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UNIVERSITY OF THE WITWATERSRAND

School of Economics and Business Science

Corporate Strategy Industrial Development Department



Exploring the nature of policy support in value- adding and upgrading as a tool to industrial development: the case of the Zimbabwean cotton to textiles value chain

By

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A research report submitted in partial fulfilment of the requirements for the Master's Degree in

Development Theory and Policy

28 March 2017

Declaration

I declare these revisions to the initial research report is my unaided work. It is submitted in partial fulfilment of the requirement of the degree of Masters in Development Theory and Policy, Faculty of Commerce Law and Management at the University of the Witwatersrand, Johannesburg. It has never been submitted before for any degree or examination in any other University.

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Signature

…….……

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Above all, I thank the Almighty God for giving me the courage and strength to complete this research report.

List if Acronyms

ADB	Africa Development Bank
AMA	Agricultural Marketing Authority
AMSFAP	Agricultural Mission Statement Strategy Framework and Action Plan of 2007–2011
ARDA	Agricultural & Rural Development Authority
BCGA	British Cotton Growing Association
CAPF	Comprehensive Agricultural Policy Framework 2012 – 2032
CFU	Commercial Farmers Union
CGA	Cotton Ginners Association
CPMA	Cotton Producers and Markers Association
CPMA	Cotton Producers and Marketers Association
CRI	Zimbabwe Cotton Research Institute
DRSS	Department of Research and Specialist Services
ESAP	Economic Structural Adjustment Programmes
ESAP	Economic Structural Adjustment Program
FAO	Food and Agriculture Organization
GAIF	Global Agro-Industries Forum
GOTC	Grains and Oilseeds Technical Committee
GVC	Global Value Chains
IDP	Industrial Development of Policy of 2004 to 2010
IDP	Industrial Development Policy of 2012 to 2016
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
MAMID	Ministry of Agriculture, Mechanization and Irrigation Development
MAMID	Ministry of Agriculture, Mechanization and Irrigation Development (MAMID)
MERP	Millennium Economic Recovery Programme (MERP) and Ten Point Plan 2000
MERP	Millennium Economic Recovery Programme
MPF	Macroeconomic Policy Framework of 2005-2006
MTP	Medium Term Plan of 2011 -2015
NASF	The National Agricultural Strategy Framework of 2005–2035
NEDPP	National Economic Development Priority Programme
NERP	National Economic Revival Programme of 2003
NGT	New Growth Theory
OGIL	Open General Import License
OMTC	Oilseeds Marketing Technical Committee
PRSP	Poverty Reduction Strategy Programmes
SSA	Sub Saharan Africa
STERP	Short Term Emergency Recovery Programme
STERP	The Short Term Emergency Recovery Programme of 2009
UNDP	United Nations Development Programme

UNIDO	United Nations Industrial Development Organization
WB	World Bank
ZAIP	Zimbabwe Agriculture Investment Plan 2013-2017
ZAPFS	Zimbabwe Agricultural Policy Framework and Strategy
ZCFU	Zimbabwe Commercial Farmers Union
ZCMA	Zimbabwe Clothing Manufacturers Association
ZFU	Zimbabwe Farmers Union
ZIMASSET	Zimbabwe Agenda for Sustainable Socio-Economic Transformation (2014 – 2018)
ZIMPREST	Zimbabwe Programme for Economic and Social Transformation
ZITMA	Zimbabwe Textiles Manufactures Association
ZNFU	Zimbabwe National Farmers Union
ZSTA	Zimbabwe Seed Traders Association

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Chapter 1 Introduction

It has been the objective of the Zimbabwean government since 2009 to arrest deindustrialisation, embody reindustrialisation as the essence for development and structural transformation from production of primary goods to manufacturing of value added goods for the domestic and export market. The President of Zimbabwe traversed that "industrialization is the essence of development, industrial production creates job opportunities at higher skill levels, facilitates more useful links across the agricultural, mining and service sectors, between rural and urban economies, and across consumer, intermediate and capital goods industries" (Ministry of Industry and Commerce, 2012: v). As such one of the economic components, through which re-industrialisation is envisioned is the value-addition of cotton through supporting downstream industries in textiles and clothing.

This objective has been seen gradually through all of its policies post crisis or since dollarization. This is illustrated for example in the in the Short Term Emergency Recovery Programme (STERP) of 2009 were textiles and ginning are identified under strategically targeted industries. In the Industrial Development Policy of 2012 -2016, it is also stated that "whilst in Zimbabwe it might appear that the industrial value chain is complete; in sectors such as cotton, iron and steel and sugar, the level of transformation beyond primary processing still needs to be enhanced" [and so] "the Government has identified four (4) priority sectors as the pillars and engine for this IDP 2012–2016, namely Agri-business (Food and beverages, Clothing and Textiles, Leather & Footwear and Wood and Furniture)….", (Ministry of Industry and Commerce, 2012: 11,17).

With this background in mind, the broader problem this research is trying to solve is how the government through its objectives has sort to address de-industrialisation and re-industrialize through support of value addition and upgrading processes. Therefore, my research will focus on the evolution of cotton to textiles value chain and investigate how much value-addition has been employed to cotton products locally and for exports but only up to the point of textiles; what market conditions, forces and industry initiatives/strategies influenced the attempts to increase value added, and how successful or not these have been ; what policies both broader industrial and macroeconomic and sector-specific policies are in place or have been implemented to support the growth of cotton to textiles value added or shifting into higher value added production and what the impact of the cotton to textile industry has been towards industrial development.

The theoretical frameworks underlying my research arguments firstly refute the theory of comparative advantage supported by proponents of the Heckscher – Ohlin model, as it does not support long term adjustments of development trajectories of developing countries, in this case the objectives set out by the government. This is because continued exports of raw materials will be subject to price volatility, whilst imports of finished goods would only serve to increase the import wage bill and deter linkages with other sectors. Second, my arguments adopt structuralist economic theory that argues manufacturing has special properties as an engine for industrial development in that it unleashes strong backward and forward linkages between manufacturing and other sectors of the domestic economy, in that it has strong properties of learning-by-doing; innovation and technological progress; and that balance of payments are strongly associated with characteristics of the manufacturing sector. It also embeds itself in the Nicolas Kaldor's industry-agriculture nexus, which explains that there is a connection between agriculture and manufacturing, it notes this connection doesn't only occur because it creates extra wage goods for growing urban populations, but because it creates and induces conditions for demand in the manufacturing sector, promoting upstream industries. Most critical my research argues for state led industrial development because structural transformation, does not just emerge, it needs to be actively constructed and advanced and remade through conscious effort, positive stimulus and through policy by the state.

The research will take a qualitative and quantitative approach, and apply the use of a case study. In analysing the cotton to textile industry nexus, the research will mainly use a global value chain (GVC) approach by Gereffi and Fernandez-Stark (2011) in relation to the value chain analysis by Morris and Kaplinsky (2001). This is because both approaches, provide the research with a methodology to explain the case study, investigate processes within a country and sector context and investigate connections and linkages. The approaches will help the research to understand links where no direct equity relations exist. By investigating linkages and processes the research will be able to draw out the level of value addition and upgrading taking palace and constraints that may hinder this at each stage of the chain. The evidence gathered here will then be used to assess how policy supports the objective it has stated above.

My main findings are that in the first stage of the value chain, research and development, there is product upgrading and value-addition employed by the Cotton Research Institute (CRI). The CRI has intellectual property rights (IP) (among others) on high quality, high yielding cultivars, the LS9219 2001 a long staple variety and the most common used CRI MS 1 and CRI MS 2 which are medium staples, which give Zimbabwe cotton a good reputation and competitive

edge in the region. The cultivars have potential yields of 1500 to 4200 kg/ha. However, in recent years the institution has not been able to sustain itself and relies on non-core activities such as selling agricultural commodities. Although objectives to enhance discovery and improvement of new cultivars across all agricultural crops is well articulated in policy documents, the government lacks the necessary finance to implement and so other industry initiatives such as selling agricultural equipment and obtaining royalties from cotton breeders allows the Cotton Research Institute to function although minimally.

In the upstream industry the research found that 250 000 – 300 000 small scale farmers (90% of whom are contracted), produce 99% of the crop, but have had low yields which averaged between 400 and 700 kg/ha despite using the high yielding cultivars. Value addition in production that is process upgrading (practising good agronomic practise and use of inputs such as fertilizer), has been hampered by constraints that emanated from a decline in contracts that went down from US $ 42 million in 2012 to US $14, 6 million in 2015; poor agronomic practices, and the draught. The research found that through Agricultural Marketing Authority Act that obliges ginners and merchants to contract farmers in order to buy cotton at the end of the season, fills the gap that government is aware it cannot fulfil. It was also found several policies to roll out more extension officers and address draught through irrigation are being implemented at a slow pace due to liquidity constraints and a tight fiscal budget.

In the downstream industry the research found the ginning industry currently operates at 30% from the 600 000 installed capacity and employs very little product upgrading. Between 80 to 90% of lint is exported and is largely cotton uncombed and un-carded, which makes up the bulk of all cotton exports even when further downstream exports are included, clothing, home textiles etc. It is the only code with a positive trade balance. Poor performance is largely attributed to inadequate supply of cotton, recovery of working capital as loan repayment from contracted farmers is low and absolute machinery. For spinners it was found that very little product upgrading or value addition is taking place. Spinners manufacture medium to coarse yarns and export uncombed and single combed yarn. Though trade data illustrates more exports than imports when compared to other HS codes, manufactured products lack upgrading to finer multiple combed yarns. Some of the constraints capital stock to finance raw materials as ginners require cash before delivery. In weaving and knitting (fabric manufacturing), very little upgrading also takes place. Capacity utilization stand at barely 10%, whilst industry produces simple greige, bleached and dyed fabrics and a small variety of multiple coloured and printed fabrics whilst no jean material is manufactured (and comprises the most imported). Exports

comprise mainly of unbleached and plain fabrics again of little value add. Constraints emanate from obsolete machinery and imports of cheap fabric and apparel that kill local demand.

In the downstream sector, it was found that policies of recapitalization until implemented will address issues of re-tooling for efficient production, whilst other policy instruments currently available, fiscal incentives (rebates and tax incentives) employed through trade policies are inefficient to induce value addition per se as costs of accessing benefits outweighs the administration involved in utilizing them dis -incentivizes firms. The research found that market forces such as high interest rates employed by banks, loan deferments by contractors and cheap imports of textiles negatively influences development of the chain. In addition, the research found no policy to fully addresses issues of illegal imports that are mislabelled or do not qualify for the SADC double transformation.

Overall the research found impediments to low production costs, that is high electricity and water costs, erratic supplies of the above utilities, high transport costs as rail systems are dilapidated, and high labour costs have a heavy bearing on the chain, and render sector specific policies ineffective if not addressed. The research found that employment and the volume of manufacturing index in textiles and ginning has been declining significantly and thus drawing from structuralist perspectives, as output decreases, employment decreases and de-industrialisation takes place.

The main findings of the above illustrates that this research continues to contribute to the existing literature on the cotton to textile value chain, by providing a deeper understanding of the chain through the lens of the global value chain (GVC) approach by Gereffi and Fernandez-Stark (2011) and value chain analysis by Morris and Kaplinsky (2001). I specifically apply their frameworks to a local context to understand connections and linkages. I originally address gaps of understanding what is meant by value-addition in each stage of the chain by drawing out specific typologies, for example product or process upgrading. Not found in any prior research, I draw from the Prebisch- Singer hypothesis and apply it to dig deeper at the 4th and 6th digit level of the world Harmonized System trade codes to investigate the components of exported goods and assess how much value addition was employed in exported goods of the cotton trading code HS 52. I also update trade data from prior research and manage to add the element of imports of textile machinery to ascertain whether machinery to upgrade or new firms were being set up. I also contribute originally to policy analysis of the cotton to textile value chain by trying to match policy objectives in the Short Term Emergency Recovery

Programme (STERP 1 +2) of 2009 ;2010 – 2014 ; the Medium Term Plan (MTP) of 2011 - 2015 , the Industrial Development Policy (IDP) of 2012 to 2016 and the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zimasset) of (2014 – 2018) with actual policy instruments such as support programmes, fiscal incentives, trade incentives or restriction that have been employed towards the cotton to textile value chain.

1.1 Aims and objectives

The aim of this research was to explore the evolution of Zimbabwean cotton to textiles production with consideration for how supportive or effective relevant policies have been. Though cotton production has always been a significant component of the Zimbabwean economy and in the top exports, the research concentrates on the time period from 2009 to2015 after dollarization. This is in line with the government's gradual initiatives identifying cotton value adding as an important policy target. Particularly from 2009 this was identified in the Short Term Emergency Recovery Programme (STERP) of 2009 in which textiles and ginning was identified under strategically targeted industries (Ministry of Industry and Commerce, 2009 :53). It was also identified in the Medium Term Plan (MTP) of 2011 -2015 which traversed that under cotton " [government must] enforce the various policy instruments…to improvement of farming methods and increased yield, broadening of the value addition band at the local levels, promote enhanced value addition across all sectors for example in the cotton sector" , (Ministry of Industry and Commerce, 2011 :110,125). In the Industrial Development Policy of 2012 -2016, it was stated that "whilst in Zimbabwe it might appear that the industrial value chain is complete; in sectors such as cotton, iron and steel and sugar, the level of transformation beyond primary processing still needs to be enhanced" [and so] "the Government has identified four (4) priority sectors as the pillars and engine for this IDP 2012–2016, namely Agri-business (Food and beverages, Clothing and Textiles, Leather & Footwear and Wood and Furniture)….",(Ministry of Industry and Commerce, 2012 :11,17).With this background, the objective of the research was to see then if value addition was taking place locally and for exports. In analysing this, investigated what was contributing to the poor performance and how this affected economic growth.

1.2 Research Questions and Hypothesis

The guiding research questions for this report were as follows:

1. How much value-addition is employed to cotton products locally and for exports?

2. What market conditions, forces and industry initiatives/strategies have influenced the attempts to increase value added, and how successful or not have these been (performed)?
3. What policies, both broader industrial and macroeconomic and sector-specific policies, are in place or have been implemented to support the growth of cotton to textiles value added or shifting into higher value added production?
4. What has been the impact of the cotton to textile industry towards industrial development?

These general research questions led to the following three hypotheses.

1. There has been very limited value added development in Zimbabwean cotton production during the period of 2009 to 2015
2. The sector and broader industrial policy environment and developments have had a very limited impact on increasing value added.
3. The limited contribution of the cotton to textile value chain towards manufacturing does not lead to re-industrialisation.

1.3 Research Method and Approach

This research made use of both qualitative and quantitative methodologies to build a picture of the production and policy in cotton to textiles. The research used a case study approach to understand and explore how effective and supportive sector and industrial policy has been. A case study is "is an empirical inquiry that investigates a contemporary phenomenon within its real life context... and is most suitable for in answering the why and how questions" (Yin, 2003:3). The case study approach was selected to enable an in depth understanding of how policy can influence economic sectors and its ultimate contribution to industrialisation. By using one commodity, cotton, we can set boundaries and parameters for this research. To understand how policy and other conditions have influenced the cotton to textile chain towards upgrading and value-addition, a detailed case appreciates what this research is interested in assessing. By using multiple sources of information such as the state of research and development, production trends, firm capacity utilizations, manufactured products by firms, market conditions, macroeconomic conditions that influence upgrading, policy existence and impact, the research builds a case that explains its interested phenomena of how and why deindustrialisation is occurring.

To investigate the level of value addition that took place and its impact on economic growth, the research employed and drew from the Gereffi and Fernandez –Stark (2011) and (Kaplinsky & Morris, (2001) value chain framework to understand the input – output structures, linkages and institutional context and governance issues. Quantitative trade data from Trade Map was used to determine trade balances, analyse which HS codes of cotton and apparel were exported and at what level (raw uncarded cotton, yarn, textiles etc). To investigate what has been contributing to the poor performance of the industry, the research used semi-structured key information interviews that were conducted in both in person, and with questionnaires received from firms and associations. The research also used data drawn from other studies which conducted extensive fieldwork such as the Zeparu (2014) and ITC, (2014) studies. The study made use of secondary sources such as journals, government documents, books, newspapers, reports and company websites and annual reports.

The GVC approach in describing industrial development largely centres on firms engaging or inserting themselves in GVC's, wherein growth is promulgated through access to international markets for exported products and services. Production for exports eventually generates value added and contributes to GDP, job creation, income tax etc. However, with GVCs, insertion can occur from any level, depending on the firm's capabilities, it can be the assemble of automotives, cut and trimming in textiles, or supply of cut flowers or providing services such as IT. Through upgrading firms can always move up the GVC. For Structuralist's, industrial development is a broad-based, cumulative and dynamic process whereby industrial deepening and development take place through the formation of linkages within and across different industrial activities (Tregenna, 2011, Szirmai 2009; Kaldor in Targetti, 2005). That is, a textile firm creates linkages with cotton production, packaging firms or chemical firms for dyes which transform into skills linkages, technology or consumption linkages. For the context of this research, industrial development is situated in a structuralist perspective that draws from GVC literature on upgrading (product or process) to unlock employment, high value goods, competitiveness, stimulus of other firms and allowing structural transformation of economies.

Using Fine (2011) and Peres & Primi, (2009) approaches to investigate industrial policy effectiveness, the focus was on qualitatively assessing whether a) the government distinguished sector specific policy instruments for the cotton sector and distinguished overall horizontal polices, b) it had and identified the appropriate institutions to lead, execute and implement policy, c) the intuitions had capacity, d) the policy instruments matched industry constraints and the policies were implemented

1.4 Limitations

During the data collection phase in 2013, Zimbabwe had its presidential elections. Fieldwork was difficult to do as industry, experts, firms, policy makers were not as forth coming with information as was expected, with some interviews being turned down completely. Additional firm data was collected in 2016 through questionnaires via email and telephonically. Some firms did not respond or refused to comment. However, I managed to obtain some insights from major firms in the value chain. Also noteworthy is the fact that most spinners have closed and barely four remain. In the research phase, obtaining specific data on local firm production and sales both from secondary data and from interviews proved to be a great challenge, however, national export data of cotton products is available from various statistical tools.

1.5 Structure of study

The introductory chapter outlined the focus of this research; it stated the research questions and hypothesis that guided the research and research methods employed. Chapter 2 describes the theoretical frameworks on comparative advantage, structuralist perspectives on industrialisation through manufacturing and debates on industrial policy. It discusses the global value chain and value chain framework, which provide a methodology to explain and illustrate the cotton to textile chain. It extensively deliberates on the component of upgrading / value adding which forms the basis of this research. Chapter 3 introduces existing literature on the cotton to textiles value chain in Zimbabwe. It provides an extensive mapping of the cotton to textile value chain. The chapter reviews each stage of the value chain from research and development, production of cotton, ginning, spinning, weaving and knitting, trade in each stage and constraints faced in each stage as well as issues of governance and institutional contexts the chain is embedded in. Chapter 4 provides some macroeconomic trends and an assessment of national agricultural and industrial policies and specific policy instruments that exist. Chapter 5 highlights interview findings conducted by the research. Chapter 6 analyses all findings in the research to determine how supportive policies have been towards upgrading and value addition in the cotton to textile chain, whilst chapter 7 concludes by answering the hypothesis stated at the beginning of the research and provides recommendations.

Chapter 2 Theoretical Framework and Literature Review

2. Economic Development through Industrialisation and Manufacturing

This chapter discusses two key areas. The first area looks at two theories that explain industrial development and economic development, the Heckscher-Ohlin comparative advantage theory and industrialisation through manufacturing. Second, in order to explore the development process, the research provides debates from neo liberals who support market led growth and Structuralist's who support state led growth.

2.1 Heckscher-Ohlin Factor of Endowments

In assessing concepts of industrialisation, we begin with the comparative advantage based on the neoclassical trade theory of Heckscher-Ohlin factor of endowments. The theory which is a refinement of David Ricardo's comparative advantage explains patterns of trade between countries in terms of their relative endowments of the two factors of production: capital and labour. In this regard, countries that are rich in capital produce and export capital intensive goods whilst countries richly endowed with labour concentrate on the production of labour-intensive goods. The theory records that there are substantial gains from trade among countries as trade allows specialization in products intensive in the country's abundant factor (Michael & Smith, 2007). Some of the major assumptions underlying comparative advantage are that there is perfect competition, price of factors of production are the same across countries, value is determined by labour, production is subject to constant returns, technology is static and there are no transport costs. In essence, this theory enables one to assess and describe the impact of specialization on economic growth, trade patterns and the overall structure of national economies. Although its assumptions are far from reality as there is no perfect competition and technology does change, Justin Lin in Chang and Lin (2011) note that the assumptions of the theory may be acceptable in short term allocative efficiency but not acceptable in medium term adjustments and long term development trajectories of countries. This is because trade among countries unquestionably illustrates that most low income developing countries specialize in the production of primary products such as timber and coffee or primary processing which not only fetches lower returns but are subject to price volatility. The hallmark of developing and developed countries in today's reality is to build strong industrial bases that may defy comparative advantage in some cases like Japan and automotives for long term development and skilling labour. Although Chang and Lin (2011) warn against excessive deviation as it costs countries to acquire new capabilities, it should not stop countries from upgrading and

creating sectors that have backward and forward linkages. Upgrading in this research, as is shown in the section under global value chains, will largely speak to upgrading within a chain as opposed to upgrading to new sectors, however the principle remains the same. I concur with the concept that countries and more so developing countries should not move overnight from their comparative advantage, but they should move towards creating structural changes through manufacturing.

2.2 Industrialisation and Manufacturing

"The aim of industrialisation in internationally depressed areas is to produce a structural equilibrium in the world economy, by creating productive employment for the agrarian excess population" (Rosenstein-Rodan, 1943:210). According to Amsden (2001:2), industrialisation provides countries with the "process of moving from a set of assets based on primary products, exploited by unskilled labor, to a set of assets based on knowledge, exploited by skilled labour". Industrialisation is a process associated with empirical evidence of a growing manufacturing sector. This section therefore discusses proponents of industrialisation through manufacturing.

Structuralist's such as Tregenna, (2008) and Kaldor (1967) argue that manufacturing has special properties as an engine for growth. Likewise Tregenna, (2011) asserts that dynamic economies of scale in manufacturing; strong backward and forward linkages between manufacturing and other sectors of the domestic economy; strong properties of learning-by-doing; innovation and technological progress; and the importance of manufacturing for the balance of payments are strongly associated with characteristics of the manufacturing sector.

Kaldor (1967) a proponent of economic development in the 1960s laid down some stylized facts that hinge on four fundamental concepts, namely:

i. increasing returns in the manufacturing sector;
ii. effective demand-constrained growth;
iii. the agriculture-industry relationship;
iv. Internal-external market relations.

The law of manufacturing sectors an engine for growth grew from observance of Western Europe. According to Targetti (2005 :1), "Kaldor (1967) thought that before 1750 there were no great differences in the income and income per capita among regions and countries, while after that period a group of countries in Western Europe experienced an annual or decennial rate of growth which was thirty or forty times higher than they had achieved in the previous

seventeen centuries. He sought the explanation in the development of the manufacturing sector". Kaldor (1967) reports that the manufacturing industry is the engine for growth. He argued that the decline in the 18th century of the British economy was a result of premature decline in manufacturing as opposed to the financial or services sector. The second law, Kaldor's – Verdoorn's Law explains that the more the output of the manufacturing sector grows, the greater is the increase of productivity in the system as a whole. Verdoorn's law takes the law of a relation between the growth of productivity *p* and the growth of manufacturing ***g***, which was developed as p = a +b g, with parameter ***a*** having a value of around 1 and parameter b having a value of around 0.5. For Kaldor (1967), every increase in manufacturing of 1% gives rise of an increase in productivity of 1, 5%. Internal and external factors induce this growth (Targetti, 2005). Externally, an increase in productivity results from:

- The growth of manufacturing provides capital goods and hence technical advances embodied in them as input for other sectors;
- An increase in output and employment in the manufacturing sector reduces the employment in agriculture but not its output;
- Third, because greater activity in the manufacturing sector produces greater turnover per worker in the distribution sector.

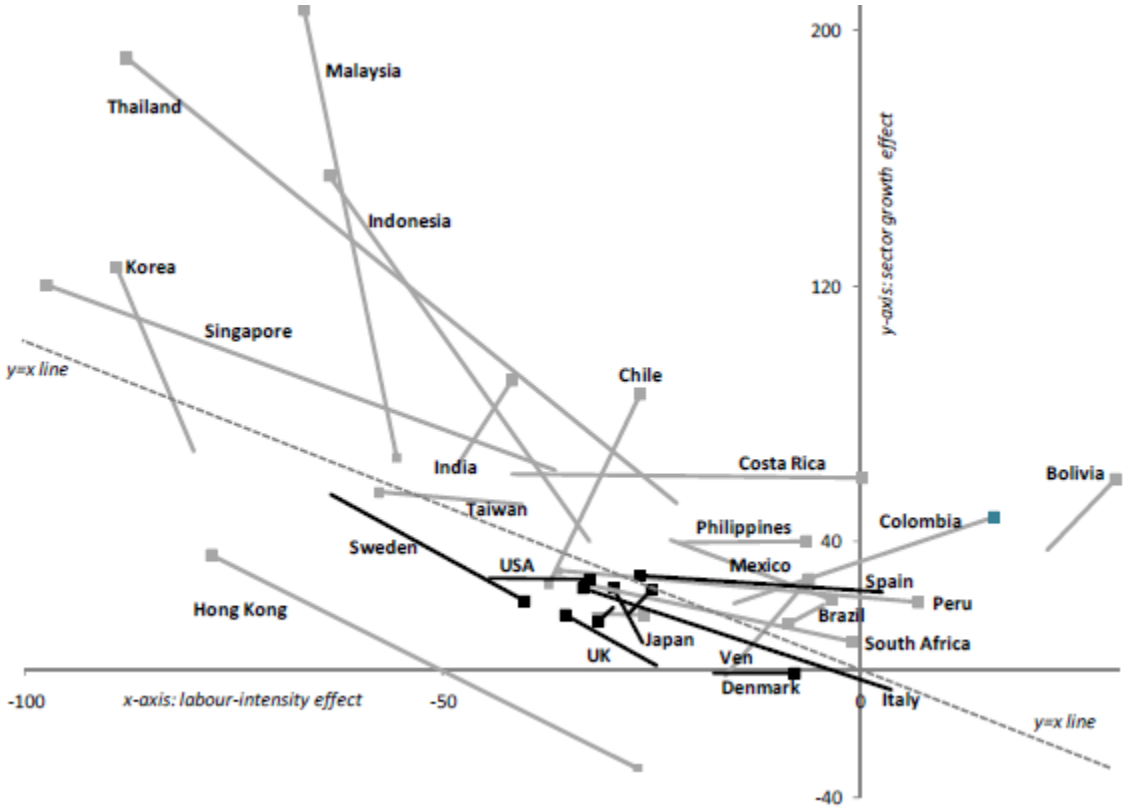
The second law is provided by the existence of the manufacturing industry in which there are static and dynamic returns to scale that may stem from the discovery of new processes, from increasing differentiation, and from new subsidiary industries—that is, from general industrial expansion and not just from the expansion of a particular firm (Targetti, 2005).

