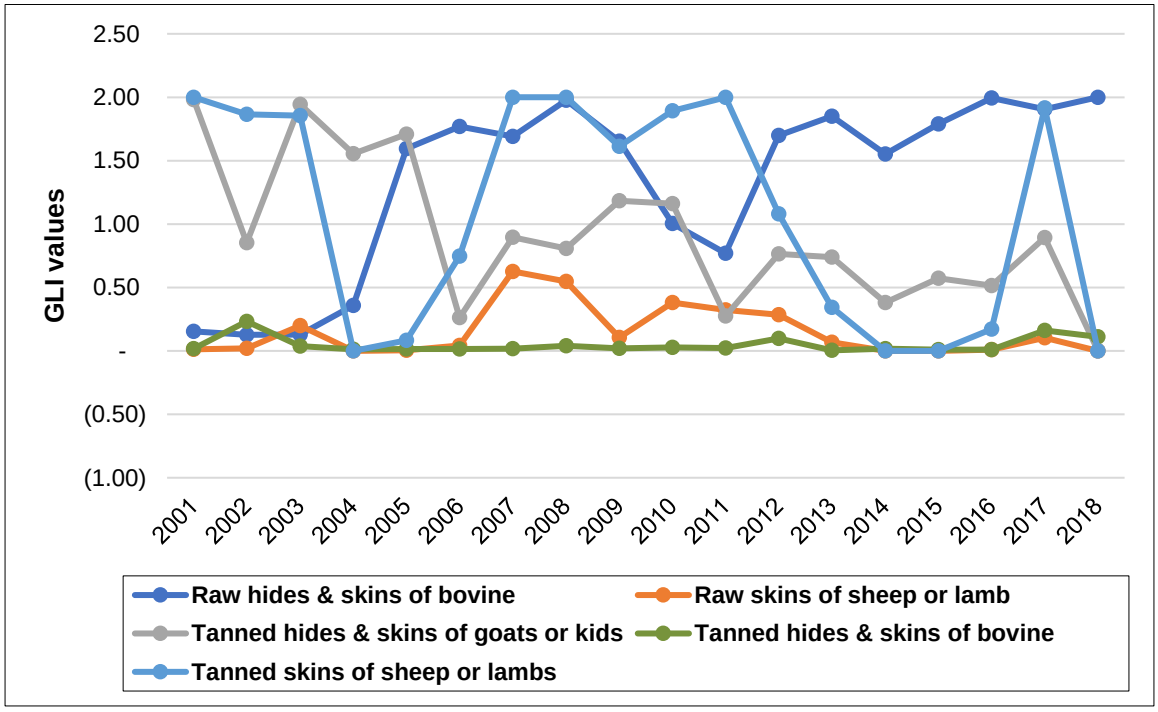


**Figure 5.5: GLI index of the hides and skins sector**

Source: Author's own computation based on ITC data (2019).

### 5.2.5 ML of hides and skins

Figure 5.6 shows that Namibia experienced a certain degree of specialisation in rawhides and skins of bovine and raw skins of sheep or lamb for 18 uninterrupted years (2001-2018). Namibia's degree of specialisation in rawhides and skins of bovine started with a high increasing trend from 2001 to 2003. Rawhides and skins of bovine experienced a sharp decrease in 2004 followed by significant fluctuations

between 2005 and 2017 thus ending on a decreasing trend in 2018. Namibia recorded an insufficient specialisation in all three tanned hides and skins products viz. tanned hides and skins of goats or kids, tanned skins of sheep or lambs and tanned hides and skins of bovine in 2003.

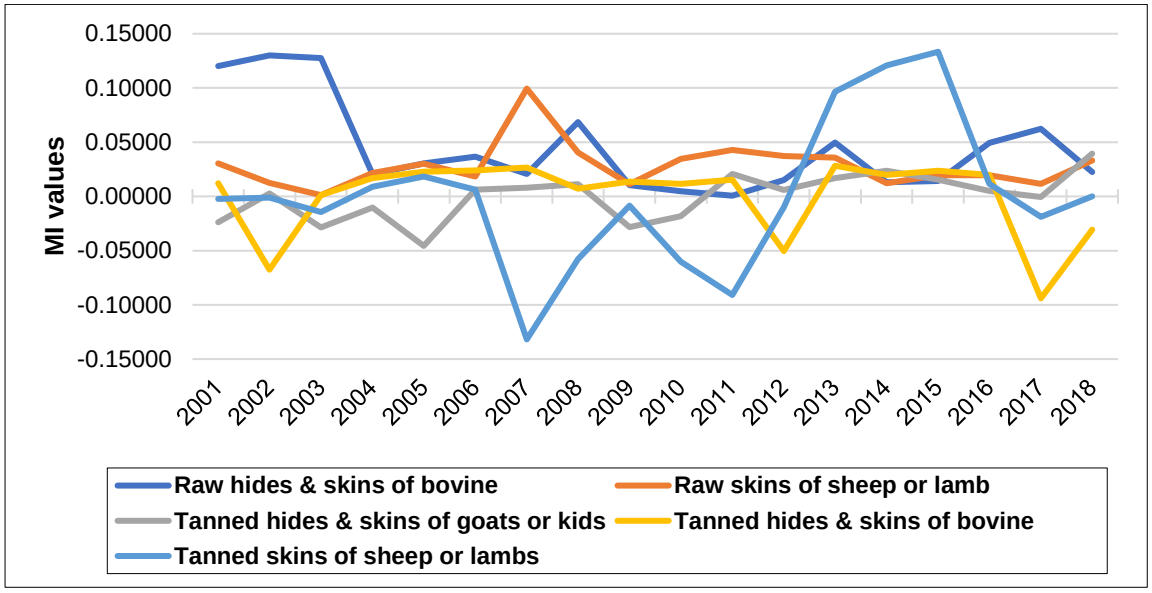


**Figure 5.6: MI index of the hides and skins sector**

Source: Author's own computation based on ITC data (2019).