The third law, which is the industry-agriculture relation explains that there is a connection between agriculture and manufacturing. This connection does not only occur because it creates extra wage goods for growing urban populations, but because it creates and induces conditions for demand in the manufacturing sector (Targetti, 2005).

Kaldor (1967) observed a causal effect between manufacturing and growth. He argued that technologies in manufacturing were more likely to generate economies of scale than agriculture and services. He particularly linked economies of scale to learning by doing which technically meant the process of acquiring technological capabilities through practice. Kaldor's (1967) work demonstrates that 'the expansion of manufacturing generates more opportunities for learning and the development of skills' (Pincus, 2014:4).

Kaldor's theory has been corroborated by Tregenna (2011) empirical findings which were based on the analysis of the UN National Accounts database. She observed that 52 countries, almost all of which were low to middle income countries, expanded their manufacturing which resulted in an increase in GDP since 2000. However, she did note that reindustrialization (re-raising share of manufacturing in a country's total employment or GDP) after deindustrialization is likely to be challenging than cases of initial earlier industrialization (Tregenna, 2011). The diagram below illustrates the empirical findings:

Figure 1 Decomposition of Change in the Level of Manufacturing Employment 1985 - 1995 and 1995 - 2005



Source: Tregenna 2008 -Square marker refers to 1985–95; end of line refers to 1995–2005. Venezuela, Argentina, France, and the Netherlands are included in the chart, but are not labelled for reasons of space; these are the short lines located nearby the UK and Japan.

Historically, it was observed that the growth of manufacturing was closely linked to industrialisation since the industrial revolution of the 19th century Britain. The introduction of the steam engines and technologies in factory production in textiles and mining led to dramatic transformation of both world trade and the domestic structure of production (Pincus, 2014). In

addition, Pincus (2014) adds that after WW II developing countries, by and large former colonies of Africa and Asia and the independent states of Latin America, implemented policies that accelerated industrialization in which the development of the manufacturing sector was seen as an engine of economic growth. We can also see that manufacturing as a share of GDP increased across developing countries from the 1950s but more so rapidly and consistently in Asia, (Pincus, 2014).

Drawing from Pincus (2014), the relationship between manufacturing and industrial development is linked to per capita, that is, labor productivity growth is more paid in manufacturing than agriculture. The Lewis (1954) two sector model is based on the above premise, where by countries that begin the development process with most of the labor force in low productivity agriculture, by developing manufacturing, usually result in an increase in average productivity. Szirmai (2009) also argues that the transfer of resources from agriculture to manufacturing provides a structural change bonus. Following Alexander Gerschnkron (1962), it can be ascertained that late developers can achieve rapid productivity growth through manufacturing and more so by importing technology. In addition, Lewis model shows that increasing returns to scale in manufacturing generates profit and therefor promotes capital accumulation. This is bolstered by Szirmai (2009) who notes that capital accumulation can or is easily realized in spatially concentrated manufacturing than in spatially dispersed agriculture. However, both Cantore, Clara and Camelia Soare (2014) and Szirmai (2009) note that relative capital intensity of manufacturing does decline over time.

For Szirmai (2009), growth is achieved through manufacturing through linkage and spillovers effects, which are stronger for the manufacturing sector than agriculture. Spillovers effects refer to the knowledge flows between sectors whilst linkages refer to direct backward and forward linkages. Szirmai (2009) also asserts that linkage and spillovers effects are presumed to be stronger within manufacturing than within other sectors. That manufacturing is the engine for industrialisation growth is demonstrated by the fact that as per capita incomes rise, the share of agricultural expenditure declines and the share of expenditure on manufactured goods increases (Engel's law). Hence, countries that largely specialize in agriculture and primary production do not benefit from expanding world markets for manufacturing goods (Szirmai, 2009).

Though Prebisch and Singer (1950) were more concerned about general issues of rising per capita income gap between industrialized and developing countries and its relationship to

international trade, their theory emphasises concentration in manufacturing. The Prebisch - Singer theory claims that the price of primary commodities declines relative to the price of manufacturing goods over time. The two argued that international specialization along the lines of static comparative advantage seeks to exclude developing countries from the outcomes or fruits of technical progress which served to enrich the industrialized states. Prebisch and Singer noted that:

i. Developing countries were indeed highly specialized in the production and export of primary commodities;
ii. Technical progress was concentrated mainly in industry;
iii. The relative price of primary commodities in terms of manufactures had fallen steadily since the late 19th Century.

By specializing in primary commodities, Prebisch and Singer (1950) show developing countries benefit very little from industrial technical progress; 'either directly, through higher productivity, or indirectly, through improved terms of trade'. Although in reality developing countries do not only export primary goods and vice versa, the distinction gains of one or the other can be fathomed through measuring the share of commodities in developing country exports. Although it is not a perfect measure, export shares do show a degree of specialization (Cuddington, Ludema & Jayasuriya, 2002).

This research argues that it is important to create structural change through manufacturing mainly because of the positive externalities that accrue to the system. In addition, one cannot ignore the evidence of the Prebisch- Singer hypothesis as the world has experienced volatility in agricultural commodities.

This research presents some debates that argue for the fact that manufacturing is probably the most ideal route in building industrial bases particularly for developing countries wishing to create structural change within the economy, however, the big question is who should lead the industrial process? In the following section, we discuss the definition of industrial policy and debates for the state or market to lead the process.

2.3 State led industrialisation

Nobel Laureate Arthur Lewis pointed out in 1955 that 'no country has made economic progress without the positive stimulus from intelligent governments; it remains true that there are few if any examples of governments that have succeeded with a purely laissez-faire approach that does not try to come to grips with market failures, and far more examples of rapid growth in

countries whose governments have led effectively' (Lin and Chang, 2009:485). In addition, Chang (2003:2) highlighted that developed countries did not get where they are now through the policies and the institutions that they recommend to developing countries today. Most of them actively used "bad" trade and industrial policies, such as infant industry protection and export subsidies (Chang, 2003: 2).

The role of the state in development and support for the broader industrialization process is stressed by Lin and Monga (2010) who noted, government intervention has and will always played an important role in facilitating structural change – through the provision of information [to curb information asymmetries – costs of self- discovery], coordination, of hard and soft infrastructure improvement and compensation for externalities which result from failed markets. They assert that state intervention is indispensable in helping economies move from one stage of development to another.

Haque (2007) echoes Lin and Monga (2010) in noting that industrial policy is necessary to move from low productivity to high productivity and high value adding activities through building networks. Likewise, economic development is about structural transformation. Industries do not just emerge; they need to be actively constructed and advanced and remade through conscious effort and policy by the state.

Early proponents of state intervention by and large focused on the missing factor nexus - capital, technology and entrepreneurship which was most unlikely to emerge from market forces alone. Hirschman (1958, 1977) notes that different methods were required to elicit or draw these missing ingredients for growth. Without some form of state intervention, imperfect capital markets were unlikely to generate sufficient savings nor allocate them efficiently, (Shapiro, 2007).

Drawing from Gerschnkron (1962) in (Shapiro, 2007:3), "the greater relative backwardness of modern less-developed countries, in contrast to previous industrializers, required a leap into the most modern, capital-intensive sectors'. With some less developed countries facing challenges of weak private sector and scarce capital, the state has the capacity to mobilize and allocate resource. From a Keynesian perspective, development challenges lie in motivating investors rather than it being a challenge of scarce savings. Consequently Nurkse (1953), Rosenstein-Rodan (1943), and Scitovsky (1954) argued for the view that governments must coordinate investment decisions and promote a 'Big Push' (Shapiro, 2007).

2.4 Market led industrialisation

A different perspective from the above is market led industrialisation, which hinges on the neo liberal approach. The neoliberal surmises that "the best strategy for all countries and in all situations is to liberalize. Integration into the international economy, with resource allocation driven by free markets, will let them realise their ënaturalí comparative advantage, optimize dynamic advantage and yield the maximum attainable growth" (Lall, 2003: vii). Any government intervention, neo liberal approaches ascertain, will only reduce welfare. The only legitimate role for the state in the industrial process is to provide a stable macro economy; open the economy fully to allow factors of production to flow, give a lead role to private institutions and furnish essential goods such as basic human capital. In the industrialisation process, "firms have perfect information and foresight and full knowledge of all available technologies. Firms choose the right technology when faced with free market prices. Having selected the right technology, they use it instantaneously at ìbest practiceî. There are no significant learning processes, no risks, no externalities and no deficiencies in the skills, finance, information and infrastructure available to them" (Lall, 2003:13). Since access to productive capital is often a constraint in the industrial process, classical fundamentals assume the capitalist nucleus' profits are saved and invested in order to expand their capital stock. Thus, saving and reinvestment by capitalists create jobs, growth and industrial activity. Lewis (1954) notes that as the share of profits rise the share of savings and investment rises, thereby increasing the rate of economic growth.

The main limitation of state intervention is that it is inefficient. Concern centred on whether state intervention was the best tool to achieve desired goals in the industrial process. Krueger, (1986) , expressed that the state often engaged in policy that would benefit a few namely the civil servants who administered them. It was noted government policies and regulations were often influenced by corruption, vested interests or were simply fostered by unproductive services. This resulted in rampant tax evasions, smuggling of goods and the creation of the black economy, which affected growth negatively. Krueger (1974) traversed that private agents were often well informed about markets and government actions and would often act in opposite intention of policy to achieve their own goal, posing a threat to development. Interaction between state and private actors was thought to end in bureaucratic failure which would be more devastating than market failure. As Krueger (1974) observed, certain measures such as quantitative restrictions on imports allowed squandering of resources in unproductive,

rent seeking activities through firms competing for import licences thereby diverting productive resources.

After examining effective rates of protection, Little, Scitovsky and Scott (1970) and Balassa (1982) argued that the state was inefficient and this correlated with poor economic performance. However, at the time, Shapiro (2007) notes that their argument was based on export oriented countries such as Taiwan and South Korea which market led proponents thought practiced noninterventionist policies. For Krueger (1984), the rapid growth of these countries surpassed that of inward oriented states and created the impression that the market was efficient. However, evidence from the East Asian Newly Industrialised Countries (NICs), did make use of selective protection measures such as quotas, tariffs, foreign exchange rationing, subsidized credit and domestic content requirements. Looking at results from a study by Amsden (2001) twelve countries that successfully geared into mid technology industries employed government led interventions that saw a large role of capital formation in the 1960s that did diminish over time. Similarly, Stiglitz (1996) argued that East Asian industrialisation was made possible by a state that was able to complement the market not substitute it; demonstrating that the provision of institutional infrastructure by the state made the markets operate efficiently. Stiglitz (1996) argued that the creation of market institutions such as controlling of financial markets, long-term development banks, and usage of trade bonds and capital markets enabled the state to direct and allocate resources to the market efficiently.

There are important fundamentals presented by proponents supporting state or market intervention. Although inefficiencies from the state do occur, the market has fared no better following the recent financial crisis. Although industrial development processes are not simply codified from one country to another, their experiences can inform development trajectories of others. These experiences being state interventions that were used in newly industrialised countries and historically in countries such as Britain during the industrial revolution.

2.5 Industrial policy Debates

Mostly, state led intervention is embodied in industrial policy, Evenett (2005) notes that the definition of industrial policy is highly contentious and is not a clearly defined terms among academics, policy makers and development economist and the like. Ideologically industrial policy is supported and advocated for by those who have believe in the ability of the government to direct and drive the process of growth (Chang, 1998). Most important definitions of industrial policy, according to Fine (2011), have been defined and guided by

fashions that exist and are prevalent at a particular point in time, and so a certain set of policies for one country cannot automatically fit the other, it needs to be context specific.

Global institutions such as the World Bank describe industrial policy as 'government efforts to alter industrial structure to promote productivity-based growth, whilst UNIDO defines it as 'government measures aimed at improving the competitiveness and capabilities of domestic firms and promoting structural transformation…a broader productive development strategy which is concerned to enhance capital accumulation and knowledge accumulation' (OECD, 2016 :1).

Development economists such as Pack and Saggi (2006) have defined it as any type of selective intervention or government policy that attempts to alter the structure of production toward sectors that are expected to offer better prospects for economic growth than would occur in the absence of such intervention, i.e., in the market equilibrium. For Aghion et al. (2011), 'industrial policy should be a state of mind … create a climate of cooperation between government and the private sector … a discovery process … generate positive spill overs to other sectors and not be based on purely financial incentives … not picking winners' (Aiginger, 2014:9).

Rodrik (2011), in Aiginger (2013:9) one of the proponents of industrial policy, argues that

'It should target activities and broad sectors, never firms; it should promote new activities not prevent exit … follow markets instead of leading them. Industrial policy should create new comparative advantages and help developing countries to diversify; it should stimulate exports, not prevent imports. New industrial policy should favour competition, instead of being an adversary of competition policy. Industrial policy should not protect non-viable domestic firms".

However, Rodrik (2011) criticised the old definitions that excluded elements of competition and favoured firms which did not seem viable.

For Aiginger (2013: 3), industrial policy should no longer be an isolated policy; "it should be merged with innovation policy … it has to build up and be supported by education policy. It has to be systemic, pushed by competition, and pulled by 'beyond-GDP' goals". Industrial policy should start from the vision of where an economy wants to be in 20 or 30 years in the future, of which factors (income, social goals, and ecological sustainability) will define welfare, and of which capabilities will provide competitiveness and growth on a path aligned

with these pillars. Here, Aiginger et al. (2013) considers an element of time, 20 to 30 years, however, as Fine (2011) notes, the fashions that exist and are prevalent at a particular point in time can affect goals. It is noteworthy that political economy has a role to play such that its impact should not be ignored. Although not the focus of this research, greening industrial policy by looking at ecological and sustainable production methods has been making strides in the last couple of years.

Landesmann (1992) emphasised that industrial policy had a selective component to it. Similarly, Chang (2009: 2) explains that "when we talk about "industrial policy", the majority of us do not mean any policy that affects industry but a very particular type of policy that affects industries. Today this is commonly known as "selective industrial policy" or "targeting" – namely, a policy that deliberately favours particular industries over others, against market signals, usually (but not necessarily) to enhance efficiency and promote productivity growth. Peres and Primi (2009) contributed further by sequencing the trajectory policy making should take as follows:

i. Horizontal policies;
ii. Selective or sectorial policies;
iii. Frontier.

Horizontal policies are typically least demanding and encompass institutional infrastructure, in addition to employing a relatively small number of instruments. Examples of horizontal policies include human capital formation support, generic measures of production support i.e. certifications quality control, guides for standards, incentives for infrastructure and incentives for business environment development.

Selective or sectorial policies, according to Peres and Primi (2009), require greater institutional capacity, since they involve specific sectors or special interest areas. Instruments or selective policies encompass targeted attraction of foreign direct investment, sector-specific international trade negotiations, incentives and subsidies for specific sectors or production activities, and programs in support of the competitiveness of given industrial activities. In addition, selective policies may include the implementation of public procurement contracts.

Frontier policies generally respond to a broader national development vision. They aim at creating capabilities in key strategic technological and science areas, Peres and Primi (2009) argue that frontier policies are complex strategies that require strong institutional management and capacities and effective coordination of stakeholders. These policies encompass national

programs to develop scientific national programs in biotechnology, nanotechnology, technological along with production capacities in selected areas through technology parks, research consortia and other kinds of instruments (Peres and Primi, 2009:

Identifying the state as an agent that can lead the industrial process, is the first step, but what makes the state an effective in in its objectives.

First and foremost, Peres and Primi (2009) point out that institutional capacity is imperative. Countries which have the most basic institutional capabilities are capable of carrying out some simple horizontal policies. As capacities in institutions increase, states are able to promote selective policies. In addition, Peres and Primi (2009) note that eventually as a set of economic activities of a country is near the international frontier, strong institutional capacities may be required to induce local firms and research institutions to push ahead the international frontier. Success, as Peres and Primi (2009) note, not only emanates from the evolution of the capabilities of firms to innovate, but also from the evolution of the capabilities of policy institutions. Thus, Peres and Primi (2009) highlight that the effectiveness of a policy depends on the following:

i. Firstly, policy design should be accompanied, not followed, by explicit consideration of the institutions that will have to implement them. This means involving industrial policy stakeholders and creating institutions which allow this participation on a continuous basis. Although reform of the state and organizational development are not issues that are close to the industrial organization specialist, they need to be addressed to reduce implementation failures.
ii. Secondly, there is a need to increase the amount and the quality of human recourses specialized in policy design and implementation, prioritizing the latter, even though transfer of qualified personnel.
iii. Third is to develop and strengthen the institutions and the individuals that link policy design and implementation. Three courses of action are available for that purpose: strengthen public institutions; search for leaders in the private sector; and strengthen intermediate implementation agents, such as business associations.

Stiglitz (1998) argues that policy effectiveness can be measured if the prescription is right from the foundation and he notes the following:

i. recognizing that “development” presupposes feasible and attainable targets

ii. making explicit the existing restrictions related to available resources and capabilities for policymaking– or policy implementing
iii. designing policies within the bounds of initial constraints, but establish high-priority targets to gradually overcome institutional bottlenecks;

Fine (2011) argues that the capacity of the state to carry out an industrial policy should not be overlooked and treated as a secondary issue. Government departments must have the skills and motivation to carry out the necessary policy work. He notes there must be determination to overcome, or incorporate, underlying economic and political interests in formulating, implementing and monitoring (and providing feedback to) policy. Here again capacity of institutions is regarded as an imperative.

UNCTAD (2011:65) presents a different perspective and notes "a credible and effective industrial policy should target specific constraints facing domestic entrepreneurs. This requires identifying the key binding constraints facing domestic firms as well as possible measures that could be put in place to lift or relax them". Political economy issues are important and in this regard Rodrik (2008) underscores 'the importance of political leadership in fostering accountability in the industrial policy-making process. In particular, it is crucial that a high-ranking government official who is responsible for industrial policy and can be held accountable when things go wrong. Transparency of the industrial policy making process is also necessary to check rent-seeking behaviour.

This section has discussed three main points, firstly the two ideologies that allow industrial development and growth to occur, the Heckscher-Ohlin comparative advantage theory and industrialisation through manufacturing. The research adopts the latter framework of analysis. Second in order to achieve or lead the industrial process, the research provided debates from neo liberals who support market led growth and structuralist who support state led growth. The research leans towards state led growth. Third the above section discussed literature that leads to effective state intervention.

Concepts and Debates in Value Chain Analysis

Value Chain Theory

The previous section discussed one major element, namely, economic development through industrialisation and manufacturing led by the state and its policy. Manufacturing is essentially a process that allows for the structural transformation of a commodity like cotton to manufactured goods like textiles. Since there are backward and forward linkages within and between manufacturing and other sectors of the domestic economy such as agriculture and services, we investigate these connections and linkages and even where no direct equity relations exist, through concepts and debates in value chain theories. Value chain analysis allows us to draw enablers or blockers to upgrading or value addition particularly at the level of manufacturing and addressing constraints through policy interventions or strengthening capabilities. This section starts by looking at the origins of the global value chain describing the different components that make up a production chain and discusses the component of upgrading drawing insights from Gereffi and Fernandez-Stark's (2011) and Kaplinsky and Morris's (2001) perspectives. It goes further to illustrate examples of cotton to textiles value chain literature.

2.6 Global Value Chains

Gereffi (2011) defines value chain as the full range of activities that firms/companies and workers perform to bring a product from its inception to final end use. These activities encompass design, production, marketing, distribution and support to the final consumer. Whilst Kaplinsky and Morris (2002), similar to the above, describe a value chain as the full range of activities which are required to bring a product or service from conception, through the different phases of production, transformation and delivery to final consumers, and eventual disposal after use.

Value chain analysis stems from several historical theoretical concepts. First, introduced by Jaffee and Gordon (1992:7) is the subsector, "an interdependent array of organizations, resources, laws and institutions involved in producing, processing and distributing an agricultural commodity". The subsector involves the analysis of networks of relationships that link suppliers, processors, transporters and traders in ways that seek to connect producers and enterprises with final consumers of goods and services.

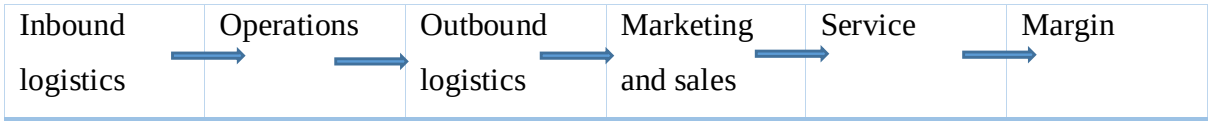
The chain concept has its roots in the World Systems Approach (WSA) where it was conceived of as a network of labour and production processes whose end result is a finished commodity. It was developed out of political economics. The concept concentrated on world capitalist

economies that divided labour and economic activities into core, periphery and semi-periphery and highlighted the unequal exchange of goods and services. The approach is deployed as an intermediate unit of analysis, where the totality of all commodity chains makes up the world system, more specifically, the global production system (Hopkins and Wallerstein, 1982). In Hopkins and Wallerstein's own words on commodity chains is

"What we mean by such chains is the following: take an ultimate consumable item and trace back the set of inputs that culminated in this item—the prior transformations, the raw materials, the transportation mechanisms, the labour input into each of the material processes, the food inputs into the labour. This linked set of processes we call a commodity chain. If the ultimate consumables were, say, clothing, the chain would include the manufacture of the cloth, the yarn, etc., the cultivation of the cotton, as well as the reproduction of the labour forces involved in these productive activities'(Bair, 2005 :7), Bair, 2 ;7)

In the 1980s appeared Porters conception of the value chain that argued that sources of competitive advantage could be detected by looking at a firm as a whole rather than the firm being disaggregated in a series of activities.

Figure 2 Porters Conception



Source: Authors own compilation from Franzel, Mithöfer, and Nang'ole (2011)

According to Franzel, Mithöfer, and Nang'ole (2011), Porter identified primary activities that directly contribute to add value to the production of goods and services as well as support activities, which have an indirect effect on the final value of the product. For Porter, the goal of primary activities that included inbound logistics, operations, outbound logistics, marketing and sales and services were to offer the customer a level of value that exceeds the cost of the activities thereby resulting in a profit margin. The critique of Porters theory, according to Fasse et al (2009) is that it was a better suited as tool for executive managers in strategic decisions and restricted analysis to that of the firm whilst neglecting analysis of upstream and downstream activities beyond the firm, (Franzel, Mithöfer, and Nang'ole (2011).

In the mid-1990s the global commodity chain (GCC) analysis embedded in organisational sociology and world systems theory was proposed by Gereffi and Korzeniewicz (1994). It examines ways in which firms and countries are globally integrated and assesses determinants

of global income distribution. The GCC was focused on power relations in the coordination of global but linked production systems. Gereffi and Korzeniewicz (1994) illustrate that GCC's such as retail are generally characterized by a leading party or parties (for example, Walmart and Nike) that determine the overall character of the chain. These chains are producer or buyer-driven. Buyer-driven chains turned out relatively simple products, such as house wares and apparel. This is because control lies more in product design and marketing than in manufacturing know-how as it would be relatively easy for lead firms to outsource production. In the more technology- and capital-intensive industry, items made in producer-driven chains, such as autos and complex electronics, technology and production expertise were core competencies that needed to be developed and deployed in-house, or in captive suppliers that can be blocked from sharing them with competitors.

The GCC concept in the last decade was further developed into the Global Value Chain (GVC) concept (Newman & Takala-Greenish, 2014) According to Newman and Takala-Greenish (2014), it was more than a decisive change in nomenclature to aid communication between researchers across multiple disciplines where "a proliferation of overlapping names and concepts" (Gereffi et. al 2001, p.2) had arisen. GVC analysis constitutes both a stream within chain studies more broadly as well as a departure in terms of theoretical orientation from a macro-sociological (concerned with analysis of historical and contemporary dynamics within, and forms of, capitalism as a systemic whole) to a micro-oriented approach that "focuses on the coordination of inter-firm dyads in a global value chain" (Bair 2008, p.339), in (Newman and Takala-Greenish, 2014)

The GVC has made important advances in in the analytics and understanding of power relations and governance in value chains; it allows the understanding of how global industries are organized by examining dynamics and structures of different actors in a given industry. According to Gereffi and Fernandez-Stark (2011), GVCs in essence link workers, firms and consumers across the globe and often provide a stepping stone for firms and workers particularly in developing countries to integrate into the global economy and contribute to economic development. The GVC concept consists of 5 elements, namely:

i) an input-output structure, which describes the process of transforming raw materials into final products;
ii) a geographical consideration;
iii) a governance structure, which explains how the value chain is controlled;

iv) an institutional context in which the industry value chain is embedded;

v) Upgrading which describes the dynamic movement within the value chain by examining how producers shift between different stages of the chain.

The input output structure, according to Gereffi and Fernandez-Stark (2011), involves research and design, inputs, production, distribution and marketing, and sales, and, in some cases, the recycling of products after use. Importantly, the input output structure characterizes flows of tangible and intangible goods and services critical to mapping the value-added at different stages in the chain. Here information that may encompass jobs, participating firms or issues of gender can be analysed. In painting a holistic picture of that chain its evolution and trends, some important factors to identified include characteristics of firms – are they local or global, private, state-owned, medium to large etc. The geographical location of firm activities according to (Gereffi and Fernandez-Stark 2011) can be dispersed in different parts of the world due to competitive advantages in assets and can operate at different scales, locally, nationally or regionally. However, drawing from the world systems theory, often developing countries offer low labour costs and raw materials whilst wealthier countries are behind research and development and product design. In the value chain, a lead firm is found which informs the position of other firms in the chain. In terms of governance, the GVC argues that there are lead firms whose "authority and power relationships determine how financial, material and human resources are allocated and flow within a chain" (Gereffi and Fernandez-Stark, 2011:9).

Five typologies of governance structures have been identified, namely, markets, modular, relational, captive, and hierarchy. First, market governance is centred on price as opposed the power a lead firm holds. The cost of switching to a new partner for either buyers or producers is low. Second, in modular governance information technology and standards for exchanging information are key. Typically, suppliers in modular chains make products to a customer's specifications and take full responsibility for process technology using generic machinery that spreads investments across a wide customer base. This keeps switching costs low and limits transaction-specific investments, even though buyer-supplier interactions can be very complex. Third, relational governance, centres upon buyers and sellers relying on each other on complex information that is not easily learned or transmit. In this type of governance, there is a lot of interaction and knowledge sharing between parties and trust is essential as it generates mutual reliance on each other. Despite mutual dependence, lead firms specify what is needed, and thus have the ability to exert some level of control over suppliers. In captive governance, small

suppliers are dependent on one or a few buyers that often wield a great deal of power. Such networks feature a high degree of monitoring and control by the lead firm. In hierarchical governance chains are characterized by vertical integration and managerial control within lead firms that develop and manufacture products in-house, (Gereffi and Fernandez-Stark (2011) in Gereffi, Humphrey and Sturgeon, (2005). Such chains usually occur when product specifications cannot be codified, products are complex, or highly competent suppliers cannot be found. Sturgeon (2008) criticises Gereffi and Fernandez-Stark's (2011) conceptualisation of governance and notes that it is more suited for analysing particular links in chains majorly transactions between lead firms and first tier suppliers as opposed to understanding how and to what extent, the mode of coordination prevailing at this link affects inter-firm dynamics farther down the chain. In addition, Bair (2005) argues that governance can have multiple forms, for example in processing cotton seed, governance structures differ for the value chain of lint to fabric as opposed to that of cotton seed for oil expressing,

The institutional aspect of the chain identifies how international, national and local conditions or dynamics and policies shape the global firms in each stage of the value chain. For Gereffi and Fernandez-Stark (2011), these conditions include economic conditions in a chain such as the availability of key inputs such as labour costs, available infrastructure and access to other resources such as finance whilst social context governs the availability of labour and its skill level, such as female participation in the labour force and access to education; and finally institutions includes tax and labour regulation, subsidies, and education and innovation policy that can promote or hinder industry growth and development.

The upgrading aspect of GVC looks at how the global economy is analysed from two contrasting vantage points: top down and bottom up. In the top down aspect, governance is led by lead firms, whilst the bottom up is led by upgrading used by stakeholders, regions or countries to maintain or improve positions in the global economy. Economic upgrading therefor is defined as "firms, countries or regions moving to higher value activities in GVCs in order to increase the benefits (e.g. security, profits, value-added, capabilities) from participating in global production, Gereffi & Fernandez-Stark, 2011:12). There are four types of upgrading mechanisms

Table 1: Upgrading in GVC

Type	
process upgrading	which transforms inputs into outputs more efficiently by reorganizing the production system or introducing superior technology
product upgrading	moving into more sophisticated product lines
functional upgrading	entails acquiring new functions (or abandoning existing functions) to increase the overall skill content of the activities
chain or inter-sectorial upgrading	where firms move into new but often related industries

Source: Gereffi & Fernandez-Stark (2011)

It is important to note that diverse mixes of government policies, institutions, corporate strategies, technologies, and worker skills are associated with upgrading success.

The capability and capacity to innovate, and to ensure continuous improvement in product and process development is essentially 'upgrading' in value chains as observed by Kaplinsky and Morris (2001). For Kaplinsky and Morris (2001), the point of significance is not just innovating but the rate of innovation. If it is lower than that of competitors it may result in declining value added and market shares and at times involve immiserating growth. Kaplinsky and Morris (2001) suggest four trajectories that apply broadly to upgrading and similar to those suggested by Gereffi and Fernandez-Stark (2011). Kaplinsky and Morris (2001) argue that even though development trajectories differ and cannot always be codified international experiences in upgrading suggest it is one which begins with process upgrading, then moves to product upgrading, to functional upgrading and last of all, to chain upgrading.

Table 2: Types of Upgrading in Value Chains

Type of Upgrading	Description	Practice	Performance
Process upgrading	Increasing the efficiency of internal processes such that these are significantly better than those of rivals, both within individual links in the chain (for example, increased inventory turns, lower scrap), and between the links in the chain (for example, more frequent, smaller and on-time deliveries)	R&D, changes in logistics and quality practices, introducing new machinery , supply chain learning	Enhanced quality, delivery performance, shorter time to market, improved profitability, enhanced patenting
Product upgrading	Introducing new products or improving old products faster than rivals. This involves changing new product	Expansion of design & marketing departments, establishing or strengthening of new products, coopering	% of sales in new products, products introduced over years, copyrights,

	development processes both within individual links in the value chain and in the relationship between different chain links	with suppliers in new product development	increase in relative unit price
Functional upgrading	increasing value added by changing the mix of activities conducted within the firm (for example, taking responsibility for, or outsourcing accounting, logistics and quality functions) or moving the locus of activities to different links in the value chain (for example from manufacturing to design	New higher value-added chain specific functions absorbed from other links in the chain, outsourcing low value activities, moving into new links,	Division of labour, increase in skill and salary profile,
Chain upgrading	moving to a new value chain (for example, Taiwanese firms moved from the manufacture of transistor radios to calculators, to TVs, to computer monitors, to laptops and now to WAP phones)	Moving into new chains, adding activities in new value chains	Proportion of sales coming from new and different product areas

Source: Kaplinsky and Morris (2001:38).

Kaplinsky and Morris (2001) note that there are forces which have the potential to either hinder or enable upgrading in firms both from within the firm or external to the firm. These forces, blockers or enablers appear in Gereffi and Fernandez-Stark (2011) in the form of various governance and institutional structures as shown in Table 3 below:

Table 3: Enablers and Blockers to Upgrading

	Blockers	Enablers
Inside Firm	Resistance from employees to new work practices, failures to commit new resources to new product development, lack of skills,	CEO committed to upgrading, effective R & D management, structured processes,
Outside Firm	Buyers who block suppliers from using own designs, IP rights, lack of skills in economy, poor IT infrastructure	Chain governor who promotes upgrading, active business service providers, legislation forcing government to upgrade,

Source: Source: Kaplinsky and Morris (2001:78)

The GVC is not without limitations. First, in upgrading it is possible that policy makers and firms may take actions to move into higher value adding activities only for the main buyer to switch suppliers or prices drops significantly. Second, Gereffi and Fernandez-stark (2011) themselves find that as countries move into more technologically advanced industries, they

tend to need more highly skilled people, more machines and fewer low skilled workers. This could present policy makers with serious challenges especially in areas with largely unskilled workers. Third, for Bair (2005), and Newman, (2012), a critique stems from the notion of who enjoys/benefits from the outcomes of upgrading, the firm or cluster, the workers or owners and managers and which level national or regional?. Particularly for workers, say in apparel, wages are often squeezed; work environments deteriorate to accomplish upgrading goals. For Palpacuer (2008), in her analysis of financialisation of corporate strategies new rules of corporate governance which involve delivering shareholder returns has resulted in greater work externalization in the form of contingent work and subcontracting. In addition, issues of financialisation not explained in GVCs, using the example of UK retailers in apparel has seen a drive in which price of apparel decreases because of a cut in supply base margins and not retail margins by restricting suppliers which in turn pinches their operating model. In recent years we have seen the rise of labour institutions protesting for human rights through the Clean Clothes Campaign in Europe, the Maquila Solidarity Network in Canada, United Students against Sweatshops (USAS) which are influencing GVCs. Fourth, in reference to the GVC Newman (2012:172) and Bair (2005) express that the GVC analysis obliterates issues of 'labour and other social….as both as actors within the chain (how the labour process contributes to the creation of value) and the extent to which workers play a role in chain reorganization (in the form of upgrading or otherwise) as well as their effect on workers' [as well as cultural issues for Bair]. In describing the GVC as a vertical chain, Newman (2012) notes that it ignores issues of the social, political, historic and economic contexts of the economy. Thus, for Bair, a 'second generation of GCC research which looks at 'how chains are articulated within and through the larger social, cultural and political-economic environments in which they operate' (Palpacuer, 2008 :3) is needed. Fifth, for Newman (2012), there are intangible aspects of value which are created through branding, advertising and labelling. Selwyn (2013) also criticises the GVC for its failure to incorporate class into its analytical framework. Selwyn (2013) notes that it suffers 'perceived linearity (vertical and horizontal) and market reification and do not include all relevant set of actors and relationships and need to incorporate all kinds network configuration and all relevant sets of actors and relationships, including labour' (Selwyn, 2013:2). It is noteworthy that the theory is still relatively new; about a decade and a half old and so for this research particular aspects for this theory and chain conceptualisation will be used to explain a chain that is not necessarily globally integrated.

2.7 Value Chain Literature in the cotton to textile chain

The OECD, Africa Development Bank (ADB) and the United Nations Development Programme (UNDP), in the Global Value Chains and Africa's Industrialisation African Economic Outlook (2014) report of 53 countries highlights the importance of upgrading. The report argues that Africa can make the most of global value chains to implement its industrialisation agenda, while at the same time avoiding getting stuck at the lowest end of value chains. The report notes that 'Africa so far captures only a small share of global trade in value added terms, but its total level of GVC integration is high compared to other regions. However, a good part of it is forward integration of Africa's commodity exports as inputs in foreign manufacturing, which creates relatively little additional value added in Africa'. The report emphasises that Africa should venture into basic manufacturing and agricultural related GVC activities. It also strongly advocates for social upgrading for holistic gains. Particularly for Zimbabwe, in which the cotton is largely exported raw but has been known for its quality, upgrading is encouraged to maximize capacity utilization and the country's natural endowment in possessing the right climatic conditions for cotton growing. Inserting the sector into GVCs is seen as the route to development whilst the following impediments are noted; poor infrastructure, liquidity constraints, deindustrialization, technology gaps, lack of competitiveness, the high cost of doing business and uncertainties related to indigenization and economic empowerment regulations.

Gereffi, Fernandez-Stark and Bamber's (2016) report entitled 'Peru in the High Quality Cotton Textile and Apparel Global Value Chain - opportunities for Upgrading', produced for the World Bank, illustrates the GVCs concept of upgrading and its economic welfare enhancing capabilities. First, the report argues that textile and apparel production is considered a springboard for economic development due to its low fixed costs and labour intensive manufacturing. Though being highly competitive globally, quality cotton apparel produced by the likes of Peru from its high quality prima cotton creates a niche market in the segment. Before 2014, Peru's ability to employ process upgrading through improving the quality of production and the speed in which they respond to client needs in addition to its unique production model of vertical integration from agriculture to manufacturing had allowed the country to capture a high share of value added and insert itself neatly into GVCs. Using trade data, they illustrate that the unit value of exports from Peru between 1998 and 2014, grew by more than 50% at a time when other countries were experiencing stagnation. However, Gereffi,

Fernandez-Stark and Bamber (2016:6) note that the future expansion of the sector 'is challenged by a convergence of constraining factors within Peru that are undermining its competitiveness'. For example, due to a decline in high quality cotton production, the sector has been importing from the US, increasing costs and reducing production of differentiated products. According to Gereffi, Fernandez-Stark and Bamber, (2016 :19) upgrading in the cotton to apparel lies in the following trajectory, as follows;

A**pparel segments -** includes functional upgrading, that is, moving into higher value segments of the value chain, as well as product and process upgrading, which involves improving both the quality of the items produced and the sophistication of the manufacturing operations.
Textiles segment - includes the shift from knit apparel to woven apparel. The latter of which is more capital intensive, but which is captures a much higher value within the chain. It also involves improving techniques (process upgrading) and final quality (product upgrading).
Agricultural segment – in the agricultural segment two key trajectories encompass products and process upgrading is essential, that is adoption of new high yielding varieties that use less water use or fertilizer.
And so for Peru's cotton sector to emerge as a large scale mass-market provider of higher value niche products or operations whilst maintaining employment for the most skilled segment of the labour force and supporting rural employment goals, the following was prescribed; that Peru

- Needs a holistic upgrading approach that tackles both cotton production and manufacturing in order to re-position the country as a niche leader of both high quality cotton and quality production sought by luxury brands;
- Process and product upgrading in the agricultural sector to guarantee competitive supply of raw materials;
- Product upgrading in apparel manufacturing towards higher value brands;
- Consolidation as a fast-fashion supplier, with a focus on high value brands;
- Functional upgrading in the medium to long term into design and branding activities. These strategies will help to secure the transition of Peru's textile and apparel.

A paper by the German Institute of Global and Aerial studies, titled *Upgrading in Agricultural Value Chains: The Case of Small Producers in Honduras,* illustrates how upgrading in agriculture is essential for better productivity that feeds as raw material for the manufacturing sector. In the report, product and process upgrading is captured as follows;

Product upgrading	New seed varieties which are high yielding, or resistant to pests and disease, use less water , new types of equipment that use less labour , new seeds –organic products , quality agricultural commodities
Process upgrading	Investments in skills, know how, ie agronomic practices, new methods of production, for cotton grading systems to meet standards,

Zimbabwe is not a major player in the cotton to textile or apparel global value chain, though in Southern Africa it is a big producer of cotton and lint. However, although not entirely perfect, GVC analysis by Gereffi and Fernandez-Stark (2011) and value chain analysis by Morris and Kaplinsky (2011), provides us with firstly a methodology to investigate processes within a country and sector context and investigate connections and linkages. Secondly, GVCs help us to understand links where no direct equity relations exist, for example, the influence of governance structures in a local context. Third, in investigating linkages we are able to draw policy implications and remedy parts or a part in the chain that hinders the rest of the parts. Fourth, in understanding the different typologies of value-adding or upgrading such as process upgrading we can gauge levels in the manufacturing process and provide policies or programmes to remedy or support the chain. This, in essence, would culminate to state intervention. Particularly for this research, the concept of global value chains is employed as a theoretical framework to explain, investigate and illustrate connections and linkages in the cotton to textile value chain in Zimbabwe that should be found as observed by Kaldor (1967) concerning manufacturing processes. Thus, some elements of the GVC are employed in a local context with elements such as geography speak mostly to the location of firms in relation to the sourcing of raw material.

This section discussed three main points. To situate our theoretical literature on manufacturing, the research discusses the concept of the GVC that informs how the description of cotton to textile value chain in Zimbabwe which is presented in the next chapter. Since we are interested in manufacturing, and value addition of commodities in this case cotton, the research discussed different components of upgrading and illustrated with an example of the cotton to textile industry in Peru.

Chapter 3 Literature Review

3.0 The cotton to textile literature in developing countries and Zimbabwe

This chapter introduces some of the literature on the cotton to textiles industry in developing countries as well as the literature on the cotton to textiles value chain in Zimbabwe.

An enormous amount of literature has been produced on the cotton to textiles industry. This section explores the different perspectives and arguments put forth by different authors. Keane and Velde (2008) examined the role of textile and clothing industries in growth and development strategies of Cambodia, Bangladesh, Mauritius and Madagascar. They found that the industry contributed to long-run growth and development, and success depended not only on the attributes (desirable or otherwise) of the investors, but on the quality and effectiveness of government policies. Madagascar became the second largest African clothing exporter in sub-Saharan Africa behind Mauritius in (2001). Keane and Velde (2008) argued that it was related to the strong push for outward orientation led by the government and generous tax breaks, combined with low wages and trade preferences. Keane and Velde note that "Mauritius is an example of a successful T&C exporter which has flourished due to favourable external conditions and active government intervention" (Keane and Velde, 2008:38). They underscore the fact that government intervention comes in the form of tax treatments, attraction of FDI and maximisation by government of preferential market access particularly Europe.

Below, the section converses existing literature on what has been written about the cotton to textile value chain. As will be discussed in detail later, typically the value chain begins with production of cotton, ginning of cotton to seed and lint, spinning of lint to yarn, weaving and knitting of yarn to fabrics. The literature below employed several methodologies, that included firm level data, desk research, analysis of quantitative data such as contribution of textiles and clothing to GDP, and case studies. All of the literature largely concentrated on the downstream aspect of the value chain.

Kanyenze (2006) looked at the future of textile and clothing industry in Zimbabwe in light of the Economic Structural Adjustment Programme (ESAP)[1]. He assessed data on the distribution of manufacturing output by sub-sector, the ESAP and response of the government and industry. He found out that, following the introduction of ESAP, the share of the textiles sub-sector in

[1] ESAP were policies prescribe by the Washington Consensus (World bank), that sort for a more open, market-driven economy, liberalized trade policies and the foreign exchange system and carried out domestic deregulation

manufacturing output declined significantly mainly due to the influx of competing cheap imports, the liberalisation of trade and the current economic crisis. He concurred with Structuralist's in that the negative impact on the manufacturing contributes to unemployment. Kanyenze (2008) recommended the assessment of protection measures for the industry i.e. tariffs and the need to recast the concept of development to move away from the traditional focus on growth to promote sustainable human development.

A United Nations (1992) study investigated the drive towards export led growth of textiles which had started to rise in the 1980s. The study surveyed 6 firms and found that export-led growth had been sparked paradoxically by the drying up of foreign currency allocations to importers. They also found constraints to exporting as a result of failure to obtain export finance at a competitive cost, problems of obtaining competitively priced raw material, infrastructural problems, bureaucratic and policy obstacles as well as outdated plant and machinery.

A more policy oriented research by Carmody (1998) probed neoclassical practice and the collapse of industry in Zimbabwe, with a concentration on footwear, clothing and textiles in Zimbabwe. He tested the observation by the World Bank that predicted export-oriented, labour-intensive manufacturing industries, such as textiles, clothing, and footwear, would expand rapidly once Zimbabwe liberalized its economy under structural adjustment. Carmody (1998) found in sharp contrast to these predictions, these subsectors had all but collapsed. It was argued that the collapse was largely due to the disjuncture between neoclassical theory and reality related to a misunderstandings of the way in which markets, particularly those of trade and finance, interact with production in particular contexts.

Like Carmody (1998), Tekere (2001) examined the textiles industry and questioned trade liberalisation during the early 1990s and its impact on social welfare. The study demonstrated that the impact of liberalisation on social welfare due to job losses, affected women more as they constituted a greater number of employees and that inequality increased. In relation to the job losses and firm closure, it was argued that export performance of textiles suffered as a result of artificially managed exchange rate. Tekere (2001) emphasised that a national strategy was needed to remedy social impacts.

The studies that have been discussed so far demonstrate that textile and clothing sector in Zimbabwe, suffered and that policies such as ESAP and liberalisation contributed to this. This would question the success or failure policy oriented towards liberalisation. Other industry constraints that led to the sectors' demise included trade related issues such as a lack of import

protection through tariffs, infrastructure issues such as obsolete machinery, problems of availability of utilities such as electricity and water and raw material availability. The studies also emphasised the need for state intervention

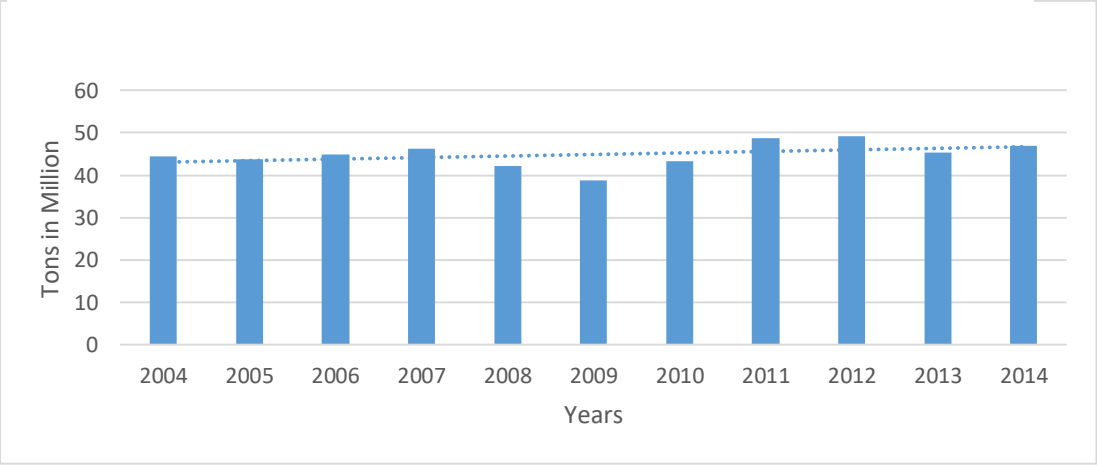
This study seeks to contribute to this discussion by concentrating on the period after dollarization. It assesses the upstream industries in relation to the downstream by using value chain methodologies. Earlier studies did not delve sufficiently into questioning how effective and supportive the state had been towards the sectors by looking at sector specific or horizontal policy instruments that existed to support the industry or address constraints. Although studies were able to illustrate factors that led to underperformance of the sector, there is no analysis of issues of governance and institutional factors that have contributed to the sector positively or negatively. We do not also gather the level of value addition or upgrading that was employed in textiles or clothing. This research therefor contributes to cotton and textiles knowledge in this regard in recent years.

3.1 Global Perspectives on the Cotton to Textile Value Chain

3.2 Cotton production

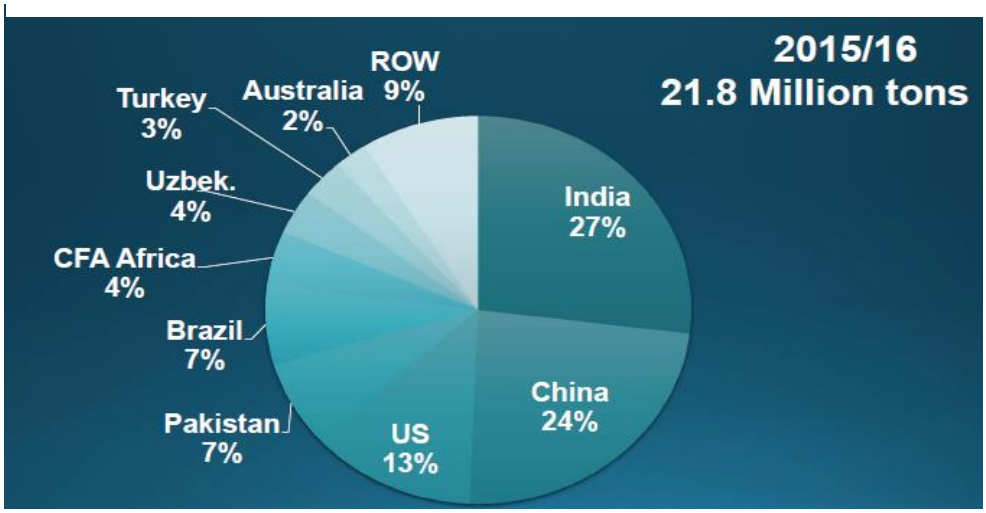
World cotton production has generally remained above 40 million tons/annum between 2004 and 2014 except for the year 2009 when production lay at 38 million tons. The years 2011 and 2012 data illustrate prime production levels of 48 and 49 million tons respectively. Although Africa is endowed with the capability of growing cotton, the largest producers in the world are India, China, the US, Pakistan, Brazil. Within Africa, Zimbabwe falls in the top ten producing countries, (ITC, 2014). While Zimbabwe may not compare with the top five, it can compete with production in Burkina Faso and Turkmenistan of 219 000tons/yr. and 294 000 tons/yr. respectively. Despite volatility in production, Zimbabwe has managed to produce peak tonnages of 400 000 and 350 000 tons in 2004 and 2012, (Moyo et al. (2014b).

Figure 3 World Production of Cotton



Source: Authors own compilation FAO, (2017)

Figure 4 World Cotton Production

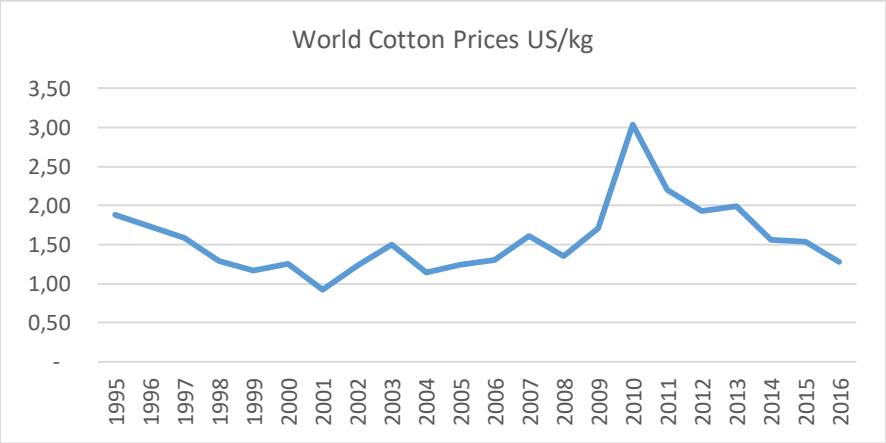


Source: OECD-FAO Agricultural Outlook, (2016)

3.3 Cotton prices

Like most agricultural commodities the price of cotton is highly volatile. Falling prices of cotton on the international market led buyers in Zimbabwe to pay lower seed cotton producer prices to the farmers. The price in US/kg has ranged between $2/kg in 1995 to $1,24 in 2005, $3/kg in 2010 and $1,28 in 2016. Cotton prices in recent years, have been influenced largely by direct assistance to producers in China and input and transportation subsidies plus substantial Chinese high stock levels. In the 2014/2105 season, China spent over 8,2 billion in subsidies compared to 0,4 billion in the US and below 250 million by other top producers, (International Cotton Advisory Committee, 2016). In addition, it has been reported that the 'decreased synthetic fibre prices driven by substantially lower oil prices placed huge competitive pressures on world cotton markets' (OECD-FAO Agricultural Outlook, 2016)

Figure 5 World Cotton Prices

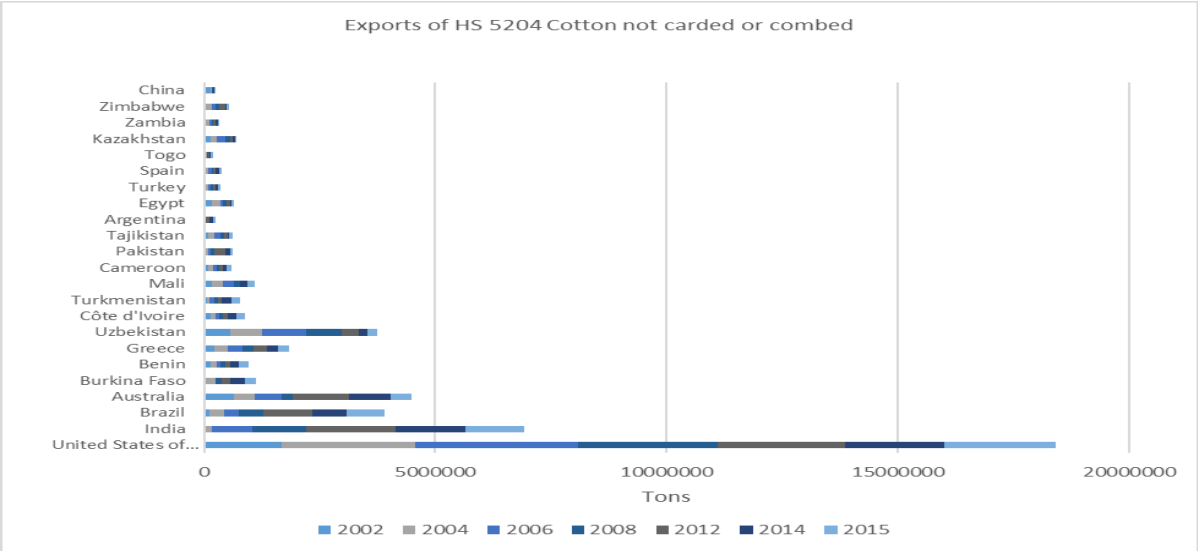


Source: OECD-FAO Agricultural Outlook, (2016)

3.4 Trade in cotton not carded or combed (lint)

The graph below illustrates that trade in cotton (mainly not carded or combed) is dominated by the United States, India, Brazil, Australia and Burkina Faso. Sub-Saharan African countries the OECD-FAO Agricultural Outlook 2016-2025 highlight, will continue to be a major source of cotton exports to the world market. The expected that SSA share in world trade will grow to 16% with exports reaching 1.4 Mt by 2025, although trade in that the region has been volatile in the past few decades. However, Cotton mill consumption is limited throughout Sub-Saharan Africa, and many countries continue to export almost all of their production, (OECD-FAO Agricultural Outlook, 2016). Although we see Zimbabwe coming as the world's 22nd exporter of lint, a lower value added commodity it does not feature in top exporters of yarn nor textiles of cotton

Figure 6 Global Exports of Lint 2006 to 2015

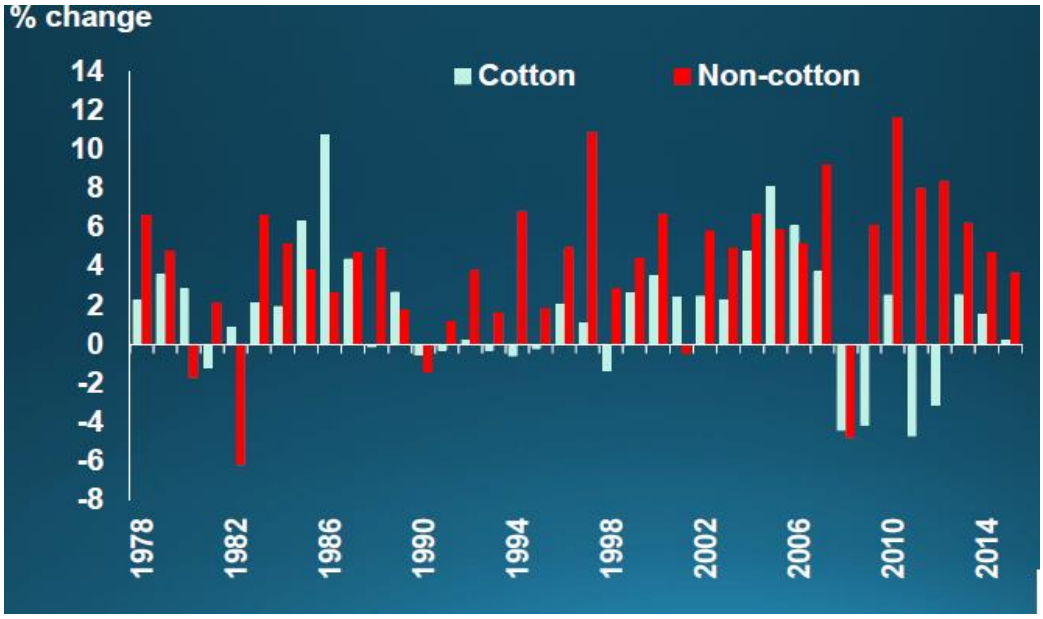


Source: Authors own compilation (Trademap, 2017)

3.5 Cotton to Textile manufacturing

An important factor in the cotton to textile value chain is the competition from other fibres. According to the International Cotton Advisory Committee (ICAC, 2016), the share of cotton in global fibre textile consumption has been declining over the last decade. Textile manufacturers are increasingly substituting man-made fibres for cotton garments traditionally made with cotton. Particularly in developing countries, the share of man-made fibre is rising mainly due to the growing role of industrial applications in fibre consumption. The future outlook for cotton demand suggests that demand is mainly derived from demand in textiles and clothing which in turn are very sensitive to changes in economic growth. Therefor a "sudden slow-down in the global economy would induce a sharp drop in the global consumption of textiles and clothing, which would disturb market stability", (OECD-FAO Agricultural Outlook, 2016 p. 6)"

Figure 7 Cotton and Non Cotton Use Globally



Source: (International Cotton Advisory Committee, 2016)

Despite competition from non-cotton fibres, consumption of cotton for mills is expected to grow from both developing and developed countries. However, for developed countries this will be minimal. Growing mill consumption provides a positive outlook for cotton producers.