Figure 5.6 depicts that Namibia experienced certain degrees of specialisation in all assessed hides and skins commodities from 2013 to 2016. Tanned skins of sheep or lambs recorded insufficient specialisation from 2007 to 2012 before the situation was reversed to a certain degree of specialisation with a sharp increase experienced between 2013 and 2015. Tanned hides and skins of bovine started with a certain degree of specialisation in 2001 but ended with an insufficient specialisation in 2018 unlike tanned hides and skins of goats or kids which started with an insufficient specialisation in 2001 but ended with a certain degree of specialisation in 2018.

### 5.2.6 Correlation coefficients

Findings of dependency between selected indicators (RCA, $RCA^1$, $RCA^2$, CTB, GLI and MI) were analysed using the statistical correlation method to determine

the factors affecting the export competitiveness of hides and skins in Namibia. Table 5.1 depicts the dependencies based on the calculated correlation coefficient.

The correlation results depicts strong mutual connection of analysed indicators of foreign trade competitiveness of hides and skins from 2001 to 2018. Out of sixty-five presented coeficients of correlation, five shows perfect correlation (r = 1), four shows high correlation (above 0.90), ten shows significant correlation (0.41-0.70), four shows low correlation (0.21-0.40), three is nearly without correlation (0-0.20) and twentysix shows strong negative correlation (r = -1).

**Table 5. 4: Correlation coefficients**

| **Correlation** | **Y** | | | | |
|---|---|---|---|---|---|
| **X** | **RCA** | **RCA$^1$** | **RCA$^2$** | **CTB** | **MI** |
| **Raw hides & skins of bovine** | | | | | |
| MI | 0.8772 | 0.8772 | 0.5502 | 0.8512 | |
| GLI | -0.8147 | -0.8147 | -0.9986 | -0.8356 | -0.5401 |
| RCA | | 1 | 0.8165 | 0.9903 | 0.8772 |
| **Raw skins of sheep or lamb** | | | | | |
| MI | 0.2101 | 0.2101 | -0.6941 | -0.0893 | |
| GLI | -0.1503 | -0.1503 | -0.9957 | -0.3169 | 0.7096 |
| RCA | | 1 | 0.1412 | 0.6512 | 0.2101 |
| **Tanned hides & skins of bovine** | | | | | |
| MI | 0.0970 | 0.0970 | 0.9695 | 0.2607 | |
| GLI | -0.0932 | -0.0932 | -0.9905 | -0.1211 | -0.9322 |
| RCA | | 1 | 0.0677 | 0.0447 | 0.0970 |
| **Tanned hides & skins of goats or kids** | | | | | |
| MI | 0.5605 | 0.5605 | 0.8663 | 0.8569 | |
| GLI | -0.5139 | -0.5139 | -0.9921 | -0.8945 | -0.8807 |
| RCA | | 1 | 0.4707 | 0.5717 | 0.5605 |
| **Tanned skins of sheep or lambs** | | | | | |
| MI | 0.8241 | 0.8241 | 0.7571 | 0.9404 | |
| GLI | -0.5793 | -0.5793 | -0.9638 | -0.7357 | -0.7233 |
| RCA | | 1 | 0.6394 | 0.6568 | 0.8241 |

Source: Author's own computation.

The results show that Namibia's hides and skins export competitiveness is strongly influenced by the following factors:

- Namibia's level of specialisation in hides and skins,
- High level of inter-sectoral foreign trade of the country,
- Export performance of the sector at a national level,

- The share of sector in export of the country which has mainly positive contribution, of the sector to active foreign trade balance of the country.

## 5.3 Conclusion

The positive values of the RCA index are recorded in all observations revealing that the hides and skins of Namibia and the leather sector at large have comparative advantages on domestic and export markets. It also points out that Namibia is internationally competitive in the export of hides and skins. Namibia illustrated stability values of the RCA index on the global market by maintaining its comparative advantage for 14 consecutive years without interruption. $RCA^1$ experienced values that are greater than 1 during the entire period, pointing to a significant degree of competitiveness of Namibia's hides and skins on the international market. $RCA^2$ indicator is related to the index of Contribution to Trade Balance – CTB indicating the contribution of the sector to the national trade balance and economic growth from 2001 to 2004. It however points to a negative influence of the sector of hides and skins in the creation of foreign trade balance from 2005 to 2018.

Negative CTB values are achieved in some commodities of the hides and skins sector. This means that the contribution of the sector to the overall trade balance is negative and that there is no real surplus. This, in turn, means that the relative trade deficit is smaller than expected. The GLI values show a high degree of representation commodities of intra-sectoral character of foreign trade and an individual high share of commodities in the hides and skins sector. This means that Namibia exports the same quantity of hides and skins as much as it imports for most of the commodities. GLI values are closer to 1, revealing approximately the same structure of production and export of hides and skins in Namibia. This means that there is a higher complementarity in the production and export of hides and skins. Namibia demonstrated competitiveness in the export of hides and skins on the international market, although it was fluctuating and more on a decreasing

trend. Recommendations to maintain or improve Namibia's international competitiveness on hides and skins are discussed in Chapter 6.

# CHAPTER 6

# CONCLUSION AND RECOMMENDATIONS

## 6.1 Introduction

The aim of this dissertation was to examine hides and skins export competitiveness of Namibia on the global market from 2001 to 2018. Global and African continent hides and skins production is growing, although the African continent occupies a relatively low position in production and trade despite significant livestock population and low labor costs. Namibia's hides and skins sector is also growing, even though at a slow pace because the country is arid, posing various environmental constraints for livestock production and therefore affecting volumes and quality of hides and skins. Despite these challenges, the analysis of this study shows that Namibia is competitive in the production and trade of hides and skins on the global market. Even though there are other factors that contribute to the negative effect on the competitiveness of the sector, counter solutions are recommended in this chapter.