Figure 8 Future Global Outlooks.

		Average 2013-15est	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
WORLD												
Production	Mt	24.9	23.6	23.9	24.3	24.7	25.2	25.8	26.4	27.1	27.6	28.0
Area	Mha	32.7	31.2	31.5	31.6	31.7	32.0	32.3	32.5	32.8	32.9	33.1
Yield	t/ha	0.72	0.76	0.76	0.77	0.78	0.79	0.80	0.81	0.83	0.84	0.85
Consumption[1]	Mt	23.9	24.7	25.2	25.5	25.9	26.2	26.6	26.9	27.4	27.8	28.3
Exports	Mt	8.1	7.3	7.5	7.6	7.7	7.8	7.9	8.1	8.3	8.5	8.7
Closing stocks	Mt	20.2	18.8	17.5	16.3	15.1	14.1	13.3	12.8	12.5	12.2	11.8
Price[2]	USD/t	1 699.1	1 280.3	1 239.7	1 300.6	1 344.8	1 432.4	1 486.4	1 528.1	1 524.0	1 501.6	1 479.4
DEVELOPED COUNTRIES												
Production	Mt	5.4	5.3	5.3	5.5	5.5	5.6	5.8	6.0	6.1	6.3	6.4
Consumption	Mt	1.7	1.8	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1
Exports	Mt	4.2	3.7	3.9	4.0	4.0	4.1	4.2	4.3	4.5	4.6	4.7
Imports	Mt	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Closing stocks	Mt	1.5	1.5	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6
DEVELOPING COUNTRIES												
Production	Mt	19.5	18.3	18.6	18.8	19.1	19.6	20.0	20.5	20.9	21.3	21.6
Consumption	Mt	22.2	22.9	23.3	23.6	24.0	24.3	24.6	25.0	25.4	25.8	26.2
Exports	Mt	3.9	3.6	3.6	3.6	3.6	3.7	3.7	3.8	3.9	3.9	4.0
Imports	Mt	7.6	7.0	7.1	7.2	7.3	7.4	7.6	7.8	8.0	8.1	8.3
Closing stocks	Mt	18.7	17.3	16.0	14.7	13.5	12.5	11.7	11.2	10.8	10.5	10.2

Source: (OECD-FAO Agricultural Outlook, 2016)

3.6 Global Yarn and Cloth Production and Trade

Although the cotton textile industry is quite widespread in about 90 countries, the main concentration is limited to only a few. Three of the top exported cotton products are cotton uncarded or combed, woven fabrics of cotton and cotton yarn. Globally Zimbabwe is the 92nd exporter of textiles but the 22nd of cotton uncarded or combed and 40th in exports of yarn. However, within SSA it is 3rd in exports of yarn after Mauritius and Ethiopia and 10th exporter of cotton textiles. This highlights in lower value cotton products Zimbabwe has some significance but not so in value added products of yarn and textiles.

Table 4 Product: 5208 Woven fabrics of cotton, containing >= 85% cotton by weight and weighing <= 200 g/m²

position	Exporters	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	World	12472685	13062967	13515557	11304313	14135962	16191034	14992919	16964861	15432359	14191583	
1	China	3915676	4381411	5147402	4848558	7038514	8369579	7974359	9815484	8515323	8224382	
2	India	515085	577785	646237	541650	657245	963967	899262	979496	987344	1013840	966288
3	Pakistan	703627	657334	765157	537982	668591	789914	728088	746714	730749	627920	
4	Italy	1199400	1189917	1058210	730579	829682	846117	703456	638788	612384	487195	492705

5	Germany	588088	583139	587223	483314	508711	604114	517911	534792	518246	411315	387454
6	Hong Kong, China	1154027	1072795	865267	625261	671656	716843	577141	548305	460498	353292	272771
7	Turkey	280309	384016	348652	262046	270859	285617	249836	308882	313878	294007	281419
8	Korea, Republic of	219906	209796	191179	180113	228481	274158	267386	244450	235333	223905	193695
9	Austria	187099	206773	201629	166867	165826	193186	177915	189480	235873	222769	261522
10	Netherlands	137940	159382	210495	195100	202171	236668	250617	274210	282382	198312	164172
92	Zimbabwe	1036	1123	885	439	1561	1123	866	744	398	340	328

Source: Trademap (2017)

Table 5 Product: 5205 Cotton yarn other than sewing thread, containing >= 85% cotton by weight

	Exporters	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
	World	9504237	10067014	10304435	8720132	12739795	13706119	13290019	15814945	14302302	12721631	
1	India	1234874	1557467	1669260	1230753	2757758	2755779	3155245	4773111	4095365	3736711	3162264
2	Pakistan	1429625	1390438	1190398	1288029	1628691	1954691	2102655	2205411	1871619	1529820	
3	Viet Nam	34569	46814	195437	257802	484960	601631	648277	912087	1280779	1382368	
4	United States of America	677218	789249	933602	814648	1059225	1775297	1244878	1227295	1226943	1149366	1072541
5	China	1612339	1673586	1675320	1551665	1874971	1752060	1670368	1876284	1493500	1112946	
6	Hong Kong, China	1737780	1657084	1487678	1338880	1599062	1182163	1093776	1178605	954871	760333	570686
7	Uzbekistan	170796	222742	206105	223517	380285	352885	323299	397590	477405	488366	
8	Indonesia	260808	230012	214553	203109	323283	292983	272568	371834	451514	428174	

9	Turkey	328921	290816	301197	227979	279068	422901	393083	397012	383737	385271	381766
10	Korea, Republic of	71255	82657	88491	78194	222681	243617	249525	272066	244286	199042	135828
40	Zimbabwe	12969	14434	53380	7430	7164	8058	11361	16594	9788	7740	5995

Source: Trademap (2017)

3.7 Institutional Context

With the African region, the phasing out of the Multi-Fibre Agreement between 1994 and 2004 led to the closure of many textile companies across the continent. The agreement is essence set quotas on the amount of textiles and clothing that could be exported to Canada, the US and the European Union (EU). The agreement encouraged and boosted textiles in Africa and protected developing countries from competition. However, the demise of the MFA opened markets to global competition and import quotas increased.

Despite the ending of the MFA, renewal of the African Growth and Opportunity Act (AGOA) provides a platform for exporting to the USA. AGOA provides market access under the following conditions:

- Apparel made in qualifying Sub-Saharan African countries from U.S. fabric, yarn, and thread is provided with duty-free and quota-free access to the U.S. market without limitations.
- Apparel made in qualifying Sub-Saharan African countries from domestically produced fabric and yarns, or from fabrics and yarns produced in AGOA-beneficiary countries in Sub-Saharan Africa, qualifies for preferences. Such market access into the U.S. is subject to a quantitative restriction (currently 3.5% of overall garment imports by the United States from all sources), (Tralac, 2016).

However, it has been noted that AGOA has not been entirely effective as aggregate AGOA apparel exports were significantly below the threshold. Despite institutions such as AGOA aiming to promote textile industries in developing countries, Zimbabwe is not part of the agreement due to continue political turmoil.

3.8 Background the Cotton to Textile Value Chain in Zimbabwe

The cotton to textile industry in Zimbabwe is the case study that this research uses to evaluate whether value-addition and upgrading is taking place and at what level, as this has the potential to feed into the concept of manufacturing and its positive spill over effects through backward and forward linkages. Using value chain analysis, this chapter describes the different segments of the cotton to textiles value chain, then review some of the institutional and governance structures, describe the trade patterns and the constraints each stage has been facing.

Using the value chain analysis, this section illustrates the form and nature of the cotton to textile to clothing value chain in Zimbabwe. From our findings, it is clear that the cotton to textile and clothing chain is as follows:

Table 6: A Basic Cotton to Textile Value Chain

			Textiles		
Research and Development	**Production of seeds**	**Ginning**	**Spinning**	**Weaving and Knitting**	**Clothing**
Research and development of seed varieties and cultivars and seed producers	Production of cotton by farmers	Separation of cotton lint and seed Seeds can go to oil expressors , lint to spinners	Spinning of lint to yarn	Yarn is knitted or weaved into fabric	Garment Manufacturing from fabric

3.9 Research and Development, Seed Breeding and Other Inputs

Right at the foundation of the chain is research and development (R & D) of cultivars suited for planting in the various regions of the country. R & D in seed ensures that seeds meet the desired characteristics for ginning and spinning. R & D is mainly led Cotton Research Institute (located in the small town of Kadoma) housed under the Department of Research and Specialist Services (DRSS) in Ministry of Agriculture, Mechanization and Irrigation Development (MAMID). The Cotton Research Institute established in 1925 has a long history of cotton growing and has contributed to promoting the reputation of the country's commodity with some intellectual rights over certain varieties such as the LS9219 2001 a long staple variety and the CRI MS 1 and CRI MS 2 medium staples which give Zimbabwe a competitive edge in the SADC region. Because of these varieties it is the highest producer and ginner of cotton. However, lack sustainable finance to keep the facility running efficiently has affected R & D, trials, and the institution as a centre of excellence.

Table 7: Research and Development in Cotton Seed Varieties in Zimbabwe

Key selected attributes	CRI-MS 1	CRI-MS 2
Lint staple type	Medium	Medium
Suitability elevation, m.a.s.l.	200-1500 (Middleveld & also Lowveld)	200-1500 (Lowveld & also Middleveld)
Suitability for export markets	Suitable	Suitable
Yield potential, kg/ha:		
Dry land	1500-2600	1600-2300
Irrigated	2600-4300	3400-4200
Seed size	Small	Small
Seedling vigour	Very good	Very good
Boll size	Medium (±5 g)	Large (± 5.5 g)
Growth habit	Determinate	Determinate
Maturity duration	Early	Early
Pests and diseases:		
Resistance to Jassids	Good	Good
Resistance to Bacterial wilt	Fair to good	Good
Tolerance to *Verticillium* wilt	Very good	Fair
Tolerance to aphids	Good	Good
Fibre quality:		
Lint Gin out turn (GOT), %	Very good (40-43)	Very good (41-43)
Fibre length,mm	28-29	28-29
Strength (HVI), g/tex	30.9	31.1
Micronnaire	4.1-4.5	4.1-4.6
Fibre maturity	>85% (HVI)	>85% (HVI)

Fibre length uniformity	>80% (HVI)	>80% (HVI)
General spinnability		
Elongation, %	7	7

Source: (MoAMID, 2016)

In terms of seed development, Quton is the largest cotton seed breeder (non GMO) that also markets all government varieties and its own varieties in addition to propagating and distributing for the Cotton Research Institute. Quton, which wanted to run trials on GMO cotton, was denied permission by the government. Quton once owned by Seedco (Zimbabwe) sold its share to an Indian company in 2014 Mahyco and French based seed developer Vilmorin and Cie. Although new players entered the industry in the last decade COTTCO, Alliance Ginneries and Chinarda (a joint venture between a Chinese contractor and Agricultural & Rural Development Authority - ARDA) and Cargill, Quton remained dominant. However, since Cargill exited the cotton industry in 2015, Quton regained its market share and continues to enjoy its dominant position (Herald, 2016 and Zeparu, 2014). It is important to note the Cotton Research Institute also relies on royalties from Quton. As we will see later, seed is distributed to farmers by merchants through contract farming and only a few players dominate the chain. Other inputs, though expensive are available.

Table 8: Other Inputs

Input	Producer
Seed	Quton, Cottco, Alliance Ginneries
Fertilizer	Zimbabwe Fertilizer Company is the largest manufacturer and supplier of fertilizers and agricultural chemicals. It is owned by Chemplex Corporation Ltd (Zimbabwe), TA Holdings Ltd (Zimbabwe) and YZ Holdings (Zimbabwe). Windmill (ZWE); Nutrachem and Omnia (SA)
Inoculant	Mostly distributed through NGOs; Soil Productivity Research Lab (SPPPRL)
Lime	Circle Lime; Early Worm; Alaska; Dynamite; Zimbabwe Fertilizer Co
Herbicides	Windmill; Zimbabwe Fertilizer Co; Citchem; Agricura; Polarchem
Mechanization	Farmec; Bain; Munted Motors
Irrigation	Centre irrigation; Right Rain,

Sources: Zimbabwe Fertilizer Company ZFC, (2013), Techno Serve, (2011) and Bonga (2013)

3.10 Production of Cotton

Commercial cotton production began some 100 years ago in the 1990s, it transitioned smoothly from a system centred upon large- scale production to one that has and is reliant on smallholder

farmers who account for 99% of production with farmers totalling between 250 000 – 300 000 (Moyo et al., 2014a).

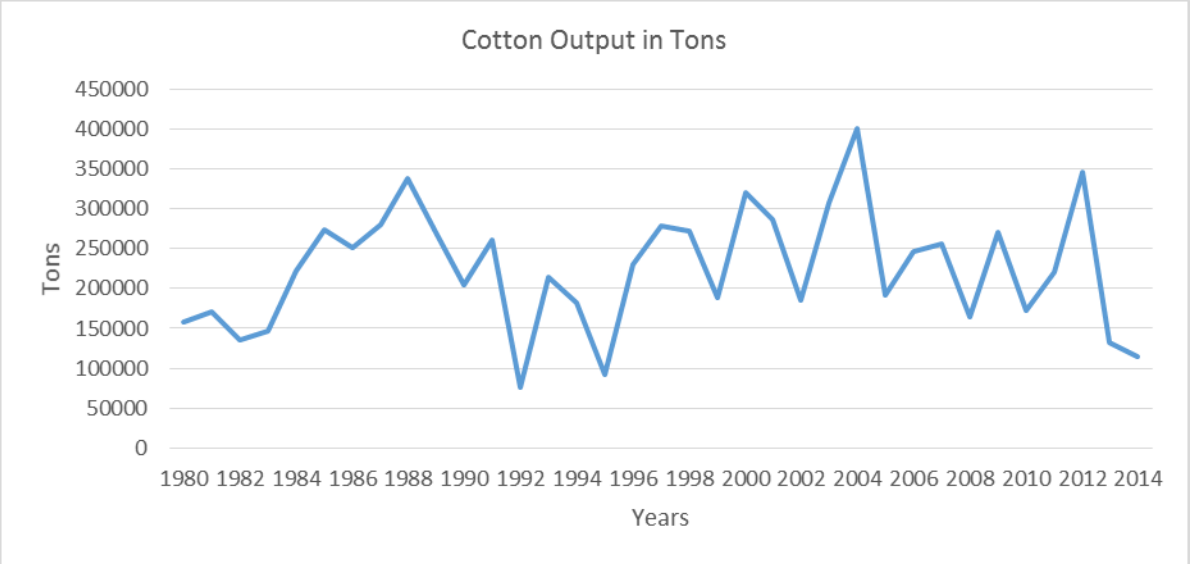
Table 9 Farmers Dependant on Cotton

Farmer Dependency Area	%Dependency
Gokwe North and South, Sanyati,	90%
Kadoma, Chegutu, Chinoyi, Banket, Doma, Karoi, Hurungwe,	50%
Guruve, Glendale, Mt Darwin, Rushinga, Mukumbura, Bindura, Muzarabani, Shamva, Ndundu and Zaka	50%
Chisumanje , Checheche, Chipinge, Bircheonough Bridge, Middle Save, Nyamapora, Chiredzi/ Triangle, Ndundu, Beitbridge,	65%
Glendale, Shamva	40%

Source: (ITC, 2014a)

Trends in cotton output illustrate that during the period of 2000 to 2001 production increased to about 300 000 tons, and declined in 2002 to just below 200 000 tons. A spike is seen in 2004 doubling at 400 000 tons. Between 2005 and 2010 production lay between 200 000 and 250 000 tons. After 2010, there was yet again another sharp rise to 350 000 tons in 2012, followed by a decline in the next two years to 115 000 tons.

Figure 9 Cotton Output In Zimbabwe in Tons/Ha



Source : Author's own calculations from Moyo et al. (2014b)

Table 8 below highlights that yields in kg/ha were high in 2009 and 2011 and low in 2014 and 2015. Overall potential yields from the seed varieties used should be in the range of 1500 – 4200 kg/ha.

Table 10 Yields in kg/ha

Season	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Yield/kg	560	768	658	770	561	640	447

Source: (International Cotton Advisory, 2015)

Ninety- eight (98%) of farmers are financed through contract farming by ginning companies, who are required by the government's Statutory Instrument 142 of 2009 as amended by Statutory Instrument 63 of 2011 and Statutory Instrument 147 of 2012, to contract cotton growers in order to be allowed to purchase seed cotton. Financing through contract farming is favoured by some, but others have no choice but to take it in the current credit deficient market. Though it reduces their burden to mobilize agricultural resources and finance and also provides a readily available market, a Zeparu (2014) study identifies some tensions among farmers and contractors as the price of inputs provided are often inflated resulting in payment defaults. Some of these issues are further explained under the section that analyses of the ginning industry. Table 9 below illustrates the number of contracted farmers. It shows that during the 2010/2011 season 210, 135 farmers were contracted. The number increased in the 2011/2012 season to 280 064 but have been dropping thereafter. Farmers were contracted by 14 main providers in Zimbabwe and across the region/globally.

Table 11 Ginning Firms, Contracted Farmers, and Contracted Hectarage

Company Name	2010/11			2011/12	
	No. of Contracted Farmers	Contracted Hectarage (ha)	Expected Output (mt) @0.7mt/ha yield	No of contracted farmers	Contracted Hectarage (ha)
Alliance Ginners	9,941	20,281	14,197	13,958	27,353
Cargill	29,523	61,325	42,928	28,472	59,892
Cottco	61,515	138,827	97,179	134,898	285,563
Cottzim	6,331	11,000	7,700	2,707	4,475
Fahad	3,515	6,027	4,219	3,604	7,123
Grafax	13,151	25,114	17,580	11,959	29,632
Insing	5,559	11,579	8,105	5,000	11,725
Olam	10,079	20,013	14,009	31,342	72,521
Parrogate	1,920	4,090	2,863	3,958	11,572
Romsdal	17,021	30,615	21,431	13,159	25,561
Southern Cotton	4,494	9,988	6,992	1,500	2,500
Sinozim	28,521	43,591	30,514	18,000	25,084
Viridis	18,583	26,428	18,500	7,000	9,000
Jinmac				4,507	5,331

TOTAL	**210,153**	**408,878**	**286,215**	**280,064**	**577,332**

Source : (Moyo et al., 2014b)

We can see that Cottco has the largest share of contracted farmers followed by Olam, Cargill, Grafax, Alliance Ginneries, Romsdale and Chinese owned Sinozim. Unfortunately, 2013 reports show that, for all financiers, loan recoveries by smaller ginners and merchants was estimated by Cotton Ginners Association (CGA) at less than 25% and 50% or less for the bigger operators in 2013. Since the exit of Cargill the cotton industry in 2014, the firm has left a void in finance of approximately 60 000 farmers, (Esterhuizen, 2016).

Table 12: Decline in Contractors and Number of Farmers Contracted 2006 to 2016

Market year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Number of farmers	265333	260000	246667	210000	253126	288601	161233	134452	133333	125000
Number of contractor	30	25	18	12	13	15	16	8	8	8

Source: (Esterhuizen, 2016 derived from Cotton Ginners Association)

Value wise support provided to farmers has been declining as shown in Table 11 below (largely due to the exit of Cargill).

Table 13: Value of Contracts to Cotton Farmers from 2009 to 2015

2009/2010	2010/2011	2011/2012	2012/2013	2013//2014	2014/2015
30m	36m	42m	23m	29m	14,6m

Source : (Esterhuizen, 2015)

Zeparu (2014) established that producers have been threatening to stop growing cotton until producer prices are right between the CGA and them. Table 12 below illustrates prices for 2014. 2015 was US 0,35c/kg lower than the previous 3 years. Zeparu (2014) showed that other farmers had moved into producing oilseeds such as soybeans and groundnuts and sorghum because breweries have been providing finance, inputs and on the spot payments. Price fluctuations reflect the Prebisch –Singer hypothesis of commodities.

Table 14: Average Price in US Cents/kg

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
US Cents	15	20	28	37	91	40	47	45	35

Source: (Esterhuizen, 2016 derived from Cotton Ginners Association)

3.11 Ginning

Ginning is one of the most important segment in the value chain. It is linked to farmers and the downstream textile and clothing industry through spinning mills. Ginning basically involves separating seed from lint. In Zimbabwe, the average turn-out from ginning is 58% cotton seed, 41% lint and 1 % waste liners, (International Cotton Advisory, 2015). Zimbabwe's lint, when compared to other SADC countries, has a high lint outrun of 41% (which competes with top-end Californian and Australian styles) whilst the rest of SADC is still at the lower 35%, (ITC, 2014). Ginned seed takes two routes – seed processing for planting or input in the oil expressing industry. Lint takes three routes: packed for export, sold to local spinners for making yarn, or sold to local bleaching firms to make cotton wool. The pricing of lint to local spinners is on the spot, and based on the Liverpool price index. The lint sold locally is usually of low middling grade whilst higher qualities are exported

Ginneries in Zimbabwe are located across major cotton growing areas of the country making it easier to link production and processing. According to the former executive director of the Cotton Ginners Association (CGA), Mr Godfrey Buka, Zimbabwe had a peak of 30 ginning companies (a company can have several ginneries under it) in 2008, which dropped to 16 in between 2012/2013 and only 8 remain as of 2015 (the 8 in total have 16 ginneries amongst them). One of the largest ginners, Cargill as noted earlier left the industry though it is still involved in trade of other grains. According to Esterhuizen, (2015: 7), "the company announced that it will no longer participate in Zimbabwe's cotton sector, citing low cotton output, depressed margins and high levels of breach of contractual obligations by cotton growers as a result of side-marketing". Cottco remains the largest player in the industry.

Table 15: Operating and Non-Operating Ginners

Ginnery	Location	Capacity	Operation
Alliance	Norton	44,550	yes
Cargill	Chegutu	52,800	No
China Africa	Gweru	40,000	yes
	Glendale	25,000	yes
Cottco	Chinhoyi	51,800	yes
	Chiredzi	25,000	yes
	Gokwe	32,600	yes
	Kadoma	29,700	yes
	Muzarabani	32,600	yes
Cottzim	Karoi	21,000	judicial management
ETG Parrogate	Checheche	20,500	yes
	Glendale	35,400	yes

Fahad under China Africa	Harare	13,200	yes
Grafax	Mount Darwin	26,500	yes
	Sanyati	26,500	yes
Insing	Rushinga	13,700	ceased operations in 2013
Olam	Nembudziya	30,000	yes
Romsdal	Triangle	35,000	2014 Judicial management
Sinotex	Kadoma	35,000	yes
Sinozim	Harare	30,000	yes
Southern Cotton	Tafuna	26, 600	Not known

Source (The Zimbabwean, 2014), (ITC, 2014), (Musoko, 2015)

Zimbabwe has a vast ginning capacity of 600 000mt/yr. However, capacity utilization lies at around 30% and below which increases ginning per unit cost. With demand for cotton for in the ginning industry, there exists competition among ginners to buy cotton from farmers in a tight and constricted market.

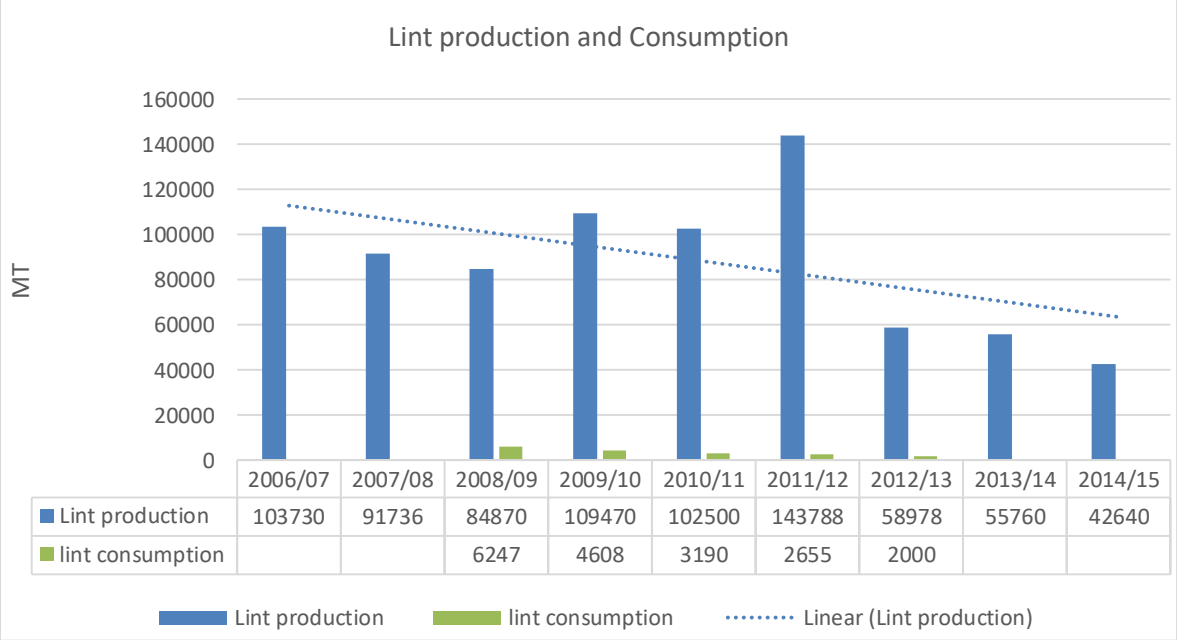
Pricing in the ginning industry used to be based on a two tier price system wherein farmers were initially paid upon deliverance and a second payment followed as a bonus which was calculated on the actual value of lint sales at the end of the season. Cargill and Cottco employed this system based on goodwill. After 2006, with fluctuating lint prices on the Liverpool Cotton index, ginners fixed domestic prices for cotton seed. Since the formation of the Cotton Ginners Association in 2006 the government required farmer's representative's bodies like the Zimbabwe Farmers Union, Zimbabwe Commercial Farmers Union with the Cotton Ginners Association, regulated by the Agricultural Marketing Authority (AMA) to reach an agreement for a producer price each season. Since then, whenever stalemates occur, the government gazettes price. Conundrums occur when farmers insist on using cost of production formulae while ginners prefer to guide themselves with the Liverpool Cotton Index. Since production in the 2013/2014/ season saw significant drops, some ginneries paid between US $0.50 and US $0.70c above the gazetted price of US $ 30c to motivate producers (Zeparu, 2014).

In terms of technology, the ginning industry in Zimbabwe has obsolete machinery except for good quality machinery offered by new entrants such as Sino Zim which entered the market in 2009. As noted by Zeparu (2014) the state of technology and investment of new entrants in the industry is satisfactory. Though ginneries are spread in main cotton producing areas some farmers are not able to reach processing zones and thus mobile processors have been suggested over the years such as those used in India. In the Zimbabwe model, ginning is not considered part of the textiles value chain which stars at the spinning level.

3.12 Lint production from ginning

Lint is the main product of the ginning process and the major ingredient of the downstream manufacturing of textiles, for apparel or home textiles. The Zimbabwean government through the Agricultural Marketing Authority allows ginners to export 70% of lint and make available 30% to local industry and almost 90% is for export. In the 2014/2015 year, local industry consumed a mere 10% due to low spinning capacities. Production of lint is directly related to cotton production output from farmers that is ginned at current low capacities.

Figure 10 Lint Production and Consumption



Source : Authors calculations from (Esterhuizen, 2016 from the Cotton Ginners Association)

Lint exports are therefore all lint produced minus local consumption. Exports in the 2015/2016 year are expected to be around 33,000 mt or (150,000 480lb bales), which is about 13 percent lower than in 2014/2015 year, due the reduced size of the seed cotton crop, (Esterhuizen, 2016).

3.13 Textiles Manufacturing – Spinning

In spinning, cotton lint (from ginning) is manufactured into yarn or wool. Local spinners use ring and rotor spinning processes. Spinning concepts have not changed much save for the fact that newer technologies are automated and save on labor, sills and electricity. Machinery in the industry is obsolete except for the new comers such as Sino-Zim. There is limited spinning at the moment and most companies have slid into judicial management barely four remain. The sector has installed capacity of the 39 000 tonnes although current usage is about 10 000tonnes/year. Local spinners mainly produce yarn through single combing which produces

medium to coarse yarns that are mainly not dyed, only a very small percentage is dyed, (ITC, 2014a). Local lint is also bleached and transformed into surgical cotton. Successful spinners generally need to ensure consistency in yarn quality through procuring quality raw material. Quality of yarns are determined by consistency in colour, strength and finess. According to ITC (2014: 22), "quality is therefore a function of the quality of the cotton lint, which is controlled by the cotton-producing value chains, from the Cotton Research Institute (CRI), the farmer [and] the ginner[ies]". However, in Zimbabwe spinners still need to plan in advance mixes of cotton lint from different bales received, increasing costs and time. Table 15 below shows the pricing mechanism for different quality yarns.

Table 16: Yarn Quality and Price

Yarn finess	Generic Name	Spinning Process	Price /kg
25 grams/km	25 tex OE	Open ended	$3.00
	25 tex carded	Ring spinning	$3.20
	25 tex waxed	Ring spinning	$4.20
	25 tex combed and waxed	Ring spinning	$4.85

Source: ITC (2014).

Currently, spinners in Zimbabwe finance raw materials from their own sales. Pricing of cotton lint is the spot price as shown on the day on the Liverpool price index, or forward contracts at an agreed price. Lint is currently sold at $1. 50 per kg.

3.14 Knitters and Weavers

At this stage, yarns from spinners are knitted or woven into fabrics. Local firms still have both weaving and knitting fabric forming systems. Firms in Zimbabwe can offer single value addition – spinning or spinning and knitting. Weaving is labour intensive and involves long preparation processes. Generally, in weaving the following steps occur: beaming, sizing (starching), weaving, and packaging. In weaving grey fabrics are manufactured and go for dyeing. Knitters make fabrics as loom state (greige), white (bleached), in a single colour (dyed), printed (multiple colours and designs) or printed and dyed depending on the end use, (Trademap, 2016). Local firms currently manufacture simple greige, bleached and dyed fabrics but a small variety of multiple colours and printed fabrics. Prices of grey fabrics are typically in the range of $5.00 per kilogram. Knitters and weavers place orders from spinners for manufacture of fabric normally a month or two to delivery.

3.15 Dyeing and colouring

In creating value in the textile industry fabrics follow through a number of steps as shown in Table 16 below. At this stage, raw materials such as chemicals are essential as well as clean demineralized water. If chemical and dye companies do not have stock, production is disrupted. Generally, among weavers and spinners, 80 to 90 % of fabric is dyed or printed to customer specifications. Buyers can obtain fabric direct or through middleman. Dyed fabric can cost as much as $2.00 a meter or $10.00 a kg. Particularly for this stage, any electricity interruptions can cause massive wastage as chemicals require consistent temperatures for processing (Zeparu, 2014).

Table 17 Fabric Dyeing

Inspection This checking woven fabric for faults and classifying fabric into quality grades	**Stitching** The rolls of fabric produced at weaving and knitting are short in length, a number of rolls of fabric are joined to make a desired efficient length for processing	**Brushing** Fabric that has been stitched is run through a series of brushes to remove loose fibres and particles from the surface of the fabric	**Singeing** After brushing, the hairs on the surface of the fabric are singed or burnt off.	**De-sizing** This process involves the chemical removal of starches applied onto yarn for weaving	**Scouring** The application of sodium hydroxide solution to fabric so as to chemically remove impurities, residual cotton seed, and cotton wax	**Bleaching** Making the fabric absorbent and a uniform white across its width and length so as to ensure a uniform colour after dyeing	**Washing** Removal of the residual chemicals that may prevent even dye application	**Mercerizing** application of a strong sodium hydroxide solution to the fabric so as to swell cotton fibers to increase colour when dyeing	**Dyeing** Applying dyes onto the fabric in a way that the colors is even and uniform, and does not rub or wash off

Source: Zeparu (2014).

Currently the spinning industry is faced with a dilemma. Garment manufactures can only buy fabric that they require for customer specifications. Although the decision to buy local is normally influenced by price, it can be offset by quality, delivery lead times, availability of

product and range, continuity of supply, technical assistance and credit terms. According to Zeparu (2014:64),

> *The textile manufacturers want to produce the fabrics which their machinery is set up to produce and is the most efficient for them. Whilst technically a spinning mill can produce any yarn and a weaving mill can weave any fabric, it is not economically viable to chop and change the set up willy nilly. If a mill has a steady market for coarse yarn, medium weight fabric in certain colours, and has set up its factory to manufacture this, the firm will only change if it makes commercial sense to do so i.e. there is sufficient, ongoing demand, at the right price and on the right credit terms etc. So if a garment manufacturer needs fine yarn, light weight fabric in a different colour, but not on terms sufficient to induce the textile to change the factory operations, then the customer needs to source it from elsewhere. Efforts to resuscitate the local textile industry will not succeed by compelling the textile to manufacture what the clothing manufacturer needs or trying to force the clothing manufacturer to only use what the textiler wants to make*.

This state of affairs has resulted in the large volume of fabric being imported as it is not manufactured in the country.

Zimbabwe, in the 1950s to 1970s, expanded the textile industry with the help of foreign capital particularly from South Africa and Britain. Some of the big players included Kadoma Textiles (still operating), Security Textiles (closed), David Whitehead (operating in some parts of the country), Consolidated Textiles and Mills, Scotford Mills (closed in 1994) and D. Pegler and Leicester Mills. These companies produced most of the colony's cloth and apparel. In the 1980s, the textile and clothing industry in Zimbabwe grew rapidly and operations were smooth. Nkala (2012; 4) observes that "50% of the textile manufacturers and 61% of the clothing manufacturers commenced their business operations between 1980 and 1989". From the 1990s to present day, the industry has been struggling to survive from 200 at peak to the current position of about eight (8) textile firms in current operation.

A picture of the industry from 1990 to 1999 disappointingly showed that a total of about 100 clothing companies and 6 textile firms had closed. The few that remained, operated to survive, pay back debts or streamlined operations and output. In terms of employment, jobs had declined from an estimated 24 000 to 20 000 in that period. The years running from 2000 to 2009 saw more companies closing down, except for firms that produced cloth or fabric suited for making protective clothing for new mining companies. There was a further decline of

employment to 13 500 in the textile and clothing sector. From 2009 to 2014, reports have shown that employment declined heavily to 6800 (ITC, 2014). It has been reported by Zeparu (2014) that 94% of textile companies were operational in 2009 and this dropped to 34% in 2013. In 2013 capacity utilization went down to 10% and employment to less than 4000. In 2014, employment in Textiles was 3074 (ZITMA, 2014 in ITC, 2014).

According to Zeparu (2014), the structure of the textile industry was that a large number of firms such as David Whitehead Textiles Limited (DWT), Modzone (former Cone Textiles), Qulitex and Zimbabwe Spinners and Weavers (ZimSpin) were vertically integrated. The four major business activity involved spinning, weaving, knitting, printing and finishing. Qulitex, however, did not have a knitting section, whilst David Whitehead produced cotton wool or absorbent cotton. All these firms utilized 80% of all yarn they produced with the balance exported or sold to other parties. Fabric produced was both suited for shirting and industrial use (filter clothes). Locally, the excess yarn was sold to specialist producing firms such as Textiles Mills, Security Mills, Zimbabwe Hosiery, Matt Knitting and Towel Tex. Three of four companies have since ceased operations leaving ZimSpin as the only large remaining firm. Table 17 below illustrates the status of some major textile companies that is spinners and weavers and knitters.

Table 18: State of Textile Companies

Firm	Status
Qualitex	n/a
Cotton Waste Company	n/a
Zim Hosiery	Operating
Waverly Blankets P/L	Operating
Twine & Allied	n/a
Security & Textile Mills	Judicial Management
Matt Knitting	
Gloweave	Judicial Management
Merspin	Judicial Management
Scottco	Liquidated
Kutaura	n/a
Twine & Cordage	n/a
King Fisher	n/a
National Blankets	Judicial Management
Sinozim	n/a
Foktex	n/a
Modzone	Judicial Management 2014
Health and Hygiene	n/a

Zimbabwe Spinners and Weavers	Operating
David Whitehead	Operations only in Chegutu
Karina	Judicial Management

Source: (Zeparu, 2014)

3.16 Institutional contexts

As cotton falls within the greater category of oilseeds, it is governed by various institutions that advocate for policy that is relevant to this sector. Firstly, in the inputs sector, seed suppliers are represented by the Zimbabwe Seed Traders Association (ZSTA). ZSTA represents over ten seed supplier whilst Croplife represents agro-chemical suppliers and the fertiliser industry is represented in the Grains and Oilseeds Technical Committee. Second, although the cotton sector compared to the oilseeds sector contributes most to the sector; it is relatively organized with just a few merchants (12-15) getting registered to participate in the contracting, buying and ginning of cotton seed since 2010. The Agriculture Marketing Authority (AMA), is the main instrument that regulates seed cotton and cotton products. Henceforth, Statutory Instrument 142 of 2009 as amended by Statutory Instrument 63 of 2011 and Statutory Instrument 147 of 2012, says that:

a. Merchants are obliged to contract cotton growers in order to be allowed to purchase seed cotton;
b. The purchasing of the seed cotton is done through common buying points (CBPs) as a measure to enhance transparency in the sector and curb side marketing of the commodity by farmers. There were 342 CBPs in 2013 compared to 331 in 2012 spread across the country, (Moyo et al., 2014).

The AMA offers a platform for policy review, regulatory reforms and lobbying through its establishment of the Oilseeds Marketing Technical Committee (OMTC) and the Grains and Oilseeds Technical Committee (GOTC).

Farmers, are generally represented either by the oilseed associations or through the following unions: Zimbabwe Farmers Union (ZFU), Commercial Farmers Union (CFU), Zimbabwe Commercial Farmers Union (ZCFU) and the Zimbabwe National Farmers Union (ZNFU) which also houses Cotton Producers and Markers Association (CPMA). It is important to note that policy influence is determined by the efficacy of the organisations, advocacy strategies and degree of representativeness. Moyo et al. (2014) and Zeparu (2014) concur that most industrial councils, unions and associations tend to be dominated by a few large scale

agribusinesses such that the smaller farmers are not well represented. Moyo et al. (2014:38), for example, notes that "cotton ginners are dominant in the industry's policy lobbies. Yet, over 250,000 cotton growers are under-represented, despite the recent formation of the Cotton Producers and Marketers Association (CPMA) affiliated to ZNFU and the Federation of Cotton Producers Association (FCPA), an affiliate of the ZFU". However, taking into account that the 250 000 – 300 000 small scale farmers are spread over 85% of the country can make organization and cooperation difficult. Amongst the different institutions, cotton ginners have been determined to influence the decision making of the AMA, because they also finance its core operations. The ginning industry is largely controlled by the Cotton Ginning Association (CGA). As mentioned earlier, it is the both a buyer of cotton from producers and seller of lint rendering its position significant.

The textile industry is largely led by a national representative body the Zimbabwe Textiles Manufactures Association (ZITMA). ZITMA Membership is drawn from all sectors of the textile and apparel manufacturing, both large and small covering the fibre, spinning, weaving, knitting, garment making, industrial textile/accessories sectors. Recently, in 2015 ZITMA demanded a complete ban on finished blankets and polyester knitted fabric and entering the country. The association noted that protection was needed to prevent local textile industry from collapsing as cheap imports, mainly from China were flooding the market. Although the apparel and clothing industry is not part of the research, the Zimbabwe Clothing Manufacturers Association (ZCMA) represents clothing manufactures. It is important to note the Association members used to depend on local supplies of fabric but, owing to the introduction of multi-currencies, the local market's desire for garments made of local fabrics has waned. Although ZITMA and ZCMA work together for the good of the value chain, some tensions exist over the SADC Rule of Origin (RoO). The SADC rule of origin require a double transformation to confer origin. COMESA is more relaxed and requires a single transformation. Henceforth, the ZCMA which notes local textile industries cannot supply the fabric they require in addition to the quality standards and price, they often have to import. If they import but manufacture goods and export these goods, the RoO must apply. In opposition is ZITMA which notes relaxing the RoO only serves to further decimate the industry, increase the import bill plus export jobs.

3.17 Governance Issues

Drawing form Gereffi and Fernandez – Stark (2011), governance issues are at play in both the upstream and downstream sectors of the value chain. Firstly, it is identified that Ginners who act as both buyers (from producers) and sellers (to spinners) drive the value chain through their

own embedded interests. As illustrated by Zeparu (2014), hypothetically the industry can compete with the rest of the world with producer prices of US 0.45 to US $ 0.50c/kg where the landed cost of imported lint is US$1.04/kg and the ginners' selling price to local spinners can be between US$0.97 and US$1.00/kg. However, actual comparisons show highest three-year local lint price was in 2011 at US$3.40/kg, while the lowest was US$1.50/kg in 2009-10. In 2013, ginners were charging local spinners US$1.90/kg. Their profit margins on locally produced lint, Zeparu (2014) reports, ranged between 100% and 251% over the period 2009 and 2013. With the government regulation: Statutory Instrument 142 of 2009 as amended by Statutory Instrument 63 of 2011 and Statutory Instrument 147 of 2012, charges that Merchants/ginners are obliged to contract cotton growers in order to be allowed to purchase seed cotton, it has given them the upper hand in buyer pricing. Currently, pricing of cotton is negotiated between the farmer and buyer/contractor. Cottco, the largest ginner in southern Africa, is rendered as the predominant player in the value chain. It provides the largest number of contracts, chairs the Cotton Ginners Association and has recently started multiplying and distributing seed for Quton, with the exit of Cargill, it is now the dominant player as a supplier of finance via contracts, buyer of cotton, and supplier of lint to the textile industry. Cottco being the largest ginner has implications for price setting.

3.18 Trade analysis

Zimbabwe's top ten exports include tobacco, precious stones, ores, iron and steel, sugars and cotton (HS 52) is the 6th largest exported product suggesting that its production is essential for the Zimbabwean economy. Half of these exports are agricultural commodities whilst the other comprise of minerals and mining products.

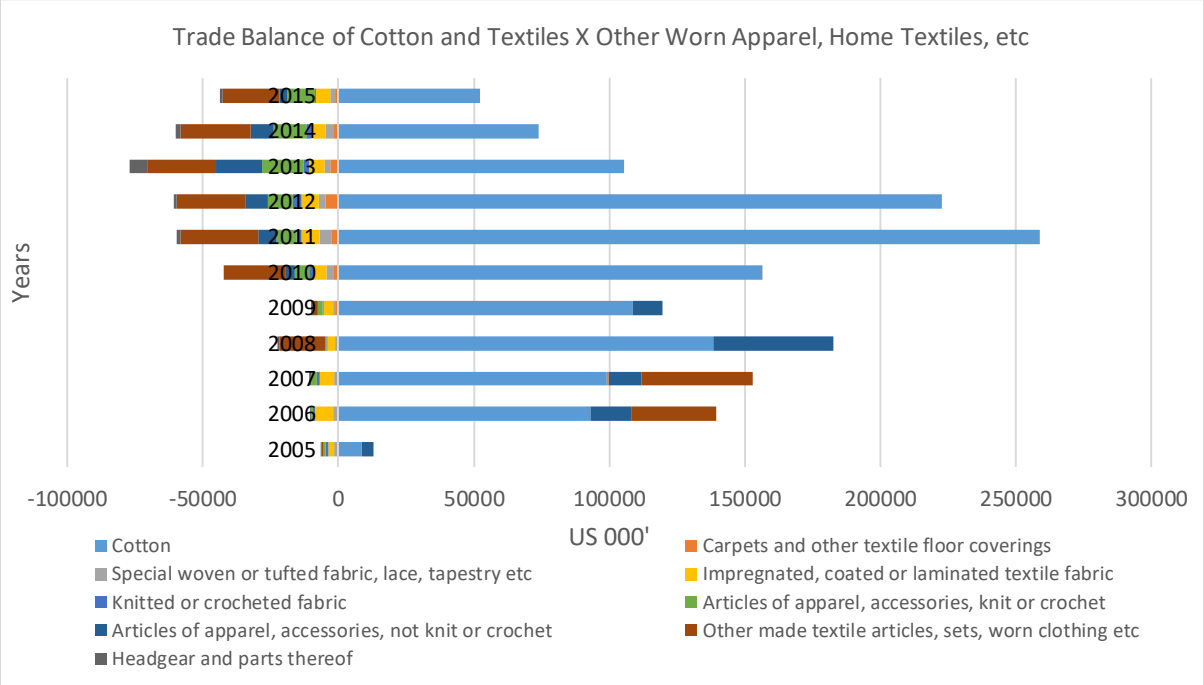
Table 19: Top Ten Exports

1	Tobacco and manufactured tobacco substitutes	Cotton, not carded or combed HS 5201
2	Pearls, precious stones, metals, coins, etc	Cotton yarn (not sewing thread) 85% or more cotton, not retail HS 5205
3	Ores, slag and ash	Woven cotton fabrics, 85% or more cotton, weight over 200 g/m2 HS 5209
4	Iron and steel	Woven cotton fabrics, 85% or more cotton, weight less than 200 g/m2 HS 5208
5	Sugars and sugar confectionery	Cotton yarn (not sewing thread) put up for retail sale HS 5207
6	Cotton HS 52	Cotton waste (including yarn waste and garnetted stock) HS 5202
7	Salt, sulphur, earth, stone, plaster, lime and cement	Cotton, carded or combed HS 5203
8	Mineral fuels, oils, distillation products, etc	Cotton sewing thread HS 5204
9	Wood and articles of wood, wood charcoal	Woven fabrics of cotton, nes HS 5212
10	Coffee, tea, mate and spices	Woven cotton fabrics, less than 85% cotton, mxd with manmade fibers, w HS 5210
		Woven fab of cotton, less than 85%,mxd with manmade fibre, weight >200 HS 5211
		Cotton yarn (not sewing thread) less than 85%cotton, not retail HS 5206

Source: Authors own compilation (Trademap, 2016)

Since this research is mainly focused on cotton to textiles, we concentrate on harmonized system (HS) code of 52 which encompasses trade in cotton, yarn, thread and fabrics. When Hs 52 was compared with its downstream products such as HS 57 Carpets and other textile floor coverings, HS 58 special woven or tufted fabric, lace, tapestry etc.; HS 59 impregnated, coated or laminated textile fabric; HS 60 knitted or crocheted fabric; HS 61 articles of apparel, accessories, knit or crochet; HS 62 articles of apparel, accessories, not knit or crochet; HS 63 other made textile articles, sets, worn clothing etc and HS 65 headgear and parts thereof, it was found that HS 52 Cotton had a positive trade balance when compared to the rest. This meant Zimbabwe has been importing value added goods but also exporting in the category of cotton to textiles and other clothing made from textiles.

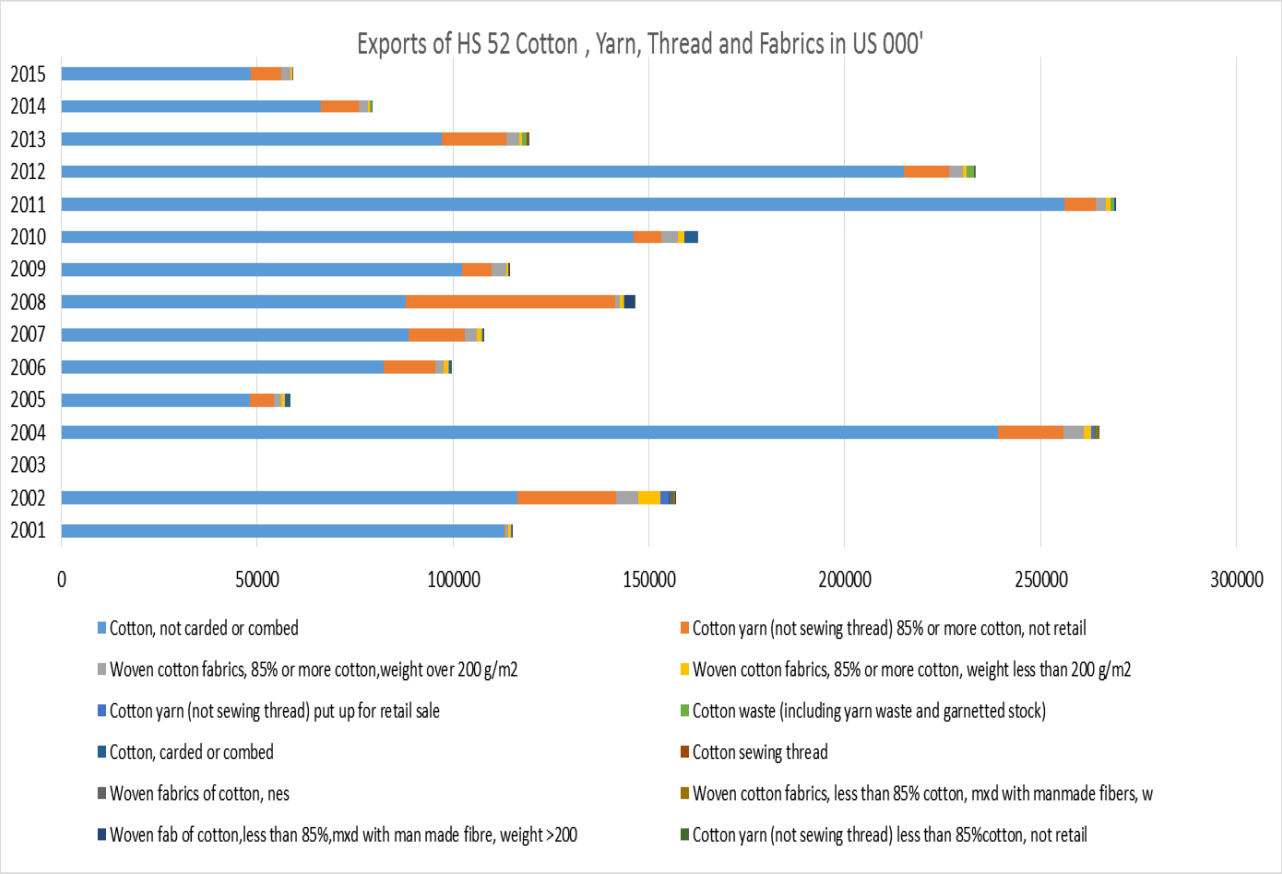
Figure 11: Trade Balance of Cotton X Its Downstream Industries



Source: Authors own compilation from (Trademap, 2016)

It is clear that there is a negative trade balance in home textiles, other textile fabrics and worn apparel as shown in Figure 3 above whilst it appears that the country is doing well in exporting HS 52 cotton, yarn, thread and fabric. However, the Prebisch-Singer hypothesis, as noted earlier, emphasises that it is the composition of exported products that is essential in order to see if goods are primary products vulnerable to external shocks, or if goods are value added goods and support structural change in the economy that, as Kaldor (1967) and Structuralist's, argue is important for economic development. We see from Figure 4 below that over the last 15 years, the bulk of exports almost 80 to 90% consisted of HS 5201, cotton not carded or combed, which is essentially raw cotton at its best, followed by exports of cotton HS 5205 yarn, woven fabrics (HS 5209 and 5208) and cotton waste. The spike of exports in 2004 and 2011, 2012 and 2013 for cotton not carded or combed coincided with the year's production of cotton were very high in the average of 350 000 tons; suggesting ginners can utilize their capacities.