The subsequent section of the chapter provides a summary of significant findings of the study and conclusions made based on calculated data. The chapter concludes with recommendations to the benefit of all stakeholders in the hides and skins sector.

## 6.2 Summary

### 6.2.1 Literature review

According to Jabbar *et al.* (2002), meat consumption in Sub-Saharan Africa (SSA) is projected to increase from about 5 million tons in 1993 to 12 million tons in 2021 as a result of rapidly increasing population, urban growth and a modest increase in per capita income. This is most likely to eventually increase the share of hides and skins production at regional and national levels by 2021 because, production of hides and skins, as a by-product, is highly correlated to livestock production and trade for red meat. The NPC (2018) stated that Namibia's projections towards the real Gross Domestic Product (GDP) and GDP per capita is expected to expand from 4 to 5 percent annually and reach N$ 56,000 (USD 4,300) by 2022 respectively. Over the entire NDP5 period (2018 – 2022), the economy is projected to create about 200,000 jobs of which agriculture will be the single largest employer at 30 percent of the total employment.

The Namibian agricultural sector is faced with several challenges that affect competitiveness. One of the most significant factor affecting competitiveness is the traditional livestock production system in Namibia. This is a cultural factor in livestock rearing of keeping livestock as a sign of wealth, which discourages commercialisation of livestock and livestock products including hides and skins.

Namibia is gifted with an abundance of hides and skins from livestock farming that could potentially boost the leather sector (Schade, 2019). In the Northern Communal Areas (NCA), hides and skins are not systematically collected for further processing due to lack of information flow when approached from the market side. Therefore, hides and skins are often not of outstanding quality but marked with scratches from bushes or caused by horns of other livestock. This results in hides and skins carrying a poor image in the global markets because of various constraints found at different value chain stages.

According to Schwab (2009), there are many complex determinants of competitiveness. The determinants, also referred to as 12 pillars, are:

- Institutions,
- Infrastructure,
- Macroeconomic environment/stability,
- Health and primary education,
- Higher education and training,
- Goods and market efficiency,
- Labor market efficiency,
- Financial market development,
- Technological readiness,
- Market size,
- Business sophistication, and
- Innovation.

Macro economic studies show that different pillars affect different countries differently. Therefore, the best way for Namibia to improve its competitiveness is by putting emphasis on the aforementioned determinants/pillars. As a developing country, Namibia can enhance the hides and skins sector competitiveness by considering provided recommendations at the end of this chapter.

### 6.2.2 International and local status quo of the hides and skins sector

According to Ocloo *et al.* (2014) increased competitive pressure and rapid technological changes have brought the business world to a point where developing economies are hardly hit and experience new challenges in attempts to globalise their operations and become competitive. Factors such as the rapid increase in population, urban growth, and a modest increase in per capita income, resulted in projections of an increase in meat consumption in Sub-Saharan Africa. The production of hides and skins as a by-product is highly correlated to meat consumption resulting in an increased share of hides and skins production at global and local levels.

About 65 percent of all leather globally comes from bovine material. This is supported by the analysis in this study showing that rawhides of cattle have dominated the global production for 18 uninterrupted years. In Namibia, rawhides of cattle also recorded the highest production trend experienced by a marginally continuous decreasing trend from 2006 to 2018. The production of raw skins of sheep and raw skins of goat showed variable trends during the period under review.

Rawhides of cattle dominated the total export than all other commodities with an increasing trend in the first 3 years although it ended with a significant decreasing trend in the last 15 years. Tanned skins of goat started with a marginal increase and ended with a marginal decrease. Raw skins of sheep experienced fluctuating increasing trends.

### 6.2.3 Hides and skins export competitiveness of Namibia on the global market

The analysed results of the Namibia's hides and skins export competitiveness show that Namibia maintained its comparative advantage for 14 consecutive years without interruption pointing to an internationally competitive nation in the export of hides and skins. The hides and skins sector contribution to the overall trade balance is negative and that there is no real surplus, which is quite contrary to what was expected. However, Namibia has a higher complementarity in production and export of hides and skins.

## 6.3 Conclusion

The purpose of this study was to measure the hides and skins export competitiveness of Namibia on the global market over an 18-year period from 2001 to 2018. The dissertation concludes that Namibia demonstrated competitiveness in the export of hides and skins on the international market, although it was fluctuating and more on a decreasing trend.

A number of constraints, some highlighted by MITSMED (2015), are facing Namibia's hides and skins production:

- Declined income from livestock production caused by recurring drought for the past 15 years,
- Bush encroachment, having an impact on livestock farming,
- Diversification from ox farming to weaner farming,
- Gradual decline in cattle and sheep production,as well as disinvestment in small stock industry,
- Decline in utilisation of the seven export abattoirs' capacities,
- Producers diversifying to tourism and game farming,
- Cultural factors of keeping large herds of livestock as a sign of wealth,
- Limited broadcasts on market information,
- Low yields and non-collection of a significant proportion of hides and skins,
- Animal husbandry and disease management,
- Slaughtering facilities and practices,
- Post-slaughter preservation and handling, and
- Tanning and processing techniques and facilities.

The sector consists of various formal and informal hides and skins collectors. In terms of meat processing, Namibia has 7 export abattoirs, about 65 small abattoirs, and 1 operational feedlot. There are 3 major tanneries (Meatco (Okapuka), Nakara and Brukkaros). There are also a few community-based tanneries. All of these serve as key players in the hides and skins sector.

Sound and timely statistics are key to informed decisions, policies and investments that tackle issues related to food and agriculture, hunger and malnutrition, rural poverty, food systems and productivity to the sustainable use of natural resources or climate change. However, sound, and timely statistics are lacking in the hides and skins sector of Namibia. Challenges of sustainable and equitable economic progress will require ingenuity and application from diverse stakeholders across the globe as well as a truly collaborative approach. These

challenges and some of the strategies will be discussed under recommendations of this chapter.

Therefore, with consideration of the 12 pillars/determinant of competitiveness, Namibia will improve national competitiveness and ultimately contribute to the African continent and globally.

## 6.4 Recommendations

Numerous recommendations arise from this analysis which could enhance the performance of the hides, skins and leather sectors in Namibia. The following measures and actions should be taken by household heads, the government of Namibia, and national and international organisations:

- There should be frequent awareness creation and training programmes for different value chain actors from farmers to the warehouses level by government and NGOs,
- There is need to capacitate hides and skins producers with technical and financial support to ensure consistency of supply and quality,
- There is need to utilise livestock by-products effectively and decrease the prevalence of skin disease and parasites by providing adequate veterinary services,
- Collection and marketing of hides and skins should be done immediately after slaughtering to reduce post-harvest spoilage and loss of the product,
- All hides and skins producers and collectors need to use proper methods of hides and skins preservation, and slaughtering facilities must be fulfilled by the government to maintain hides and skins quality,
- The government and private institutions should organise individual middlemen under micro and small enterprises for the proper management of hides and skins and for generating employment opportunities,
- Namibia should explore international hides and skins sectors and replicate best practices to improve its competitiveness,

- There is need to use available latest technology to increase efficiency and effectiveness of the industry's key players,
- Namibia Standards Institution should have the capacity to test hides and skins commodities to assure authorities of importing countries that Namibian producers adhere to the required standards,
- Since Namibia does not currently have the capacity to supply large mass markets like China, it is therefore important to produce distinguishable hides and skins from commodities imported from other countries and regions and to identify and target specific niche markets,
- In this respect, the branding and labeling of Namibian products play an important role. Certification, including eco-certification, by internationally-recognised organisations such as fair-trade bodies and the Forest Stewardship Council could be an additional strategy to distinguish Namibian goods from other products, and
- For Namibia to realise its goal of producing the identified products, it is of utmost importance that the country concentrates its efforts on encouraging manufacturers to be globally competitive and innovative. The quality of the products must be good, and a continuous improvement of product quality is one of the key strategies to maintain the price competitiveness of Namibian products.

<u>Implementation of stages of development: smooth transitions</u>

i) Namibia should reflect on a smooth transition from one stage of development to another by placing increasingly more weight on the areas that are becoming more important for the country's competitiveness as it develops the hides and skins sector.

ii) It is recommended that since productivity has been found to be the main determinant of long-term growth, employing GCI should be considered by academics and economists to measure the factors that determine productivity. Measuring the factors that drive long-term growth and prosperity will help policymaker's identify challenges to be addressed and strengths to build on when designing the economic growth strategies for Namibia.

iii) As growth in income is key to poverty reduction, efforts should be made to realise higher income from the volume of animals marketed and/or promote the growth of export trade in hides and skins besides live animals. Enhanced export trading in hides and skins provides a way for improving earnings realised from animals marketed and slaughtered for domestic consumption in Namibia and diversification of the country's earnings from commodity exports. However, to come up with strategies that offer the best potential for growth of the hides and skins export trade, a good understanding of the value chain is required including constraints and opportunities facing actors in the chain.

There is an acknowledgement in the manufacturing sector that the government has done well in marketing Namibian products overseas, but it is felt that concerted efforts should be made to explore the international market, particularly for the sale of hides, skins and leather products. Despite its acknowledged role, the Government of Namibia is expected to play an important role, especially in negotiating trade agreements with the rest of the world. This could facilitate tariff preferences for Namibian products in international markets. Manufacturers should also expect the Government to create opportunities to market their products through participation in international trade exhibitions (i.e. trade fairs) and related international trade missions. The Namibian Government is expected to promote industrial products both in the local market and overseas so that these markets gain confidence in products manufactured in Namibia. Efforts aimed at promoting the consumption of Namibian products, such as Team Namibia, are steps in the right direction.

The Ministry of Agriculture, Water, and Forestry, in collaboration with representative bodies such as the Meat Board, should carry on with the implementation of policy measures which are targeted at local value addition for the livestock sector (i.e. both cattle and small stock). Nevertheless, the paper also recommends that such policy measures must be accompanied by an adequate infrastructural development i.e. feedlots.

Manufacturers have identified potential markets to which their products could be exported. It is, therefore, important that the Ministry of Industrialisation and Trade (MIT) plays a facilitating role regarding the entry of Namibian products into foreign markets. MIT is expected to be active in the areas of assessing the potential of the Manufacturing Sector in Namibia, organising trade missions and exhibitions, as well as in negotiating international trade agreements within the framework of SACU, with possible markets where such agreements do not already exist. Preferential trade agreements could be negotiated with countries such as China, Japan, Indonesia, Malaysia, and India, given the demand for leather goods in East Asia.

## 6.5 Limitations of the study and areas of further research

This study has limitations that should be pointed out. There is lack of data experienced over the time series data on rawhides and skins on international markets. Lack of data was experienced in 2007 and from 2010 to 2018 and on Trade Map in 2019. Another limitation of the study is one of the used indexes to measure competitiveness, Revealed Comparative Advantage (RCA), having an isometry problem.

The research undertaken in this thesis has highlighted a number of topics and several areas where information is lacking on which further research would be beneficial. Although some of these topics and areas were addressed by the researcher in this thesis, others remained unresolved. In particular, there is lack of studies in Namibia focusing on commercial production of hides and skins, its value addition and leather production as immediate end products of meat (beef, mutton, and kid/chevon) production from livestock. Further studies may review competitiveness of other hides and skins products that were not covered by the researcher in this thesis.