Figure 12: Exports of HS 52 Cotton, Yarn, Thread and Fabrics



Source: Author's own compilation (Trademap, 2016)

As this research is particularly interested in value addition and upgrading of cotton, it further broke the downstream industry codes of yarn, thread and fabric to HS 6 digit codes and analysed produces most exported and imported. In the category of fabric, drawing from the figure below the country imports mostly value added fabrics that are dyed, printed, bleached and fabrics of denim and twill. Exports on the other hand comprise of unbleached and bleached fabrics. In terms of yarn, the country exports single combed and uncombed yarn and imports though at minimal ranges multiple combed and uncombed yarn. In terms of thread, the country exports very little thread and imports thread which is no dyed.

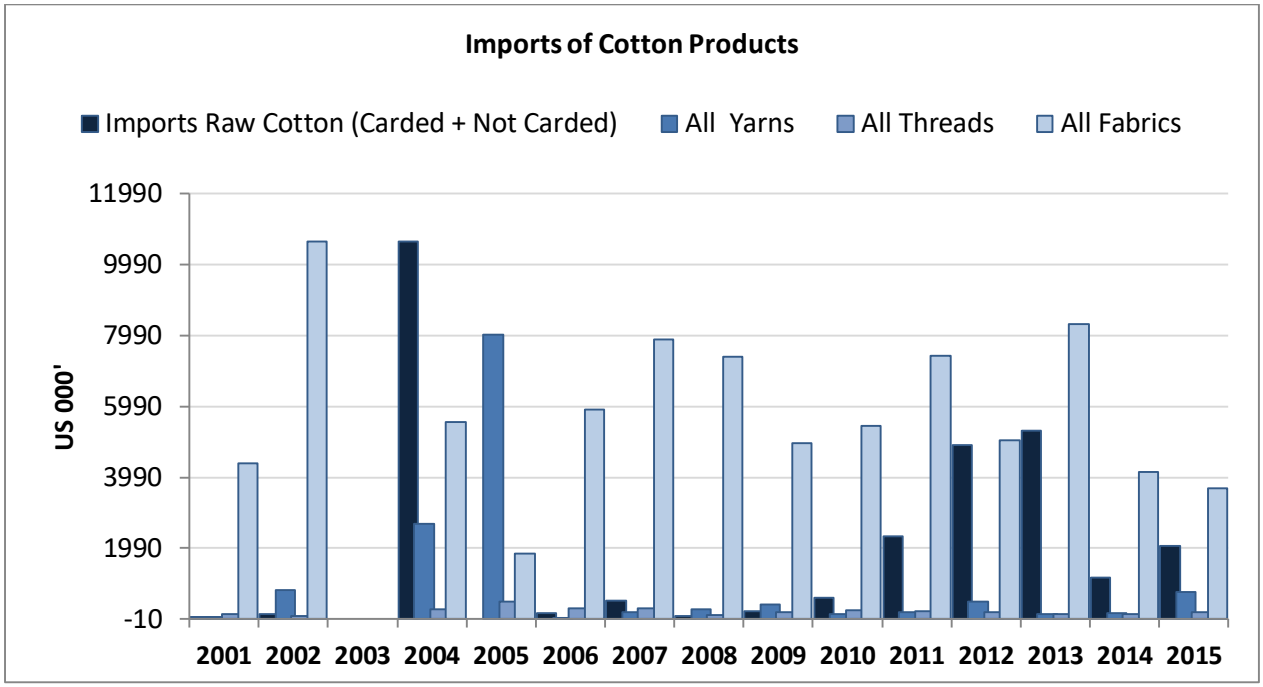
Figure: 13 Imports and Exports at 6 Digit Level

Exports	HS 6 Cod	Description		Imports	HS 6 Cod	Descriptipn
Fabrics	520859	Woven fabrics of cotton,>/=85%, not more than 200 g/m2,printed, nes		Fabrics	'520819	Woven fabrics of cotton,>/=85%, not more than 200 g/m2,unbleached, nes
HS 5208	520811	Plain weave cotton fabric,>/=85%, not more than 100 g/m2, unbleached		HS 5208	'520859	Woven fabrics of cotton,>/=85%, not more than 200 g/m2,printed, nes
	520822	Plain weave cotton fabric,>/=85%, >100 g/m2 to 200 g/m2, bleached			'520829	Woven fabrics of cotton,>/=85%, nt more than 200 g/m2, bleached, nes
					'520839	Woven fabrics of cotton,>/=85%, not more than 200 g/m2, dyed, nes
					'520833	Twill weave cotton fabrics,>/=85%, not more than 200 g/m2, dyed
HS 5209	520912	Twill weave cotton fabric,>/=85%, more than 200 g/m2, unbleached		HS 5209	'520942	Denim fabrics of cotton,>/=85%, more than 200 g/m2
	'520932	Twill weave cotton fabrics,>/=85%, more than 200 g/m2, dyed			'520932	Twill weave cotton fabrics,>/=85%, more than 200 g/m2, dyed
	'520919	Woven fabrics of cotton,>/=85%,more than 200 g/m2, unbleached, nes			'520939	Woven fabrics of cotton,>/=85%, more than 200 g/m2, dyed, nes
					'520959	Woven fabrics of cotton,>/=85%, more than 200 g/m2, printed, nes
HS 5205	**Yarn**				**Yarn**	
	520513	Cotton yarn,>/=85%,single,uncombed,232.56>dtex>/=192.31, not put up			520511	Cotton yarn,>/=85%,single,uncombd,>/=714.29 dtex, nt put up
	520511	Cotton yarn,>/=85%,single,uncombd,>/=714.29 dtex, nt put up			520544	Cotton yarn,>/=85%,multiple,combed,192.31>dtex>/=125,not put up,nes
	520512	Cotton yarn,>/=85%,single,uncombed,714.29 >dtex>/=232.56, not put up			520548	Cotton yarn >85% multiple combed <83.33 dtex,not ret.
	520521	Cotton yarn,>/=85%, single, combed,>/=714.29, not put up				
HS 5204	**Thread**				**Thread**	
	520411	Cotton sewg thread >/=85% by wght of cotton,not put up for retail sale			520419	Cotton sewg thread,<85% by weight of cotton,not put up for retail sale
					520411	Cotton sewg thread >/=85% by wght of cotton,not put up for retail sale
					520420	Cotton sewing thread, put up for retail sale

Source: Authors own compilation (Trademap, 2016)

Imports of cotton products, on the other hand, illustrates that Zimbabwe imports more cotton fabrics than yarns, thread and lint, as shown in the graph below:

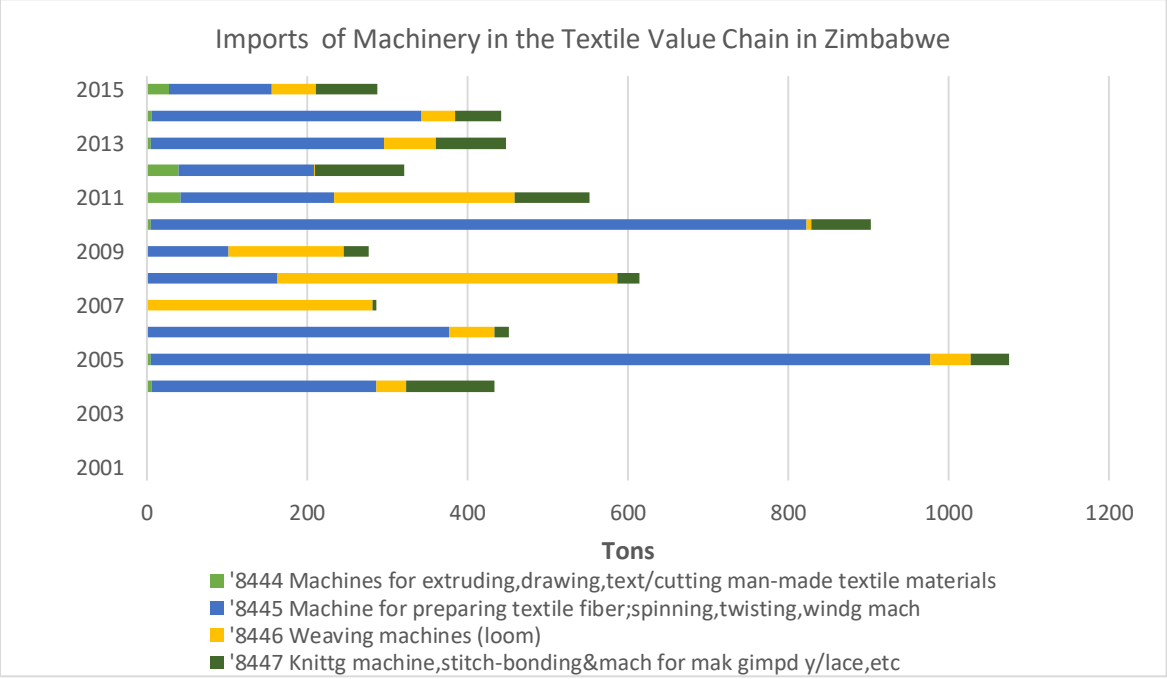
Figure 14: Zimbabwe Imports of Cotton Products



Source: Authors own compilation (Trademap, 2016)

Figure 7 below illustrates that in the category of exports and imports of machinery imports of spinning machinery particularly in 2005 and 2010 supersedes other imports. We also see imports of weaving and knitting machines each year, which were high between 2007 and 2011. This either suggests new entrants in the industry or re-tooling that could be happening.

Figure 15: Imports of Machinery in Textiles



Source Authors own compilation (Trademap, 2016)

3.19 Constraints faced along the value chain

There are enablers and blockers that either support or block different stages in value chains from reaching economies of scale, value adding or upgrading. Below we look at some of the constraints that this research gathered from secondary sources. This section in chapter 6 will shed light on how polices have sort to overcome these blockers in lieu of their objectives.

3.20 Constraints in production

According to the Ministry of Agriculture, Irrigation and Mechanisation, (2012), Zeparu (2014), (ITC, 2014a) and Tsiko (2014), one of the major constraints in production is high cost of inputs. Zeparu (2014) notes that inputs such as fertiliser make up nearly a third to half of the budget. Particularly in the cotton sector, contract faming packages from ginners have reduced over time - affecting production. Before farmers received a 1 x 20kg bag of seed, 4 x 50kg bags of Compound L basal fertilizer, 1 or 2 x50kg bags of ammonium nitrate and full complement of chemicals. Now farmers receive 1 x 15kg or 20kg bag of seed. 1 x 50kg bag of Compound L fertilizer, or nothing, 1 x 50kg bag of fertilizer, or nothing and expensive chemicals, when available. When farmers do not receive adequate supplies they often cannot afford to buy inputs and this affects production. Second, access to credit and finance has always hampered agricultural production. For cotton farmers, pre-financing is not sufficient to cover required

costs for production from contractors. Poor loan repayments due the high costs of inputs charged by contractors (ginners) or poor loan repayments due to low selling price had resulted in less and less farmers opting cotton growing or taking loans. In addition, the number and value of contactors has reduced particularly with exit of Cargill hence farmers once supported face transaction costs in looking for new financiers. Third, farmers lack knowledge of farming and use outdated seeding techniques and land management as they cannot afford private consulting assistance. Free extension services which are mostly carried by Agriculture Technical and Extension Services (AGRITEX) have degraded over time and are targeted to a minority of farmers. Agritex has estimated that currently the ratio is 1 extension worker to 5 000 farmers whereas the ideal ratio would be 1:200. The role out of extension officers to farmers has been hampered by the Ministry of Agriculture ability to finance the programme, (Ministry of Agriculture, Irrigation and Mechanisation, 2012).

Fourth, farmers have high labour costs as labour is needed for land planting, thinning, weeding, spraying and picking of cotton. This results in overall high production costs. Last year, the Confederation of Zimbabwe Industries (CZI) noted that minimum wage levels in Zimbabwe indicated higher labour costs in Zimbabwe when compared to Zambia, Botswana, and Mozambique, but a labour cost advantage in relation to South Africa. Fifth, prices of cotton which are not favourable to farmers has led to grow other crops (CZI, 2014a). Sixth, low yields have been attributed to the recent drought as most, small scale farmers cannot afford the infrastructure for irrigation.

3.21 Constraints faced by Ginners

According to Musara and Dziva, (2015), The Herald (2015), ITC (2014) and the International Cotton Advisory (2015), the following are constraints faced by ginners: Firstly, there is no medium and long term loans, loans incur high interest rates and banks employ stringent borrowing conditions. Pressure to access funds for financing cotton production (bound by law) further constraints merchants and now that Cargill has exited it puts pressure on remaining ginners whose numbers have already dwindled. Second, since ginner's contract farmers loan repayment defaults have indebted cotton merchants. Third, low capacity utilization has been linked to a lack of access to raw materials. Reports from Zeparu (2014), show that side marketing frustrates merchants. Apparently, new players in ginning industry offering higher prices for cotton that was not contracted are the culprits. High utility costs particularly electricity and water and transport have also been identified as blockers to competitiveness.

3.22 Constraints Spinners, Weavers and Knitters, Dying Houses

As indicated by the International Cotton Advisory (2015), Zeparu (2014) and Nkala (2012), Mangudhla (2014) and ITC (2014b), major constraints in the industry emanate from low capacity utilization due to lack of access to finance and credit for re-tooling and replacing obsolete machinery as bank loans come with high interest rates. Low capacity utilization has also been blamed on cheap and often illegal imports of fabrics and yarns which result in low local demand. Second, in spinning, weaving and knitting, erratic supplies of and high electricity costs which result in use of generators explodes production costs. In addition, costs rise as weavers and knitters spend more in de-mineralizing water. Third, for weavers and knitters, shortage of locally available desired yarns and fabrics and chemicals such as dyes results in high reliance on imports which have a negative bearing on production costs due to import duties, transport and delivery times. Fourth, since 90% of all spare parts for textile and clothing machines are imported into the country production costs rise as firms pay for duty.

Across the value chain one major constraint appears to be dominant which is access to finance and high interest rates charged by banks that deter borrowing. As shown below, Zimbabwe has a high cost of interest rates which are exorbitant compared to other countries. The effects of access to finance differ along the chain. Whilst producers require finance for inputs, spinning and weaving firms require it majorly for re-tooling whilst ginners need to be able to refinance farmers to guarantee raw materials.

Table 20: Costs of Borrowing

Cost parameter per country	Zimbabwe	India	Nigeria	RSA	Indonesia	China	Pakistan
Cost of interest rates (long term foreign currency	18 – 30 %	2.5%	2.5%	3%	2.5%	6%	5 – 6%
Special Fund for sector	n/a	7%	n/a	n/a	16 – 18%	3%	13- 14%

Source: (CZI, 2016)

Figure 16 Interest Rates

	Commercial Banks		
		Weighted Average Lending Rates*	
End Period	Nominal Lending Rates*	Individuals	Corporate
2014			
Jan	6.00-35.00	14.09	9.3
Feb	6.00-35.00	14.08	9.32
Mar	6.00-35.00	14.24	9.27
Apr	6.00-35.00	14.22	9.12
May	6.00-35.00	14.39	9.25
Jun	6.00-35.00	14.44	9.33
Jul	6.00-35.00	14.33	9.45
Aug	6.00-35.00	14.28	9.45
Sep	6.00-35.00	14.45	9.57
Oct	6.00-35.00	14.36	9.9
Nov	6.00-35.00	14.26	9.97
Dec	6.00-35.00	14.19	9.68
2015			
Jan	6.00-35.00	14.16	9.66
Feb	4.30-33.50	14.00	9.73
Mar	4.30-33.50	13.24	8.75
Apr	4.30-31.00	12.71	8.84
May	5.00-31.00	12.74	8.79
Jun	5.00-31.00	11.94	8.42
Jul	5.00-31.00	11.86	8.56
Aug	4.30-26.00	11.96	8.51
Sep	4.30-25.00	11.81	8.47

Source (Ministry of Finance, 2015)

Second, in the downstream industries the cost of electricity and water appears to induce high productions costs. As shown in the table below comparisons of electricity prices in SADC conclude that Zimbabwe has high tariffs when compared to its neighbours.

Table 21: Price of Electricity

Country Units in US Dollars		**Commercial Level of Consumption (KWH)**		**Industrial Level of Demand**		
	450	**900**	**2 500**	**5 000**	**10 KVA**	**100 KVA**
Mozambique	9.0	8.0	7.3	7.3	4.7	5.1
South Africa	11.4	7.7	4.7	4.7	2.7	2.7
Zambia	5.1	4.4	3.8	3.8	2.3	2.5
Botswana	7.7	7.2	6.8	6.8	3.3	4.0
Zimbabwe	**12.72**	**12.72**	**12.72**	**12.72**	**9.83**	**9.83**

Source: (CZI, 2016)

This chapter has utilised the global value chain approach by (Gereffi & Fernandez-Stark, 2011) and the value chain approach by Kaplinsky and Morris (2001) to describe, investigate and analyse the cotton to textile value chain in Zimbabwe. In so doing, the chapter illustrated the

full range of activities needed to bring about textiles and in the process, levels of value addition and upgrading that took place locally and for exports. Save for the research and development phase, all phases in the chain employ minimal to medium value addition or upgrading. Last, the chapter captured some of the constraints which may pose as blockers to upgrading.

Chapter 4 Agricultural and Industrial Policies in Zimbabwe and Macroeconomic Trends

4.0 Agricultural Policies

In the last 20 – 25 years, Zimbabwe has had several agricultural policies geared towards improving the agricultural sector to provide food and raw materials for the manufacturing sector. Since the cotton to textile value chain directly relies on cotton production, we explore and investigate policies, policy instruments, incentives and initiatives or programmes taken to support production and upgrading in cotton.

Policy plans related to agriculture have encompassed the Zimbabwe Agricultural Policy Framework and Strategy (ZAPFS) 1995–2020, the National Agricultural Strategy Framework (NASF) of 2005–2035 and the Agricultural Mission Statement Strategy Framework and Action Plan (AMSFAP) of 2007–2011. All of the above policies sort to build institutional development that focused on efficient, more private service delivery to small-scale farmers and the restructuring of the agricultural finance system towards more private engagement. In 2013, the Zimbabwe Agriculture Investment Plan (ZAIP) 2013-2017 emerged. It hinged on four main factors: (i) increasing production and productivity through improved management and sustainable use of land, water, forestry and wildlife resources, (ii) increased participation of farmers in domestic and export markets through development of an efficient agricultural marketing system and an enabling environment for competitive agricultural production, investment (domestic and FDI) and trade, (iii) ensuring food and nutrition security by facilitating a cohesive multi-sectoral agricultural response and (iv) improving agricultural research, technology dissemination and adoption.

The Comprehensive Agricultural Policy Framework 2012 – 2032 (CAPF) the current policy replaced the preceding policy documents. Overall, it seeks to contribute to sustainable industrial development through the provision of home-grown agricultural raw materials. Policies that directly impact on value-addition and upgrading were stated as below in the following chapters of the CAPF

> Chapter (7.10) Resourcing agricultural research, which will be employed through building institutional and human resource capacity to strengthen research and service delivery; providing a budgetary allocation aimed at improving capital and recurrent expenditure for increased research outputs; developing a mechanism for attracting,

capacitating and retaining staff for sustained research and service delivery; support for agricultural research; and promoting strengthening of partnerships of national public agricultural research institutions with regional and international research institutions.

Chapter (7.1) Increasing Crop Productivity and Production, through setting up an agriculture fund to subsidise inputs; promoting, in collaboration with seed companies and international and national research organisations, research into the development of high yielding and drought tolerant crop varieties; promoting research into integrated crop management practices; promoting sustainable agricultural production including conservation agriculture techniques.

Chapter (7.11) Resourcing of agricultural extension through increase in budgetary allocation to extension services; improving the effectiveness of agricultural extension services; introducing cost recovery fees for farmer services; and funding the production of extension materials and acquisition of ICT equipment.

Chapter (8) increased value addition of agricultural produce through encouraging and strengthen primary agro-processing and value addition; promoting consumption of locally processed agricultural products; and putting in place special programmes and incentives for investors in agro-processing firms, (Ministry of Agriculture, Irrigation and Mechanisation, 2012).

4.1 Agricultural policy instruments are discussed below.

Zimbabwe employs many Acts that influence the agricultural sector and these can be seen as instruments of broader policy objectives outlined in national documents.

In the cotton to textile sector R & D is fundamental for creating high yielding varieties / cultivars that are suited to different geographical areas in a country and minimize use of water of inputs such a fertilizer in order to reduce production costs. In the latest agricultural policy of 2012, R &D is pointed as essential. As such, the Agricultural Research Act (Chapter 18:05) provided for the establishment of the Agricultural Research Council under the Ministry of Agriculture. However, since its establishment it has not received adequate support.

The Agricultural Finance Act (Chapter 18:02, set out the terms and conditions of an Agricultural Assistance Scheme largely through the Agricultural Finance Corporation, now AGRIBANK. With liquidity constraints that have hampered the government the bank has not been able to obtain finance from treasury to support agriculture (Kachembere, 2014). Due to

limited finance, farmers have had no choice but to approach commercial banks. Without adequate financing, farmers particularly of cotton turned to private financing which was able to dictate along the value chain for cotton. Without finance, cotton farmers are not able to produce and make use of natural endowments.

The Agricultural Marketing Authority Act (Chapter 18:24) provides for the establishment of the Agricultural Marketing Authority (AMA) to regulate, supervise, develop and administer the marketing of agricultural products. Particularly for cotton, the AMA is the main instrument that regulates seed cotton and cotton products. Henceforth its, Statutory Instrument 142 of 2009 as amended by Statutory Instrument 63 of 2011 and Statutory Instrument 147 of 2012, concludes that - merchants are obliged to contract cotton growers in order to be allowed to purchase seed cotton and that the purchasing of the seed cotton is done through common buying points (CBPs) as a measure to enhance transparency in the sector and curb side marketing of the commodity by farmers (Moyo et al., 2014). Because the act allows price negotiations between farmers and buyers/ginners, often results in price wars. However, with high bank interest rates and inability of the Agribank to fund farmers, the act has provided production finance.

According to Mutambara (2014) the Agricultural Products Marketing Act (Chapter 18:22) establishes a fund for the development of the agricultural industry and provides for the administration and disbursement of the fund's money in addition to providing for the imposition and collection of levies on producers, buyers and processors of agricultural products; and provides for the fixing of standards of quality and other matters relating to agricultural products produced in Zimbabwe. Not much is known about this act and what it has achieved.

The Farmers' Stop-order Act [Chapter 18:11] provides for the registration by farmers of stop-orders and special stop orders binding their crops and the proceeds thereof; and for matters incidental thereto. It had been put on hold by the government but as of 2015 the Finance and Economic Development Minister – Patrick Chinamasa announced that the Act had been reinstated to enhance the participation of the banking sector in financing agriculture. This move, it was reported, created certainty for banks for loan repayments (Chikwati, 2015).

Under trade policies the following instruments exist:

The Produce Export Act [Chapter18:17] provides for the grading of agricultural produce and any such processed produce which is to be exported from Zimbabwe for the purpose of sale;

for the prohibition and regulation of the methods of processing produce; for the prohibition and regulation of the export of such produce; and for matters incidental to the foregoing. This act is imperative in relation to the country exports of cotton lint, which currently have been tainted as contaminated and fetch lower prices on the market, (Zimbabwe Revenues Authority, 2016).

Zimbabwe also employs the following several fiscal incentives for agricultural production.

First, is the Farmers Special Deductions – wherein farmers are allowed special deductions, over and above the normal deduction. Examples include expenditure on fencing, clearing and stamping land, sinking boreholes and wells and on aerial and geophysical surveys. Second farming inputs and equipment are subject to VAT at 0%. Most farm inputs such as animal feed, animal remedy, fertilizer, plants, seeds and pesticides and equipment or machinery used for agricultural purposes are zero rated. Third the deferment of collection of VAT on the importation of capital goods Value added tax can be deferred on some capital equipment for the exclusive use in mining, manufacturing, agricultural and aviation industries whose investment generally relies on imported capital. The whole amount becomes due within 90 days from the date of deferment (Zimbabwe Revenues Authority, 2016).

Programmes

During the 2015/2016 season, the Government of Zimbabwe rolled out the Presidential Input Scheme which provided seed and fertilizers. In 2013, a similar programme was initiated to assist resource constrained farmers.

4.2 Industrial policies

In relation to industrialisation, the country has had several industrial and macroeconomic policy strategies. These include the National policy plans include the Economic Structural Adjustment Program (ESAP), Zimbabwe Programme for Economic and Social Transformation (ZIMPREST) 1995, Millennium Economic Recovery Programme (MERP) and Ten Point Plan, National Economic Revival Programme (NERP) of February 2003, Industrial Development of Policy (IDP) of 2004 to 2010, Macroeconomic Policy Framework (MPF) of 2005-2006, National Economic Development Priority Programme (NEDPP) of 2006, The Short Term Emergency Recovery Programme (STERP 1 +2) of 2009 ;2010 – 2014, Medium Term Plan (MTP) of 2011 -2015, Industrial Development Policy (IDP) of 2012 to 2016 and Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zimasset) of (2014 – 2018).

The aforementioned policies presented different objectives to achieve and drive economic development. The table below summarises objectives listed in all the industrial and

macroeconomic policies Zimbabwe has crafted that speak to supporting the cotton value chain, textiles, upgrading and value addition in general. These objectives are compared with actual policy instruments in this study.