Other areas for further development and applications for the work undertaken in this thesis include the constraints found at different value chain stages of hides

and skins. In particular, the hides and skins scratches from bushes or horns of other livestock carry a poor image in the global markets. Investigating better livestock husbandry modalities to reduce the impact of scratches on hides and skins without compromising the quality of free-range beef would give a better impression of the overall value chain performance and its significant contribution to international competitiveness. Sophisticated indexes of measuring competitiveness that were not covered by the researcher in this thesis might also be employed and might give an indication of how the isometry problem caused by the RCA index used in this study could be mitigated.

# REFERENCES

Adem , M. (2019). Production of hides and skins in Ethiopia; marketing opportunities and constraints: A review paper. *Cogent Food and Agriculture*.

Alexandratos, N., & Bruinsma, J. (2012). World agriculture towards 2030/2050 – the 2012 revision. Rome.

Auzina-Emsina, A. (2014). Labour productivity, economic growth and global competitiveness in post-crisis period. *19th International Scientific Conference; Economics and Management 2014* (pp. 23-25). Riga, Latvia: Elsevier Ltd.

China, C. R., & Ndaro, M. S. (2016, August 19). A review on Tanzanian leather value chain status. *African Journal of Science and Research, 5*(4), 55-60. Retrieved October 10, 2018, from http://ajsr.rstpublishers.com/

Coplin, L. C. (2002). Competitive advantages and the SMEs: The role of distinctive competences as determinants of success, are there differences across gender, sector and size? Barcelona, Spain: Universitat Autonoma de Barcelona. Retrieved from https://www.tdx.cat/documents/11/14/21/111421324994370122699592290476483776331/document_1.pdf

Davos-Klosters. (2018, January 23-26). World Economic Forum Annual Meeting 2018 Overview. Retrieved from http://www3.weforum.org/docs/WEF_AM18_Overview.pdf

Delgado, M., Ketels, C., Porter, M. E., & Stern , S. (2012). The Determinants of National Competitiveness. Cambridge, MA 02138, USA.

Erastus, N. (2019, September 20). Economic slump deepens. *The Namibian*, pp. 1-2.

Fereja, G. B., Lamaro, M., Berhe, G., & Berhe, A. (2017). STUDY ON PRODUCTION POTENTIAL AND PRESERVATION METHODS OF HIDE AND SKIN IN THREE SELECTED DISTRICTS OF GAMBELLA REGION, SOUTH WEST ETHIOPIA. *International Journal of Research* , 142-150. doi:https://doi.org/10.5281/zenodo.345631

Gebrehiwot, T. (2017). Hides And Skins Production And Marketing Systems In Ethiopia; A Systematic Review (Des, 2017). *International Journal of Engineering Development and Research*, 1125-1128.

*Global Hides and Skins Market.* (2008).

Godfrey, N. (2008). Why is competition important for growth and poverty reduction? *OECD Global Forum on International Investment .* London : OECD.

Gonfa, B. (2012, June). Competitiveness of Ethiopian Shoe Industry: Response to Export Market. Addis Ababa, Ethiopia: Addis Ababa Uiversity - School of Graduate Studies.

Gupta, S. D. (2015). Comparative Advantage and Competitive Advantage: An Economics Perspective and a Synthesis. *Athens Journal of Business and Economics, 1*(1), 9-22. doi:https://doi.org/10.30958/ajbe.1-1-1

Hall, R. E., & Jones, C. I. (1999). Why Do Some Countries Produce So Much More Output per Worker than Others. *Quarterly Journal of Economics*, 83-116.

Hallatt, J. (2005). *Relative Competitiveness of the South African Oilseed Industry .* Bloemfontein: University of the Free State.

Hoffman, D. (2005). *The Productivity and Prosperity Project: An Analysis of Economic Competitiveness.* Arizona: Arizona State University.

Hunt, S. D., & Morgan, R. M. (2001). The Comparative Advantage Theory of Competition. *Journal of Marketing, 59*, 1-15. Retrieved from http://sdh.ba.ttu.edu/r-a%20theory-jm95.pdf

Jabbar, M. A., Kiruthu, S., Gebremedhin, B., & Ehui, S. (2002). *Essential actions to meet quality requirements of hides, skins and semi-processed leather from Africa.* Amsterdam: The Common Fund for Commodities.

Jovovic, D., & Jovovic, D. (2018). Competitiveness of food manufacturing of Republic of Serbia. *Original Scientific Paper, 65*(1), 49-64. doi:10.5937/ekoPolj1801049J

Kadhikwa, G., & Ndalikokule, V. (2007). *Assessing the potential of the manufacturing sector in Namibia.* Windheok : Bank of Namibia.

Kharlamova, G., & Vertelieva, O. (2013). The International Competitiveness of Countires: Economic-Mathematical Approach. *Economics and Sociology*, 39-52.

Leach, I., & Wilson, R. T. (2009). Higher value addition through hides and skins. Rome , Italy. Retrieved from https://core.ac.uk/download/pdf/48024067.pdf

Lewis, L. T. (2017). *How important are trade prices for trade flows?* Federal Reserve Board. Retrieved from http://www.ltlewis.net/mc.pdf

Lewis, W. W. (2004). The Power of Productivity Wealth, Poverty, and the Threat to Global Stability. Chicago, USA.

Liu, Y. (2010). Implementing Sustainable Competitive Advantage for Proactive Operations in Global Turbulent Business Environment. *Acta Wasaensia*, 207. Retrieved from https://www.univaasa.fi/materiaali/pdf/isbn_978-952-476-314-1.pdf

Market, G. H. (2008). *Gobal Hides and Skins Market: Review of 2004-2007 and Porspects for 2008.*

MAWF. (2018). *2016 Agricultural Statistics Bulletin.* Ministry of Agriculture Water and Forestry, Directorate of Planning and Business Development. Windhoek: Ministry of Agriculture Water and Forestry. Retrieved December 10, 2019, from http://www.mawf.gov.na/documents/37726/768771/2016+AGRICULTURAL+STATISTICS+BULLETIN.pdf/fd9dc69d-441d-4ee8-b867-87b39086bccb?version=1.0

Meat Board of Namibia . (2019). *Aemendement to the sheep marketing scheme.* Windhoek: Meat Board.

Memedovic, O., & Mattila, H. (2008). The global leather value chain: the industries, the main actors and prospects for upgrading in LDCs. *Int. J. Technological Learning, Innovation and Development, Vol. 1, No. 4*, 482-519.

MITSMED. (2015). *Growth Strategy for Namibia's leather Industry and associated value chains.* Windhoek: Ministry of Industrialization, Trade and SME Development (MITSMED). Retrieved from http://www.mti.gov.na/downloads/Leather_Strategies_Web.pdf

NPC. (2018, October 25). *Namibia's 5th National Development Plan.* Retrieved from National Planning Commission: https://www.npc.gov.na/download/Namibia_Development_Plans/NDP5/NDP5-MAIN-DOCUMENT_FINAL-2017.pdf

NPC. (2018). *Status of The Namibian Economy.* Windheok: National Planning Commission. Retrieved June 26, 2019, from https://www.npc.gov.na/news/paper-the-impact-of-savings-and-investment-on-the-namibian-economy/?wpfb_dl=315

OABS. (2019). *Conduct a competitiveness Analysis of the Namibian Meat Industry.* Windhoek: Meat Board of Namibia.

Ocloo, C. E., Akaba, S., & Worwui-Brown, D. K. (2014). Globalization and Competitiveness: Challenges of Small and Medium Enterprises (SMEs) in Accra, Ghana. *International Journal of Business and Social Science, 5*(4), 287-296. Retrieved from http://www.ijbssnet.com/journals/Vol_5_No_4_Special_Issue_March_2014/33.pdf

Porter, E. M., Delgado, M., Ketels, C., & Stern, S. (2008). Moving to a New Global Competitiveness Index. *2008 World Economic Forum, Geneva*, 43-63.

Porter, M. E. (1990). *The Competitive Advantage of Nations.* Harvard Business Review.

Porter, M. E. (2017, May 25). Competitiveness of Nations and Regions: The New Learning . New Delhi, Delhi, India.

Poth, S. (2014, March 03). Competitive Advantage in the Service Industry. Uppsala, Uppsala, Sweden: Uppsala Universitet. Retrieved from https://www.diva-portal.org/smash/get/diva2:682075/INSIDE01.pdf

Schade, K. (2019). *African Growth & Opportunity Act What It Means For Namibian Business .* Windhoek : Institute for Public Policy Research (IPPR).

Schwab, K. (2009). *The Global Competitiveness Report 2009-2010.* Geneva: World Economic Forum.

Schwab, K. (2015). *The Global Competitiveness Report 2015-2016.* Geneva: World Economic Forum.

Schwab, K. (2017). *The Global Comptitiveness Report 2017-2018.* Geneva: World Economic Forum.

Schwab, K. (2018). *The Global Competitiveness Report .* Geneva : World Economic Forum .

Seleka, T. B., & Kebakile, P. G. (2017, January). Export Competitiveness of Botswana's Beef Industry. *The International Trade Journal, 31*(1), 76-101. doi:10.1080/08853908.2016.1199982

Snowdon , B., & Stonehouse, G. (2006). Competitiveness in a globalised world: Michael Porter on the microeconomic foundations of the competitiveness of nations, regions, and firms. *Journal of International Business Studies*, 163 - 175.

Sujova, A., Hlavackova, P., & Marcinekova, K. (2015). Evaluating the Competitiveness of Wood Processing Industry. *Scientific paper*, 281-288.

Udell, J. G. (1964). How Important Is Pricing in Competitive Strategy? *Journal of Marketing*, 44-48.

UNIDO. (2010). *Future Trends in the World Leather and Leather Products Industry and Trade.* Vienna: United Nations Industrial Development Organization.

United States Agency for International Development. (2016). *The contribution of hides and skins to the pastoralist economy in the Ethiopian Somali Regional State: Findings from Jarrar and Shebelle Zones .* Jigjiga: Jigjiga University .

USDA Foreign Agricultural Service. (2018, September 13). Chinese Demand for Imported Hides Beginning to Weaken. *GAIN Report*. Guangzhou, Guangzhou, China. Retrieved from https://apps.fas.usda.gov/newgainapi/api/report/downloadreportbyfilename?filename=Chinese%20Demand%20for%20Imported%20Hides%20Beginning%20to%20Weaken%20_Guangzhou_China%20-%20Peoples%20Republic%20of_9-13-2018.pdf

Wangui, A. N. (2016). *The Performance of Hides and Skins Sub-Sector and Associated Economic Losses In Wajir Country, Kenya.* Retrieved from http://erepository.uonbi.ac.ke/bitstream/handle/11295/98365/Wangui%20Anthony_The%20Perfomance%20of%20Hides%20and%20Skins%20Sub%20%E2%80%93%20Sector%20and%20Associated%20Economic%20Losses%20in%20Wajir%20County%2C%20Kenya.pdf?sequence=1&isAllowed=y