Table 22: Policies of Zimbabwe - A History

Economic Structural Adjustment Program (ESAP)	Liberalisation, lifting of government controls and subsidies
Zimbabwe Programme for Economic and Social Transformation (ZIMPREST), (Dube 2011)	Same strategies and policy thrust as ESAP but added investing in human resources
Millennium Economic Recovery Programme (MERP) and Ten Point Plan	Stimulate growth of the productive sector, stabilize the currency, resolve foreign currency crisis, public enterprise reforms and restore investor confidence the need to develop and promote an agro-based industrialization programme spearheaded by indigenous entrepreneurs.
National Economic Revival Programme (NERP) of February 2003	Bring macroeconomic stability, stimulate national output and productivity, generation of foreign exchange and improving energy and transport supplies, (Zwizwai, 2007a)
Industrial Policy of 2004 to 2010	Main aim was to "pursue a policy to promote value addition, among others, in electrical and non-electrical machinery, agricultural equipment, agro-processing, mining and mineral-based industries, chemicals/pharmaceuticals, wood and furniture, textiles and clothing, and the motor industry (Mudzonga, 2009:20)". Some of the key strategies in the 2004 to 2010 policies outlined: Domestic production incentives; Rigorous efforts towards upgrading, innovation, technology and value addition; The rationalization of fiscal policies for industrial development; Reviving industries under stress and determining causes of distress; Gathering and making finance available for the productive sector; Creating land for industrial parks; Creating task forces to spearhead industrialization; Simplifying rules, procedures and regulations for smooth functioning of industrial parks. Value-addition and beneficiation was outlined as a priority sector in the cotton value chain in terms of textiles, (Mudzonga, 2009)
Macroeconomic Policy Framework (MPF) of 2005-2006	Develop infrastructure, reducing inflation, industrialization, development of agriculture, promoting investment,(Zwizwai, 2007)

National Economic Development Priority Programme (NEDPP) of 2006	Action oriented programme meant to produce "quick win strategies" Some of its main aims lay in reducing external debt, restoring a positive image to the country and investor confidence, economic empowerment ,the rehabilitation of infrastructure, reducing inflation, increasing output and productivity, generating forex, expenditure and revenue management, better policy making and implementation and stabilizing the currency, (Anseeuw, Kapuya & Saruchera, 2012)
The Short Term Emergency Recovery Programme (STERP 1 +2) of 2009	Agriculture was emphasized in STERP particularly with regard to increasing production. It acknowledged the importance of reviving the productive / manufacturing sector and capacity utilization for job creation. In terms of further beneficiation of cotton, textiles were listed as one of the identified subsectors. Policies to improve value-addition and the manufacturing sector in general mainly included the provision credit lines, restoration of utilities such as water and electricity and technology acquisition, (Ministry of Industry and Commerce, 2009)
Medium Term Plan (MTP) of 2011 -2015	Major economic targets set up encompassed converting the economy from one that produced primary commodities to one that produced value-added goods, beneficiation and had new knowledge based industries. Investments and savings were also identified in order to gather finance for the support of the targets. For the cotton the MTP mainly outlined increasing yields through improved farming methods and finance. It also identified the need to broaden value- addition of the commodity as well. With regard to textiles, it was identified, as a priority sector within the broader margins of manufacturing and an area which investors could venture into, (Ministry of Industry and Commerce, 2011).
Industrial Development Policy (IDP) of 2012 to 2016	Value-addition or beneficiation is one of the cornerstones, envisages transforming Zimbabwe from a producer of primary goods into a producer of processed value-added goods for both the domestic and export market through the promotion of viable industrial and commercial sectors, chapter on agro-business and chapter 4.3 on textiles and clothing, the government identifies textiles and notes its importance in contributing to the manufacturing sector and overall development of the economy. Through initiatives such as growing textiles to value add, cotton farmers can utilize their produce instead of exporting it raw building textile factories near cotton growing areas and revising duties of imports to protect the industry, (Ministry of Industry and Commerce, 2012).
Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zimasset) of (2014 – 2018)	The latest Zimbabwe blue print described horizontal policies that would enable the state to grow in a high growth trajectory. These included; Improved liquidity and access to credit by key sectors of the economy such as agriculture; ii. Establishment of a Sovereign Wealth Fund; iii. Improved revenue collection from key sectors of the economy such as mining; iv. Increased investment in infrastructure such as energy and power development, roads, rail, aviation, telecommunication, water and sanitation, through acceleration in the implementation of Public Private Partnerships (PPPs) and other private sector driven initiatives; v. Increased Foreign Direct Investment (FDI); vi. Establishment of Special Economic Zones; vii. Continued use of the multi-currency system; viii. Effective implementation of Value Addition policies and strategies.

	Particular sectoral strategies in reference to this research pointed out that to stimulate agricultural activity the government would recapitalize and capacitate Agribank and the Grain Marketing Board (GMB), the Agricultural Marketing Authority (AMA) and the Agricultural Rural Development Authority (ARDA). While the Plan will ensure that the Presidential Input Support Scheme focuses on supporting the vulnerable groups at household and community level, it will also ensure that other farmers timeously access affordable inputs In chapter 3, directed to manufacturing the policy document pointed that 3.18 In the manufacturing sector, Government is totally committed to resuscitating distressed and closed companies with a view to increasing capacity utilization to optimum levels, generating employment and substituting imports as well as building a sustainable basis for export led growth. In this regard, the Industrial Development Corporation (IDC) will be recapitalized and its operations refocused as one of the key investment vehicles to assist ailing industry, (Government of Zimbabwe, 2013) Overall, one of its four strategic objectives lies in value addition and beneficiation.

Source: Authors own compilation from (Ministry of Industry and Commerce, 2009), (Ministry of Industry and Commerce, 2011), (Ministry of Industry and Commerce, 2012), (Government of Zimbabwe, 2013), (Anseeuw, Kapuya & Saruchera, 2012), (Zwizwai, 2007b)

In the early 1990s, Zimbabwe like many other African countries, suffered from policy constriction though ESAP. Bretton Woods Institutions such as the WB and IMF advocated policies that choked all state intervention (lifting of government controls, subsidies, investments in twelve and twenty year bonds and all export incentives) for an open market. The mid to end of 1990s, saw two policy and strategy documents come into effect, the Zimbabwe Agricultural Policy Framework and Strategy (ZAPF), 1995–2020 and the Zimbabwe Programme for Economic and Social Transformation (ZIMPREST). It can be concluded that industry was influenced by the effects of other policies prescriptions that were pursued for macroeconomic, trade and other purposes. The government did not have an industrial policy. Of importance in this phase is that shocks such as droughts also affected the sector, in conjunction with decreased reserves of foreign currency, ending of the Africa – Rhodesia Preferential Agreement and falling business confidence from sharp interest rates and dollar exchange rates. Looking back at some of the principles of industrial policy, the state was unable to help entrepreneurs nor provide them with necessary capabilities and neither did the market which was advocated for by liberalization.

The phase of 2000 to 2009, is perhaps of interest, thus far, constituting a total of nine national policy documents and strategies. According to Mudzonga (2009), the economy was highly open; had ad hoc interventions, tight foreign exchanges regulations or controls price controls

and import liberalization. The first two policies, namely, the Millennium Economic Recovery Programme (MERP) of 2000 and the Ten Point Plan (TPP) of 2000 which were never really officially published. Among other policies, both nevertheless, sort a development strategy based on self-reliance, stimulating growth of the productive sector developing and promoting an agro-based industrialization programme spearheaded by indigenous entrepreneurs and diversify the production of high value exports. The next two comprised of the National Economic Revival Programme (NERP) of February 2003 and the industrial Development Policy of 2004 to 2010. Like MERP and TPP, NERP sort to also stimulate national output and productivity, generation of foreign exchange, improvement in energy and transport supplies and macroeconomic stability. The policies above took more a horizontal approach. The IDP of 2004 – 2010 outlined the promotion of value addition in agro-processing among others, in electrical and non-electrical machinery, agricultural equipment and mining and mineral-based industries for export. Textiles and clothing were identified as specific key sectors for development. Strategies such as promoting local and foreign investment, enhancing skills development and institutions were identified to spearhead industrialization.

A year after, the Macroeconomic Policy Framework (MPF) 2005-2006, was introduced and spelt out similar objectives of past policies with policies. The last two policies in this era, were the National Economic Development Priority Programme (NEDPP) of 2006 and The Short Term Emergency Recovery Programme (STERP 1 +2). NEDPP was created to be action oriented programme meant to produce quick win strategies in restoring a positive image to the country and investor confidence, economic empowerment, rehabilitation of infrastructure and increasing output productivity. However, there was no clear articulation of sector targets that were identified and the margin within which to achieve these goals was unrealistic. STERP 1 +2 purely identified the country wanted to be a progressive developmental state and create an atmosphere that fostered investment. Specifically, it emphasised agriculture reassuming its role as a major engine of economic and social development, with textiles listed as an identified sector.

Although the phase of 2000 -2009 as able to identify beneficiation and value addition of the cotton value chain among others and outline some key objectives such as restoring investor confidence and rebuilding infrastructure, the industry was still negatively affected. Some macroeconomic issues that had not been addressed in prior years resurfaced such as the drying up of lines of credit, liquidity constraints, unrealistic interest rate and payment periods, obtaining foreign currency, short term loans from the banks, highly priced utilities such as

water and electricity which created bottlenecks for many factories and new entrants. Following guidance from Rodrik (2007), policy continued to make more prescriptions instead of learning from the past. It has been established that there was lack of attention for addressing an exodus of qualified personnel, poor regulation of agricultural commodities such as ungraded cotton which resulted in the breakdown of machinery and massive influx of cheap products particularly from Asian countries such as China.

This research is mainly focused on the latest phases after the country had adjusted to dollarization. The Medium Term Plan (MTP) 2011 - 2015, was clear on creating structural transformation, through converting the economy from one that produced primary commodities in which cotton was identified to one that produced value-added goods. Interesting in this policy was that private sector was given an upper hand: "Private Sector will be the engine of economic recovery and growth in Zimbabwe. This plan emphasizes the pivotal role of the private sector" (Ministry of Industry and Commerce, 2011: 2), although within the document, the aspect of Zimbabwe becoming a developmental state was clearly emphasized.

We can see consistency in the objective of creating structural transformation in the Industrial Development Policy (IDP) of 2012 to 2016 from the previous policy. The policy supported industrialisation through manufacturing as it stipulated that the "overall objective of the policy is to restore the manufacturing sector's contribution to GDP of Zimbabwe" (Ministry of Industry and Commerce, 2012 : viii). Along with other sectors considered to be viable with strong linkages, textiles was identified as the means to value add cotton. Similar to the previous policy, the government promised to share responsibility in carrying out its objectives with the private sector. The latest blue print also carries forth the objective of value addition and beneficiation. It identifies the government, private sector, labour taking a leading role.

Drawing from the aforementioned policies, this section unpacks the actual instruments have been employed to support industry

4.3 Industrial Policy Instruments

Fiscal incentives

Zimbabwe has used several sectoral policy instruments such as fiscal incentives. Firstly, firms pay less tax if they export. That is, they pay 15% if firm exports are more than 51% or more of its output; 17.5% for firms exporting more than 41% or more of its output but less than 51% and 20% for firms exporting more than 30% or more of its output but less than 41%. The above fiscal incentives allow business to retain more of its earnings which can then be re-invested to

grow the business. There is also a Special Initial Allowance (SIA), which allowed at a rate of 25% of cost from year one on replacement of wear and tear for machinery among other things i.e. improving farm storage. This incentive is not based on the state of the goods; it may or may not support value-addition (ZIMRA, 2016).

An Export Processing Zone (EPZ) means any part of Zimbabwe declared in terms of the EPZ Act (Chapter 14:07) to be an export processing zone. The holder of an investment licence issued in terms of the export Processing Zone Act, (licence investor) is granted the following incentives:

- 5-year tax holiday;
- After the tax holiday, the corporate tax rate is 15%;
- Duty free importation of raw materials and capital goods;
- Exemption from liability to pay Non Resident Shareholders' Tax (NRST) on dividends distributed to non- residents;
- No liability for branch profits tax on a branch of a foreign registered company in an EPZ;
- No liability for withholding tax with regard to dividends distributed locally by a company licensed to operate in an EPZ;
- Exemption from withholding taxes on management & technical fees, remittances and royalties for a person operating in an EPZ;
- No liability for tax on any capital gains arising from the sale of property forming part of an investment in an EPZ;
- Exemption from income tax on fringe benefits for persons employed by a licensed EPZ investor to the extent of 50% of the employee's other taxable income from the investor;
- Refund of VAT paid on procurement from customs.

No textile export processing zones are known of in Zimbabwe.

Export Market Development Expenditure

There is double deduction available in respect of non-capital expenditure incurred in the process of seeking new opportunities/markets for the export of goods (not services) from Zimbabwe, or of creating or increasing the demand for such products. In building its textile industry Peru, a producer of high quality cotton, supported firms in accessing and exporting to niche markets for its premium products. This incentive may foster market diversification (ZIMRA, 2016).

Industrial parks

There is a 0% tax rate on income, of licensed investors during first five years of operation, thereafter income will be paid at 10%. exemption from payment of residence shareholder's tax, non-resident's shareholder's tax, interest fees, the disposal of specified assets forming part of connected to the industrial park is exempt from capital gains tax (Zimbabwe Revenues Authority, 2016).

Duty Free Importation Schemes

For the promotion of exports, Zimbabwe has allowed duty free importations of raw materials that are designated for the manufacture of goods for export. There are two systems in place for this: The Duty Export Draw Back Scheme and the Inward Processing Scheme S I 59 of 1997. In the cotton to textile chain imports of machinery such as new spinners, raw material such as dyes can be imported duty free and utilized in manufacturing.

Under the *Export Drawback Scheme*, refund for the import duties paid can be claimed back when the qualifying goods are exported from Zimbabwe. Qualifying goods are defined as any goods that are exported unused upon which import duties were originally paid in form of custom duties, surtax or import tax. They can exist in the following forms: *Same State Drawback:* This rebate is granted on goods that were duty paid, and that are exported unused and in the form in which they were imported. *Industrial Drawback:* It is granted on duty-paid raw materials used in the manufacture of Zimbabwean products, and which are exported unused in Zimbabwe.

Rebates – instrument 151 of 2015 notes that the Customs and Excise clothing manufacturer rebate regulation only allows manufacturers to get a rebate on fabrics (denim, plain weave, bleached, woven fabric, bleached, polyester, dyed canvas, cut corduroy, chenille, printed), yarns (of different colors,), threads (sewing threads, threads of artificial filaments, twill, polyester staple), shoulder pads, buttons, ribbons and man-made fibres. This type of rebate ensures firm have access raw materials which cannot be sourced locally.

Since the government has always practiced a neo liberal approach, in the last 1, 5 years we have seen the emergence of protective trade instruments being employed. Protectionism in essence aims to elevate the price of foreign products, trim down costs of production to local industry and cap foreign goods from competing. When a state decides to adopt protectionist policies, several instruments are used. A number of them include: 'quota ceilings' upon

foreign goods traded in the local market, taxes and tariffs on imports, 'regulatory obstacles' which act a hurdles for imports i.e. tedious but often useful lists of product classifications, specifications and standards (especially when dealing with medical drugs or food such as meat), in various circumstances currency controls in the form of exchange manipulation have been used (Abboushi, 2008). As shown below, the government introduced a quantity and trade restriction the:

Figure 17 Statutory Instruments

Statutory instrument	
64 of 2016	Control of Goods (open general import license) (no.2) Amendment Notice (no.8) is an interim measure that removes listed goods from the Open General Import Licence (OGIL) to a licensing system. Among restricted goods are woven fabrics of cotton (contain 85% or more by weight of cotton under HS codes 5208 and 5209),Woven fabrics of cotton contacting less than 85% by weight of cotton under HS code 5210 and 5211

Source: (Zimbabwe Revenues Authority, 2016)

Protectionism may allow firms to build and reach economies of scale against competitors. Although normally intended for new industries it may resuscitate old industries given that there is a probability of being competitive. The restrictions alone may not result in an immediate turnaround; as other crucial steps need to be in place. For the textile industry in particular, production of quality cheap cotton and rehabilitation of machinery would need to be implemented.

4.4 Economic trends in Zimbabwe since 2009

Zimbabwe experienced an economic rebound since following the introduction of the multicurrency system which killed of hyperinflation and helped to restore price stability. During the period of 2009 -2012, Zimbabwe averaged a 10% growth rate. In 2013 this dropped to 4, 5% and further declined to 3, 8% in 2014. Last year despite the government envisioning a 6, 4% growth rate the country grew by 1, 5%. Economic rebound since 2009 has majorly anchored on mining, agriculture with mining replacing agriculture as the most dormant sector pre-crisis (Zeparu, 2016).

Zimbabwe's fiscal space continues to be constrained due to poor performance of revenue inflows against a background of rising recurrent expenditures and a shrinking tax base. The country has faced sever liquidity constraints. According to ZEPARU (2016: 4), "liquidity

shortages continue to hamstring the economy, the economy faces severe liquidity problems which are further exacerbated by the country's failure to access international capital and investment inflows". In addition, it has been reported that the country has slipped towards deflation, where there is negative inflation combined with contraction of credit/liquidity. The 2016 forecast for deflation by year end is 1.6 percent (Ministry of Finance, 2016). The country is at high risk of debt distress, with an unsustainable external debt estimated at USD 8.3 billion at the end of 2015. In the banking sector, it has been reported that deposits growth has been weak, reflecting slow economic activity and that loans to deposits ratio (LDR) declined from over 90% in early 2014 to 84% in mid-2015. Bans have been lending cautiously to stay afloat,(Zeparu, 2016) . In 2015, total exports accounted for US $3, 4 billion whilst imports stood at 6, 3 billion resulting in a trade deficit of US $2, 9 billion compared of US $2, 7 billion in 2014. The large import bill was fuelled by depreciation of the rand. The export bill owed 2 billion to at least 80% of primary commodities (agriculture and mining) showing a reliance on primary commodities which are volatile.

Industrial capacity utilization continues to decline due to underproduction and lack of competitiveness. Since 2013 there has been an increasing number of company closures and scaling down of operations, particularly in the manufacturing industries, accompanied by significant job losses in all sectors (UNDP, 2014). The manufacturing sector saw a drop in activity between 2011 and 2014: at least 4 610 companies closed down, resulting in a loss of 55 443 jobs (Ministry of Finance, 2015).

Major capacity constraints which have been identified locally are given in Table 22 below:

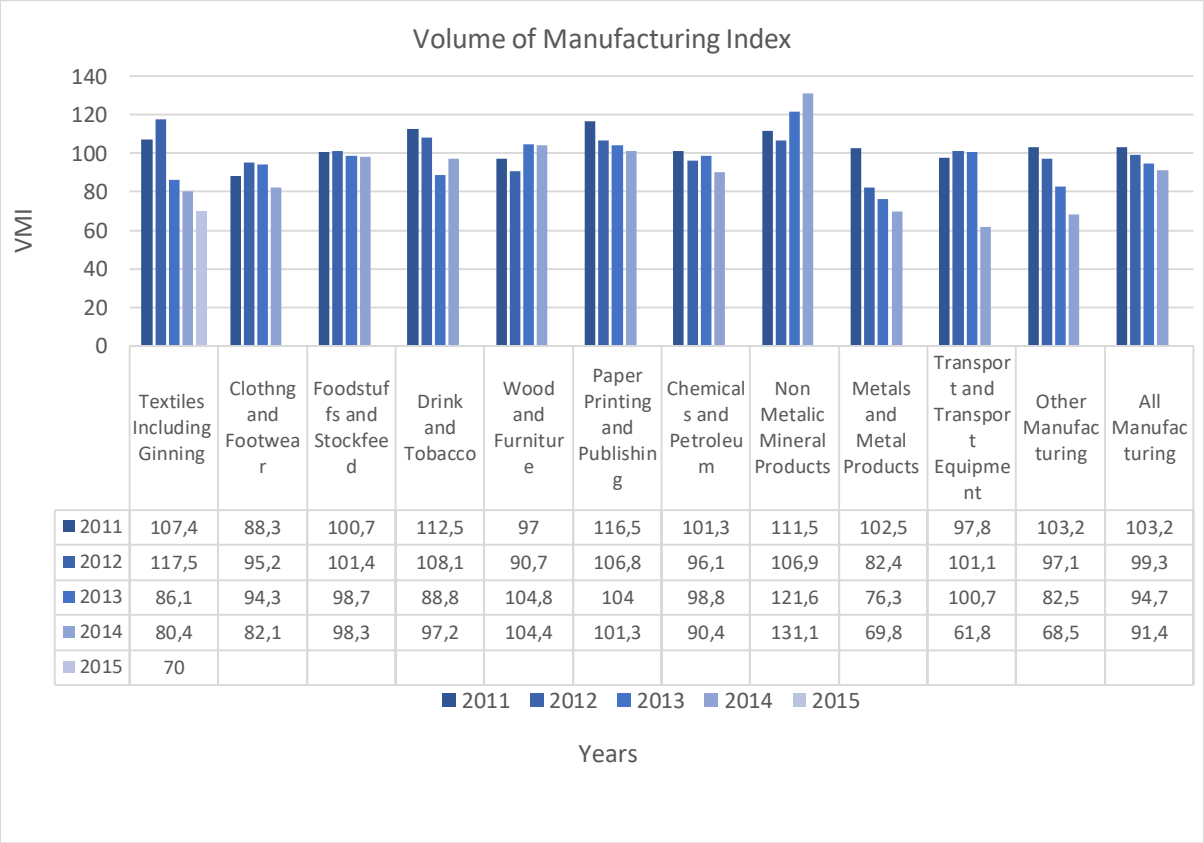
Table 23: Country Constraints

Major constraints	%
Low demand	28,4
Capital constraints	18,6
Antiquated machinery and machine breakdowns	12,3
Competition from imports	10,3
High cost of doing business	8,3
Cost /shortage of raw materials	6,9
Power and water shortages	6,4
Drawback from current economic environment	2,0
Other	6,9

(CZI, 2014b)

The graph below illustrates the volume of manufacturing across manufacturing industries. For textiles, the VMI was high in 2012 at 117, 5 and has taken a drop since. Other sectors which have contributed to a low VMI are metals and metal products, other manufacturing, transport and equipment and clothing.

Figure 18 Volume of Manufacturing Index



	Textiles Including Ginning	Clothng and Footwear	Foodstuffs and Stockfeed	Drink and Tobacco	Wood and Furniture	Paper Printing and Publishing	Chemicals and Petroleum	Non Metalic Mineral Products	Metals and Metal Products	Transport and Transport Equipment	Other Manufacturing	All Manufacturing
2011	107,4	88,3	100,7	112,5	97	116,5	101,3	111,5	102,5	97,8	103,2	103,2
2012	117,5	95,2	101,4	108,1	90,7	106,8	96,1	106,9	82,4	101,1	97,1	99,3
2013	86,1	94,3	98,7	88,8	104,8	104	98,8	121,6	76,3	100,7	82,5	94,7
2014	80,4	82,1	98,3	97,2	104,4	101,3	90,4	131,1	69,8	61,8	68,5	91,4
2015	70											

	Textiles Including Ginning	Clothng and Footwear	Foodstuffs and Stockfeed	Drink and Tobacco	Wood and Furniture	Paper Printing and Publishing	Chemicals and Petroleum	Non Metalic Mineral Products	Metals and Metal Products	Transport and Transport Equipment	Other Manufacturing	All Manufacturing
Weight	28	79	252	118	24	68	172	46	103	20	89	1000

(Reserve Bank of Zimbabwe, 2016)

Chapter 5 Interview Findings

5.0 Summary of interviews

This section provides a summary of the interviews that were gathered. At the start of the research I sort to interview key stakeholder in the downstream industry. However, the response rate was very low due to a number of factors: firstly, most companies have closed, and second most contact details supplied did not go through, whilst other respondents noted that they were weary of speaking to any researchers and that it would be repetitive to interview them as speaking to the association or other firms basically reflected the same problems they were facing. Respondents interviewed did not mind being quoted or having their names used as they have commented on the same issues in public domain or otherwise noted information was not sensitive or out of the ordinary. Mrs Chigumira and Mr Sabamba noted their companies had long closed decades ago and felt happy to provide insights. Henceforth, in order to try get some holistic data some interviews with main industry players were done. These included interviews from the largest spinner and weaver and one of four remaining, the largest ginner in Zimbabwe and the Southern African region and association members.

Table 24: List of Interviews

Sector	Description	Location	Name
Ministry of Industry and Trade	Policy maker Sector Desk of Textiles	Harare	Mr Kachepa
Ministry of Economic Planning and Investment Promotion in the department of Policy Planning and Co-	Policy maker	Harare	Mr Muchecha
African Institute for Agrarian Studies	Expert Land Reform, Farming systems	Harare	Walter Chambati
African Institute for Agrarian Studies	Expert	Harare	Mr Mkodzongi
Industrial Development Corporation	Management	Harare	Mr C Mutiti
David Whitehead Textiles	Former Largest firm in ginning, spinning, weaving and knitting	Kadoma, Chegutu, Bulawayo	Mr Jeremiah Management for 20 years
Zimbabwe Textiles Manufacturers Association Chairman and Paramount Garments	Paramount Garments one largest textile garment firms	Bulawayo, Harare,	Mr Jeremy Youmans President of ZCMA and Owner

Kadoma Associated Textiles Kadoma Municipality	Closed – third major spinner and weaver in Kadoma	Kadoma	Mrs J Chigumira Former Worker 10 years / Town
Cottco Company	Largest Ginner in Southern African Region	National	Mr Collins Chihuri Former company secretary and
Zimbabwe Spinners and Weavers founded 1944	Largest spinner and weaver and one of four remaining	Kadoma and Glendale	Mr Worsfold
Lahama Trading textiles firm		Harare, Zimbabwe	Ronald Brnjac Managing

The cotton to textiles value chain as a sector that contributes to manufacturing

The response from interviews surmise that textiles contributed to local economies in three ways, namely, employment, revenue and stimulated backward and forward linkages. Firstly, as agreed by all, it created employment particular for small towns more so in rural areas were most ginneries are located. Mr Sabamba, (2013) from David Whitehead in particular noted "for the small town of Kadoma, it employed over 2000 people". Second, it terms of revenue, the aforementioned interviewees said that it contributed to revenue collected by the city municipalities. In the words of Mrs Chigumira, (2013), "local authorities have suffered because of the closures of these industries since the residents who were working for the closed industries were now unable to pay their house rentals, water levies, rates, clinic fees etc. which has affected the municipalities' cash flows and service delivery". Drawing from Tregenna (2009) and Kaldorian perspectives, the collapse of the manufacturing sector initiates de-industrialisation as employment is heavily reduced and other linkages are broken and output reduces. For Cottco, capacity utilization since 1996 has dropped from 95%, 70% between 2001 and 2006, 55% between 2006 and 2010 and from 2011- 2015 40%, (Mr Chihuri, 2016).

What products are made in the industry?

From a ginning perspective, ginners can only process lint and seed, which Mr Chihuri noted all ginning industries still do. In textiles Mr Youmans noted the country makes most textiles, yarns, threads and fabric for home and the apparel industries but has not been making denim.

Are there any exports?

Cottco, as the largest ginner, indicated that ginning firms export lint to countries such as South Africa, India, China and Europe (France, Italy). Mr Worsfold, (2016) noted that they exported

but not which particular goods. He added that "I think one benefit we have is that being an exporter, we are more likely to get foreign payments out for things like chemicals etc., raw materials we have to import. Companies who don't export can wait for weeks for their payments to leave the country."

What are the main barriers/ constraints to industry?

Machinery /infrastructure

Aging and obsolete machinery in ginning and textiles appears to be a major constraint as it negatively affects utilization. This is an across the board generalization among interviewees. According to Mr Brnjac, (2016), the average age of machinery particularly in ginning was 30 years whilst Mr Chihuri noted 20 years yet machinery in Zimbabwe can span over a long number of years. Infrastructures for good transport systems in Zimbabwe have long been an issue. Mr Brnjac illustrates that 'railways = poor service, trucking = expensive but efficient', Mr Chihuri also notes that with Zimbabwe being landlocked moving lint via railway would be easy but the infrastructure no longer functions and, as a result, firms are forced to use road transport which is more expansive, particularly to Johannesburg and shipping depots.

Electricity and Water

Mrs Chigumira, (2013) indicated that "[utilities] are the necessities which make the textiles industries run smoothly and efficiently. A lot of water is used during the growing of the crop, in the dye-house, etc. Without electricity one can no run the industry. It is very important to have electricity all the time for knitting the yarn, sewing the garments etc". Mr Brnjac highlighted that the cost of utilities was too high when compared to the region. This observation is confirmed by the CZI (2016) comparison of electricity rates whereby Zimbabwe's rates per/kw is almost double that of the region. The effects of power cuts often without prior warning, Mr Chihuri notes, affects the smooth running of operations whereby control systems are often damaged or machinery requires recalibration. In addition to erratic electricity supplies, voltage is an issue and affects machinery control boards.