# APPENDICES

## Appendix 1: Detailed RCA index for assessed hides and skins

| Year | Rawhides & skins of bovine | Raw skins of sheep or lamb | Tanned hides & skins of goats or kids | Tanned hides & skins of bovine | Tanned skins of sheep or lambs |
|---|---|---|---|---|---|
| **2001** | 3.61 | 16.68 | 0.01 | 2.43 | - |
| **2002** | 4.48 | 7.21 | 0.74 | 4.96 | 0.01 |
| **2003** | 5.01 | 8.57 | 0.06 | 2.79 | 0.13 |
| **2004** | 0.64 | 7.68 | 0.13 | 4.77 | 0.48 |
| **2005** | 0.14 | 13.91 | 0.39 | 6.89 | 1.27 |
| **2006** | 0.08 | 8.88 | 0.32 | 5.91 | 0.55 |
| **2007** | 0.05 | 10.98 | 1.76 | 7.24 | - |
| **2008** | 0.01 | 5.81 | 1.12 | 7.80 | - |
| **2009** | 0.03 | 7.19 | 1.10 | 4.59 | 0.13 |
| **2010** | 0.10 | 7.73 | 0.37 | 4.47 | 0.18 |
| **2011** | 0.09 | 8.65 | 0.49 | 5.35 | 0.00 |
| **2012** | 0.02 | 8.86 | 1.03 | 6.07 | 2.88 |
| **2013** | 0.02 | 10.01 | 1.17 | 5.03 | 5.22 |
| **2014** | 0.02 | 3.09 | 1.26 | 5.90 | 6.93 |
| **2015** | 0.01 | 7.61 | 2.45 | 7.53 | 9.56 |
| **2016** | 0.00 | 9.12 | 0.47 | 6.76 | 1.12 |
| **2017** | 0.03 | 13.63 | 0.19 | 6.13 | 0.07 |
| **2018** | - | 11.97 | 1.54 | 3.91 | - |

Source: Author's own computation based on ITC data (2019).

## Appendix 2: Detailed RCA[1] index for assessed hides and skins

| Year | Rawhides & skins of bovine | Raw skins of sheep or lamb | Tanned hides & skins of goats or kids | Tanned hides & skins of bovine | Tanned skins of sheep or lambs | Rawhides & skins & leather |
|---|---|---|---|---|---|---|
| **2001** | 3.61 | 16.68 | 0.01 | 2.43 | - | 2.86 |
| **2002** | 4.48 | 7.21 | 0.74 | 4.96 | 0.01 | 2.44 |
| **2003** | 5.01 | 8.57 | 0.06 | 2.79 | 0.13 | 2.41 |
| **2004** | 0.64 | 7.68 | 0.13 | 4.77 | 0.48 | 2.41 |
| **2005** | 0.14 | 13.91 | 0.39 | 6.89 | 1.27 | 2.62 |
| **2006** | 0.08 | 8.88 | 0.32 | 5.91 | 0.55 | 2.15 |
| **2007** | 0.05 | 10.98 | 1.76 | 7.24 | - | 2.36 |
| **2008** | 0.01 | 5.81 | 1.12 | 7.80 | - | 2.14 |
| **2009** | 0.03 | 7.19 | 1.10 | 4.59 | 0.13 | 1.55 |
| **2010** | 0.10 | 7.73 | 0.37 | 4.47 | 0.18 | 1.45 |
| **2011** | 0.09 | 8.65 | 0.49 | 5.35 | 0.00 | 1.91 |
| **2012** | 0.02 | 8.86 | 1.03 | 6.07 | 2.88 | 2.37 |
| **2013** | 0.02 | 10.01 | 1.17 | 5.03 | 5.22 | 2.28 |
| **2014** | 0.02 | 3.09 | 1.26 | 5.90 | 6.93 | 2.47 |
| **2015** | 0.01 | 7.61 | 2.45 | 7.53 | 9.56 | 3.01 |
| **2016** | 0.00 | 9.12 | 0.47 | 6.76 | 1.12 | 2.49 |
| **2017** | 0.03 | 13.63 | 0.19 | 6.13 | 0.07 | 2.73 |
| **2018** | - | 11.97 | 1.54 | 3.91 | - | 2.00 |

Source: Author's own computation based on ITC data (2019).

## Appendix 3: Detailed RCA$^2$ index for assessed hides and skins

| Year | Rawhides & skins of bovine | Raw skins of sheep or lamb | Tanned hides & skins of goats or kids | Tanned hides & skins of bovine | Tanned skins of sheep or lambs | Rawhides & skins & leather |
|---|---|---|---|---|---|---|
| **2001** | 0.83 | 0.99 | (0.98) | 0.98 | (1.00) | 0.86 |
| **2002** | 0.87 | 0.98 | 0.14 | 0.76 | (0.87) | 0.75 |
| **2003** | 0.86 | 0.78 | (0.95) | 0.96 | (0.87) | 0.83 |
| **2004** | 0.66 | 1.00 | (0.54) | 0.99 | 1.00 | 0.88 |
| **2005** | (0.57) | 1.00 | (0.69) | 0.99 | 0.92 | 0.75 |
| **2006** | (0.73) | 0.96 | 0.78 | 0.99 | 0.34 | 0.73 |
| **2007** | (0.69) | 0.37 | 0.11 | 0.98 | (1.00) | 0.61 |
| **2008** | (0.98) | 0.46 | 0.20 | 0.96 | (1.00) | 0.67 |
| **2009** | (0.67) | 0.89 | (0.21) | 0.98 | (0.63) | 0.78 |
| **2010** | (0.02) | 0.61 | (0.17) | 0.97 | (0.89) | 0.73 |
| **2011** | 0.19 | 0.65 | 0.70 | 0.98 | (1.00) | 0.75 |
| **2012** | (0.76) | 0.64 | 0.10 | 0.87 | (0.22) | 0.73 |
| **2013** | (0.87) | 0.92 | 0.18 | 0.99 | 0.60 | 0.86 |
| **2014** | (0.66) | 1.00 | 0.50 | 0.98 | 1.00 | 0.83 |
| **2015** | (0.87) | 1.00 | 0.20 | 0.98 | 1.00 | 0.79 |
| **2016** | (0.99) | 0.99 | 0.35 | 0.99 | 0.77 | 0.76 |
| **2017** | (0.93) | 0.87 | (0.02) | 0.79 | (0.93) | 0.66 |
| **2018** | (1.00) | 1.00 | 1.00 | 0.88 | - | 0.80 |

Source: Author's own computation based on ITC data (2019).

## Appendix 4: Detailed CTB index for assessed hides and skins

| Year | Rawhides & skins of bovine | Raw skins of sheep or lamb | Tanned hides & skins of goats or kids | Tanned hides & skins of bovine | Tanned skins of sheep or lambs | Rawhides & skins & leather |
|---|---|---|---|---|---|---|
| **2001** | 0.00 | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 |
| **2002** | 0.00 | 0.00 | 0.00 | 0.00 | (0.00) | 0.00 |
| **2003** | 0.00 | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 |
| **2004** | 0.00 | 0.00 | (0.00) | 0.00 | 0.00 | 0.00 |
| **2005** | (0.00) | 0.00 | (0.00) | 0.00 | 0.00 | 0.00 |
| **2006** | (0.00) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **2007** | (0.00) | 0.00 | 0.00 | 0.00 | (0.00) | 0.00 |
| **2008** | (0.00) | 0.00 | 0.00 | 0.00 | (0.00) | 0.00 |
| **2009** | (0.00) | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 |
| **2010** | (0.00) | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 |
| **2011** | 0.00 | 0.00 | 0.00 | 0.00 | (0.00) | 0.00 |
| **2012** | (0.00) | 0.00 | 0.00 | 0.00 | (0.00) | 0.00 |
| **2013** | (0.00) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **2014** | (0.00) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **2015** | (0.00) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **2016** | (0.00) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **2017** | (0.00) | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 |
| **2018** | (0.00) | 0.00 | 0.00 | 0.00 | - | 0.00 |

Source: Author's own computation based on ITC data (2019).

## Appendix 5: Detailed GLI index for assessed hides and skins

| Year | Rawhides & skins of bovine | Raw skins of sheep or lamb | Tanned hides & skins of goats or kids | Tanned hides & skins of bovine | Tanned skins of sheep or lambs | Rawhides & skins & leather |
|---|---|---|---|---|---|---|
| **2001** | 0.15 | 0.01 | 1.98 | 0.02 | 2.00 | 0.13 |
| **2002** | 0.13 | 0.02 | 0.85 | 0.23 | 1.86 | 0.25 |
| **2003** | 0.13 | 0.20 | 1.94 | 0.04 | 1.85 | 0.15 |
| **2004** | 0.36 | - | 1.55 | 0.01 | - | 0.13 |
| **2005** | 1.60 | 0.00 | 1.71 | 0.01 | 0.08 | 0.26 |
| **2006** | 1.77 | 0.04 | 0.26 | 0.01 | 0.75 | 0.31 |
| **2007** | 1.69 | 0.63 | 0.90 | 0.02 | 2.00 | 0.39 |
| **2008** | 1.98 | 0.55 | 0.81 | 0.04 | 2.00 | 0.33 |
| **2009** | 1.65 | 0.10 | 1.18 | 0.02 | 1.61 | 0.21 |
| **2010** | 1.00 | 0.38 | 1.16 | 0.03 | 1.89 | 0.26 |
| **2011** | 0.77 | 0.32 | 0.27 | 0.02 | 2.00 | 0.23 |
| **2012** | 1.70 | 0.28 | 0.76 | 0.10 | 1.08 | 0.21 |
| **2013** | 1.85 | 0.07 | 0.74 | 0.00 | 0.34 | 0.12 |
| **2014** | 1.55 | - | 0.38 | 0.02 | - | 0.12 |
| **2015** | 1.79 | - | 0.57 | 0.01 | - | 0.13 |
| **2016** | 1.99 | 0.01 | 0.51 | 0.01 | 0.17 | 0.18 |
| **2017** | 1.91 | 0.10 | 0.89 | 0.16 | 1.92 | 0.28 |
| **2018** | 2.00 | 0.00 | - | 0.11 | - | 0.19 |

Source: Author's own computation based on ITC data (2019).

## Appendix 6: Detailed MI index for assessed hides and skins

| Year | Rawhides & skins of bovine | Raw skins of sheep or lamb | Tanned hides & skins of goats or kids | Tanned hides & skins of bovine | Tanned skins of sheep or lambs |
|---|---|---|---|---|---|
| **2001** | 0.12025 | 0.03044 | -0.02377 | 0.01215 | -0.00220 |
| **2002** | 0.13003 | 0.01253 | 0.00273 | -0.06755 | -0.00121 |
| **2003** | 0.12755 | 0.00118 | -0.02852 | 0.00117 | -0.01441 |
| **2004** | 0.02046 | 0.02164 | -0.01029 | 0.01677 | 0.00902 |
| **2005** | 0.03039 | 0.03006 | -0.04561 | 0.02280 | 0.01837 |
| **2006** | 0.03671 | 0.01836 | 0.00636 | 0.02387 | 0.00629 |
| **2007** | 0.02058 | 0.09943 | 0.00806 | 0.02655 | -0.13186 |
| **2008** | 0.06839 | 0.04061 | 0.01120 | 0.00698 | -0.05790 |
| **2009** | 0.01044 | 0.01116 | -0.02817 | 0.01368 | -0.00849 |
| **2010** | 0.00490 | 0.03466 | -0.01836 | 0.01144 | -0.06008 |
| **2011** | 0.00066 | 0.04271 | 0.02063 | 0.01554 | -0.09074 |
| **2012** | 0.01524 | 0.03714 | 0.00606 | -0.05058 | -0.01013 |
| **2013** | 0.04953 | 0.03585 | 0.01677 | 0.02829 | 0.09661 |
| **2014** | 0.01298 | 0.01214 | 0.02357 | 0.01977 | 0.12072 |
| **2015** | 0.01415 | 0.01945 | 0.01535 | 0.02380 | 0.13334 |
| **2016** | 0.04945 | 0.01941 | 0.00498 | 0.01986 | 0.01164 |
| **2017** | 0.06235 | 0.01154 | -0.00046 | -0.09398 | -0.01897 |
| **2018** | 0.02254 | 0.03313 | 0.03948 | -0.03057 | 0.00000 |

Source: Author's own computation based on ITC data (2019).