Technology

Technology in the cotton to textile sector is of paramount importance. According to Mr Brnjac (2016), 'technology is vital in streamlining production systems to lower product unit costs and maintain an edge over competitors", for Mr Chihuri, "This will help to reduce production costs in particular labour". Whist the former sees technology as an enabler for streamlining

production and efficiency the other targets issues of labour, however both arguments contribute to reduce production costs. Although Mr Sabamba indicated that there are plans to reopen the Kadoma David Whitehead textiles, upgrading in technology will make the plan competitive.

Investments

Investments and access to capital/ loans for production and manufacturing is imperative for building and rebuilding industries. Views from respondents note that, save for farmers who are contracted, there are no other investments taking place in agriculture. More so for the ginning industry and textiles both Mr Chihuri and Mr Youmans said that investments are scare. From government officials and experts, Mr Muchecha, Mr Kachepa and Mr Chambati indicated that there were no agricultural incentives to significantly reduce production costs.

Particularly, for Mr Brnjac, "a total lack of support from the banking sector to finance re-tooling has negatively affecting the industry", he further reports that "as we pay Company Taxes and VAT in Advance, financing raw material is difficult as cash flows are restricted – bankers do not avail long term support to medium enterprises to import and their interest rates / requirements are prohibitive to say the least".

Market

It seems markets are not an issue particularly for cotton lint, according to Mr Chihuri, as long as one can provide the necessary goods. For Mr Brnjac supports this as he notes that for as long as firms monitor quality, price and promotion of workers' health and safety, required by buyers, markets are available.

Cheap imports

It was reported that cheap imports were a problem, (Brnjac, 2016) "they destroy the quality chain with substandard products / cheap prices and fuel buyer corruption in most companies, duty free Imports of gloves via SADC & COMESA which actually originate from China or of sub-standard quality are killing our business and will cause us to shut down if price fairness is not created using the correct import duty rates, products are sold cheap and their quality is very poor which in turn creates a consumptive market for China to profit from as the gloves wear our very fast" is not questionable (Mr Brnjac). As far as the ginning industry is concerned, Mr Chihuri noted it was not affected by imports of fabric and apparel as they export nearly 90% of cotton lint.

Skills

Zimbabwe has been massively ravaged by a continuous brain drain over the past two decades. It comes to no surprise that respondents identify skills shortages as major constraint. On the production side, Mrs Chigumira notes that skills are an imperative in grading cotton, whilst on the manufacturing side of things Mr Brnjac highlights that there is a shortage of electrical and mechanical Engineers, but suitably qualified and experienced artisans were available locally. Mr Chihuri, on the other hand, notes that skills are available. This maybe that the company can afford to hire local or international skills sets unlike smaller firms. For Mr Sabamba, new skill sets will need to be acquired

Raw materials

A cheap source of raw materials drives production costs down, especially for processors. For the ginning industry, Mr Chihuri noted that "seed cotton is the main raw material but high cost of inputs in particular fertilisers creates a negative ripple effect for buyers". Since for ginners 50% of production costs comes from raw materials driving down production costs of cotton would benefit the sector. Mr Muchecha and Mr Kachepa indicated that as far as raw materials are concerned there were constraints as 'primary commodities are very volatile and unstable" as such farmers incur loses.

Labour costs

Zimbabwe generally has higher minimum wage labour costs, according to the (CZI, 2014b) and ZEPARU (2015). The same views are shared by ginners, the textile association, and the government and individual firms interviewed. For Lahama trading, it was noted that "as we compete regionally, our labour costs should be similar to our competitors in Southern Africa, but instead we have higher wages costs with further expenses like National Employment Council (NEC), National Social Security Authority (Nssa) etc." Mr Worsfold said that "labour costs are high and as we speak are in the middle of a dispute, but government does nothing to help"

How important is state intervention and industrial policies?

All respondents acknowledged that state intervention and policy were imperative for upgrading in the value chain but that implementation was of the essence.

Did you receive any incentives or assistance from Government?

In trying to gather some insights into actual government policy instruments respondents noted that they did not recall any actual policy instruments or incentives that they were offered or could access save for making use of horizontal policies that applied to all industry such as import and export incentives. The following was reported:

Mr Sabamba from David Whitehead

> *"David Whitehead never received much help from the government. Some officials would come but nothing was implemented or followed up. Non at the moment that are helping us, but we hear they would like to reopen and help companies. We are looking into making cotton clusters particularly in Kadoma, Gokwe and Chegutu. We are also trying to source funds on behalf of companies as government is unable to foot the finance"*

Mr Brnjac from Lahama

> *"No, they offer little or no incentives and usually the red tape involved in accessing any rebate incentive is simply not worth the trouble – They could remove Customs Duty and VAT on raw material imports to easily lower production costs and improve product availability ".*

Mr Mutiti from IDC

> *"The IDC at the moment can only support companies currently operational, there are not enough funds"*

Mr Youmans of Paramount Garments, ZCMA

> *"There is no implementation of any policy)*

Mr Worsfold of Zimbabwe Spinners and Weavers

> *"I am not aware of any Zimra rebates, they make us pay duty and vat on our chemicals, dyes, and spare parts as far as I am aware ", There is a new Reserve bank incentive of 5% of value of exports gets paid to the exporter by the government, however this is not happening in practice as the government has no money. They say it will be paid when the Bond notes come into being, this incentive is massive, and I don't think they realised just how much 5% is - I don't know where they will find the money - rather a brave promise to make???"*

Mr Chihuri

"In 2015/2016 govt took over our debt"

In your opinion which policies/ incentives/ support would assist your firm?

Respondents articulated different policy prescriptions which were grouped as follows

Table 25 Policy Recommendations

Recommended policy	Comments
export strategy	
Import strategy	'Removal of duty on imported raw materials and strict enforcement of duty on imported Gloves, especially those gloves that do not qualify under SADC / COMESA Free Trade Zones' (Mr Brnjac)
curbing imports	"Cap down donations of bales being imported", (Mr Sabamba) , Curb cheap imports and protect the market (Mr Mutiti, Mr Youmans, Mrs Chigumira)
Gov coordination	'Government departments need to work together'; 'links between government departments need to improve'; 'We need coherence between ministries ie IDC, MTI and Finance', (Mr Sabamba, Mr Youmans, Mr Mutiti, Mr Muchecha, Mr Kachepa)
investments	All respondents' noted investments across the entire chain was imperative. Particular comments noted banks should lower rates whilst the government needed to avail development finance, (Mr Sabamba and Mr Mutiti). Both government official noted working on making the investment climate attractive by deadly urgent.
Input subsidies	Production incentives for farmers, (Mr Chihuri); 'The government needs to provide cotton growers with inputs, machinery such as tractors etc. to enable them cotton meet cotton demand', (Mrs Chigumira)
local procurement	'We must have awareness programs about buying locally , supporting local'; 'Support local procurement especially from government ie ZIMRA uniforms'; 'Government procurement , creates demand', (Mr Youmans, Mr Mutiti, Mr Sabamba)
technology	All respondents supported improvement in technology
skills	
Infrastructure	All respondents supported improvement in infrastructure but in particular to machinery, it was noted massive retooling was urgent, (Mutiti)
Access to market	Access to market incentives was particularly mentioned by Mr Youmans who noted "We need to employ sausage approach (the butcher doesn't make any sausages, he makes those that people want and will buy) in the cotton to textile value chain and we should know our market and make

	products that people want. We should take the Mauritian approach and work backwards", (Mr Youmans, 2014). Other respondents noted that Bilateral trade agreements were important to enable industries to export their products; 'We need preferential access particularly in SA, they must renew the agreement', (Mrs Chigumira and Mr Youmans)
Branding	Industry respondents (Mr Mutiti) suggested branding initiatives, Mr Youmans in particular noted "branding is important, we must create conscious buying for example, in terms of social responsibility. Paramount Garments ensure toilet breaks, clean working environments, maternity leave, passionate leave, safety training. We should market our products as organic ".
improving quality	From a production perspective, Mrs Chigumira suggested improving grading systems whilst Mr Youmans noted improvement in quality of textiles and apparel was essential.
Utilities	All respondents noted is was of grave importance for undisrupted and cheap utilities.
Upgrading	Mr Youmans noted "the country has not been making denim there is no diversity we only make three types of fabrics in five colours we are losing market".
Fiscal incentives	Removal of advance payments to ZIMRA for VAT and Company Tax would be a tremendous aid to help improve liquidity as most factories sell on credit terms to their customers, Mr Brnjac
Stricter border standards	Strict enforcement by ZIMRA on Duties applicable to finished goods imports, especially those products made in China which somehow get imported using SADC and COMESA duty free certificates, often these goods are imported with a smaller percentage of the correct qualified product from the supplier, but mostly the products are made in China and simply repackaged to hide the country of origin.

Are there any policies which hurt or may hurt the industry?

Three respondents answered that a) the indigenisation policy scared investors and was causing a headache for all industries (Mr Mutiti and Mr Youmans), and b) liberalising really killed the industry, (Mr Mutiti). Mr Chihuri noted that free inputs distorted the market since ginners provided finance through contract farming.

This section has highlighted insights from interviews that were gathered. Insights largely reflect some of the findings in the previous chapter, in particular the constraints faced by industry. However, we can see some insights into several factors such as issues of branding, stricter enforcement by ZIMRA at border posts and demand driven by government procurement.

Chapter 6 Analysis of findings

In this chapter we analyse institutional dynamics that have supported or hindered upgrading and value addition, growth and development of the cotton to textile value chain. As observed by Gerrefi and Fernandez –Stark (2011), the institutional aspects of the chain identified how international, national and local conditions or dynamics and policies shape firms. Institutional aspects that we looked at include agricultural and industrial policies, economic conditions that include the availability of key inputs, available infrastructure, access to other resources such as finance and regulations.

6.0 Robustness of the Back Ground Cotton to Textile Value Chain

This research in discussing the cotton to textile value chain, made use of two main concepts, the GVC by (Gereffi & Fernandez-Stark, 2011) and value chain analysis particularly in understanding upgrading by Kaplinsky & Morris, (2001). Beginning with GVC analysis, the research can make a claim and conclude that the Zimbabwe cotton to textiles value chain can be explained through the input-output structure, which describes the process of transforming raw materials into final products. In that context Zimbabwe fit into the first element of the GVC framework. The input output element is illustrated below with evidence through the fact that the cotton to textile chain in Zimbabwe employs research and development, shows there is production of cotton (raw materials), processing through ginning, spinning, knitting and weaving to manufacture textiles (final product). In between trade in the form of imports and exports occurred illustrating both consumers and sellers of goods.

Table 26 Evidence of firms the Application of GVC Analysis

			Textiles		
Research and Development organisations	**Production of seeds firms**	**Production**	**Ginning firms**	**Spinning firms**	**Weaving and Knitting**
Kadoma Cotton Research Institute (local)	Quton Seeds, Cottco Holdings, (local)	250 000 – 300 000 Small scale farmers on contracts spread across various parts of the country (local)	Cottco Holdings, Sinozim (state and foreign owned) , Parrogate (regional), Alliance, Grafax	Zimbabwe Spinners and Weavers, (local)	Zimbabwe Spinners and Weavers, Zimbabwe Hosiery (local)

Source: Authors own Compilation

Since the case study for this research was the cotton to textile chain in Zimbabwe, the geographical consideration of the GVC approach could only be applied within a local context as all stages of production occur locally. The GVC framework was able to illustrate that there

are governance issues that can occur along a value chain. In the research it was established that ginners have a control in the upstream and downstream stages of the value chain. That is as financiers of cotton production through virtually all contracting, process are negotiated in their favor. In addition, they also set the price for cotton lint consumed by spinning industries. Through illustrating the existence, function and interests of associations, unions, state regulations etc, the GVC framework did show institutional contexts in which the industry value chain is embedded in, can influence the chain positively or negatively. For example, the AMA regulation that requires ginners or merchants to finance cotton production through contracts in order for them to be able to buy cotton at the end of the season, has allowed farmers access to production finance in an otherwise macroeconomic environment that restricts financing from banks.

The core basis of this research is investigating value addition and upgrading in the cotton chain. Both Gerrefi & Fernandez-Stark, (2011) and Kaplinsky & Morris, (2001) frameworks of upgrading (product, processing, functional and chain) could be applied to the research. This research concluded that the evidence gathered in chapter 4 and interview findings in chapter 5 is sufficient to make claims of the level of value addition and upgrading. By sufficient it means that at each stage of the input – output structure the research can determine the level of value addition or upgrading taking place through various methods and evidence. For example, although the research was unable to specifically list products produced by each and every firm in the value chain, trade data at HS 4 and 6 illustrated and provided an acceptable proxy of products manufactured in the country. That is, besides knowing ginners export 80 to 90% of lint, trade data corroborates and illustrates the bulk of the country's exports are comprised of cotton un-carded or combed.

In using the value chain approach to identify blockers to value addition or upgrading, evidence to conclude that there are constraints at each stage is sufficient. That is evidence from interviews corroborates with evidence from secondary data and secondary data from various sources concur. For example, issues of obsolete machinery and electricity is reported as a constraint in national policy documents such as the ZIMASSET, by interviewees such as Mr Chihuri from Cottco, various newspapers articles and through research by Zeparu (2014). It is of this research's view that there is sufficient evidence from policy documents in Zimbabwe with which an assessment of its policy instruments to carry out its objectives can be established. All policies listed set an objective to enhance value addition in general and particularly towards

the cotton and value chain. Save for the recent 2016 trade restriction policy instrument, the rest can be assessed for their effectiveness.

Now that the research has established the evidence there is sufficient evidence to ascertain if policy has supported the cotton to textile value chain, the following section provides an analysis.

6.1 Did Policy Support or Hinder Value Addition and Upgrading in the Cotton to Textile Value Chain

6.2 Research and Development

Value addition or upgrading in the research and development phase largely centers on creating seed varieties or cultivars that are high yielding, suited to planting in the various regions of the country, seeds meet the desired characteristics for the downstream textile industry, seeds which are resistant to pests and disease, may use less water or varieties which are organic, or of a high quality (long staples). In this regard, Zimbabwe currently produces high quality (long to medium staple), non GMO seed cotton varieties. The seeds are better adapted to low inputs and moisture stress in addition to producing length, strength and finess. More so, product upgrading is employed through having intellectual property rights to a number of seed varieties such as the LS9219 2001 a long staple variety and the CRI MS 1 and CRI MS 2 medium staples which give Zimbabwe a competitive edge in the SADC region, because of the varieties it is highest producer of cotton and as ginned seed produces a higher lint outrun to other countries.

Table 27: Cotton Seed Cultivars

Key selected attributes	CRI-MS 1	CRI-MS 2
Lint staple type	Medium	Medium
Suitability elevation, m.a.s.l.	200-1500 (Middleveld & also Lowveld)	200-1500 (Lowveld & also Middleveld)
Suitability for export markets	Suitable	Suitable
Yield potential, kg/ha:		
Dry land	1500-2600	1600-2300
Irrigated	2600-4300	3400-4200
Seed size	Small	Small
Seedling vigour	Very good	Very good
Boll size	Medium (±5 g)	Large (± 5.5 g)
Growth habit	Determinate	Determinate
Maturity duration	Early	Early
Pests and diseases:		
Resistance to Jassids	Good	Good
Resistance to Bacterial wilt	Fair to good	Good
Tolerance to *Verticillium* wilt	Very good	Fair
Tolerance to aphids	Good	Good

Fibre quality:		
Lint Gin out turn (GOT), %	Very good (40-43)	Very good (41-43)
Fibre length,mm	28-29	28-29
Strength (HVI), g/tex	30.9	31.1
Micronnaire	4.1-4.5	4.1-4.6
Fibre maturity	>85% (HVI)	>85% (HVI)
Fibre length uniformity	>80% (HVI)	>80% (HVI)
General spinnability		
Elongation, %	7	7

Source: (Ministry of Agriculture, Irrigation and Mechanisation, 2012)

It is clear that upgrading has taken place in the past in research and development. However, the Cotton Research Institute responsible for R&D has been lacking adequate finance to keep the facility running efficiently and as a centre of excellence, save for its current IP varieties no new developments are taking place. Some initiatives which have ensured its survival include the public, private partnership between itself and the major seed breeder of cotton Quton seeds which uses the institute's varieties and pays royalties. The institute also sells some agricultural commodities for financial inflows.

In assessing the effectiveness of policy, particularly for R &D, we draw from Peres and Primi (2009), who note that, firstly, policy design should be accompanied, not followed, by explicit consideration of the institutions that will have to implement them. Hence, according to the Comprehensive Agricultural Policy Framework 2012 – 2032 (CAPF), the promotion of agricultural research by Department of Research and Specialist Services (DRSS) in the Ministry of Agriculture, Mechanization and Irrigation Development (MoAMID) is part of the implementation process of its policy. MoAMID has an Agriculture Investment Plan (ZAIP) 2013-2017 which promises financial support for research and development, among other priorities. Some of the indicators of policy implementation are national budget allocations, development on new seed varieties and production of breeder seeds. The budget for new varieties was $115,000 in 2015, US $35,000 in 2016 whilst estimates for 2017 and 2018 earmark US $ 36,000 and US $ 39,000 respectively. The budgets for breeder seeds were US $ 50,000 in 2015, US $ 15,000 in 2016 and US $ 15,000 and US $ 17,000 for 2017 and 2018, respectively. Clearly, budget allocations are diminishing and since these allocations include all seed types it can be concluded that the CRI will get a small share of the pie with an ultimate negative impact on its sustainability. As such, macroeconomic conditions become a negative causal factor.

6.3 Production

Value addition and upgrading in production is mainly achieved through product and process upgrading. It involves famers using appropriate seed varieties as illustrated above with the best yields and varieties which produce quality cotton; investments in skills such as agronomic practices that ensure good and improved use of soil, irrigation, drainage, weeding crop rotation, inoculant and fertilizer use, harvesting, methods, grading, storage etc. to maximize production. What makes production and upgrading a critical stage in the value chain is that it essentially provides raw materials for downstream industries and if inputs (cotton) are cheap and available, production costs can be lowered leading to industry competitiveness.

Since the Cotton Research Institute certifies all seed cotton sold in the country and seeing there is one major seed breeder Quton, by default, farmers use high yielding varieties such as the CRI MS 1 and CRI MS 2. Instead of obtaining high yields of 1500 - 4300 kg/ha, farmers have been yielding less than 50% of those realized at CRI's experimental stations as shown below and this has led to low production outputs in 2015 of 115 000 tons from 350 000 tons in 2012. This shows that there are negative factors impacting on process upgrading as shown below.

Table 28: Cotton Yields

Season	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Yield/kg	560	768	658	770	561	640	447

Source: ICC (2015)

Four main factors constraining production have been identified as follows: firstly, there has been a decline in agricultural finance and input supply. Contractors (mainly ginners) are the primary providers of finance and inputs to 90% of cotton growers. As we illustrated in table 10 contract farming merchants have drastically decreased from 30 in 2006, 13 in 2009 and 8 in 2015, with the exit of a major player - Cargill, yearly financed contracts shrunk from US $36 million in 2009, to US $ 42 million in 2012 and US $14, 6 million in 2015. Second, finance and input packages from contractors does not cover all production costs i.e. labour, and with high interest rates (~ 30%) and penalty fees (40 – 50 %) from banks, production is affected. Third, farmers lack appropriate and do not practice good agronomic services. Fourth the drought across the SADC region is inevitable.

In analysing how supportive policy has been assess below policy and instruments used by government.

Agricultural finance – in the latest industrial policy the government notes as one of its priorities is to "re-establish financial support for agriculture so that farmers will increase production, productivity and product quality" (ZIMASSET 2013:36). To this effect, the government has an agricultural finance parastatal known as Agribank. Unfortunately, the bank has not been doing well mainly due to liquidity constraints and inadequate financing from treasury, thus incapacitating is functions. Despite that Agribank was identified among other parastatals for recapitalization, this has not taken place. However, in an attempt to foster agricultural finance, in 2015, it was made mandatory by government for banks to set aside each year 20% of loan portfolios. As such, the banking sector has already mobilised about US$1 billion in support of agriculture this year (National Treasury, 2015). What may hinder progress in this direction is that as of 31 December 2015, agriculture stood first place for non-performing loans at 19.21% (ZEPARU, 2016). Owing to this state of affairs, banks have kept interests high to deter borrowing. To avert this problem, the government reinstated the Farmers' Stop-order Act [Chapter 18:11], which provides for the registration by farmers of stop-orders and special stop orders binding their crops and the proceeds thereof. In addition, through the Agricultural Marketing Authority (AMA) Statutory Instrument 142 of 2009 as amended by Statutory Instrument 63 of 2011 and Statutory Instrument 147 of 2012, merchants are obliged to contract cotton growers in order to be allowed to purchase seed cotton.

Input supply - In the 2015/2016 season, the government of Zimbabwe rolled out the Presidential Input Scheme which provided seed and fertilizers to farmers. Largely the scheme catered for maize but cotton farmers have also been earmarked for the programme. This may assist farmers with financial constraints for inputs, outcome of this scheme is yet to be announced.

Resourcing of agricultural extension and agricultural education and training

Through its parastatal department of Agriculture Technical and Extension Services (AGRITEX), government provides free extension services to farmers. Support from government is evident as the extension services programme has allocations in national budgets. This year a budget drop occurred from US $ 365,000 to US $ 200,000 with US $210,000 and US $ 215,000 earmarked for 2017 and 2018. In addition, there is funding for degrees, diplomas and certificates for agricultural support services in practical farming, research, extension work. Agricultural colleges were allocated from $578,000 in 2016 from $881,000. However, services have degraded over time and are targeted to only a minority of farmers. The ratio should be

1:200 (which is still low) but currently stands at 1:5 000 farmers. In 2013, AMA embarked on a public-private partnership training programme for cotton producers and extension workers. It has trained 2000 farmers and extension workers so far and hopes that by 2017 it will have reached 10 000 famers and 5000 extension workers depending on finance.

Irrigation development - In meeting its obligation to combat drought and maximise productivity, the Drought Mitigation Programme was set to rehabilitate 16 irrigation schemes. This programmes is currently ongoing and managed under the Agricultural engineering and mechanisation department. Budget allocations for 2016 illustrate that US $ $5, 5 million was allocated compared to US $5, 85 million in 2015 showing a drop of just under a million.

The government in its industrial and agricultural policy identifies agriculture as the backbone of the economy underpinning economic growth and input to downstream industries. As such, it prioritizes re-establishing financing models to boost agricultural production. It is my opinion particularly in relation to cotton, that the government has been somewhat effective in mobilizing finance through contract farming. The government is aware of financial constraints that hinder its objectives and has garnered private finance to fill in the gap whilst it tries to support the sector with extra inputs and extension services and irrigation schemes. However, with private finance like Cargill, leaving the sector measures to cushion the much needed finance through measures such a recapitalising agricultural banks becomes inevitable. However, development finance to roll out its objectives is clearly lacking and aggravated by the severe liquidity constraints. Evidence of the total agriculture budget illustrates this, it was cut from US $ 174,145,000 in 2015 to US $145,091,000 in 2016 and indicative appropriations in 2017 and 2018 will be US $ 148,772,000 and US $151,285,000 respectively.

In driving industrialisation, Zimbabwe has crafted several industrial policy strategies with the latest ending this year the Industrial Development Policy (IDP) of 2012 to 2016 and the current Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zimasset) of (2014 – 2018). Using these latest blue prints, we assess the impact and effectiveness of policy prescription against actual policy instruments.

6.4 Ginning

Ginning basically involves separating cotton seed from lint. Value addition is largely employed by product upgrading - combing or carding cotton and maximising capacity utilization to reach economies of scale. As illustrated earlier the industry has lost players from a peak of 30 to 8

with capacity utilization below 30%. Ginneries are allowed to export 70% of lint and make available 30% to local industry, but in the past few years almost 90% of lint is now destined for export as local industry consumes a mere 10%. The 90% exported comprises of cotton not carded or combed basically raw cotton, illustrating not much upgrading is taking place. We recall that cotton that is not carded or combed comprises nearly the bulk of all cotton exports (yarn, thread, and fabric) is problematic. Drawing from the Prebisch-Singer hypothesis, shocks such as price vitality negatively impact agricultural commodities.

Several market forces, unfair practices by stakeholders and industry conditions and institutional dynamics have acted in this particular part of the value chain as blockers to upgrading. First it is illustrated that through declining cotton production, supply of raw materials has affected capacity utilization. Production output itself is also dependant through contracting that ginners are able to offer. However, with the persistent cash constraints and high loan interests from banks, ginners rely on loan repayments from contracted farmers. Since loan repayments for major players such as Cottco is around 50% this worsens cash injections for future contracting until balance is restored. Second, side marketing of cotton by farmers to other merchants who have not financed production results in loss of capital and inadequate access to raw material for ginning. Third, obsolete technology restricts capacity utilization. Drawing from Mr Chihuri, "efficient machinery should be not older than 20 years yet Zimbabwe has machinery double to treble that age. What is needed is massive re-tooling through recapitalization". Fourth, local industry that is spinners only consume barely 10 – 20% of lint disincentivising further upgrading.

The ginning industry falls between agriculture and agro-processing part of manufacturing. Hence, policies implemented from both ends influence its success. Constraints illustrate that a lack of access to raw materials – cotton, has been addressed above, through policies to address increased productivity. However, liquidity constraints and high interest bank loans, among other macroeconomic issues, affect all industries. To deal with loan defaults by farmers, the stop order act was reintroducing. However, this may have a negative impact and deter farmers from engaging in cotton contacting to avoid risks. Unless input schemes are extended to cotton growers, the situation may remain the same. Second, the prevailing problem of side marketing has been recently addressed by the Agricultural Marketing Authority. The AMA established 106 buyer points up from 98 in 2015 in which buyers are registered and licensed to procure

from areas they supported. The areas and quotas are reflected on licences. Such an act, I believe, allows for order, fair trade and continued support of farmers by contractors.

Third, in the ZIMASSET, government stated it would resuscitate and recapitalize distressed companies (ZIMASSET, 2013; 43). Although it cannot be said for all companies, ginning firms such as Cottco (largest ginner in Southern Africa) was earmarked for recapitalized this year by the Zimbabwe Asset Management Company a parastatal of the government. It is here that proponents against state led growth would disagree, questioning whether the state was a better picker of winners and if productive rents were being used appropriately.

Zimbabwe employs several fiscal policies to incentivize firms saving extra earnings and re-investing to grow the business. Such policies encompass export incentives where firms receive a tax incentive of 15% if they export more than 51% or more of output; 17.5% for exporting more than 41% but less than 51% and 20% for exporting more than 30% or more, but less than 41%. However, the incentive does not discriminate on the state of goods, and henceforth for ginners export 90% of cotton not carded or combed the policy may effectively be antagonising upgrading and value addition.

In support of efforts by the local industry to re-tool, a major constraint noted earlier, there is a zero rating on imported capital equipment. In addition, ginners can also effectively make use of Special Initial Allowances (SIA), which allow at a rate of 25% and 5% off in calculating income tax of industrial building and replacement of wear and tear for machinery respectively. The Export Market Development Incentive may come in handy for exporters of lint to look for new markets and build relationships for other possible exports. The extent to which fiscal incentives are effective depend ultimately on benefits outweighing administrative costs. However as Mr Brnjac, (2016), notes “the red tape involved in accessing any rebate incentive is simply not worth the trouble the process is overly tedious firms are disincentivized to make use of fiscal incentives”.

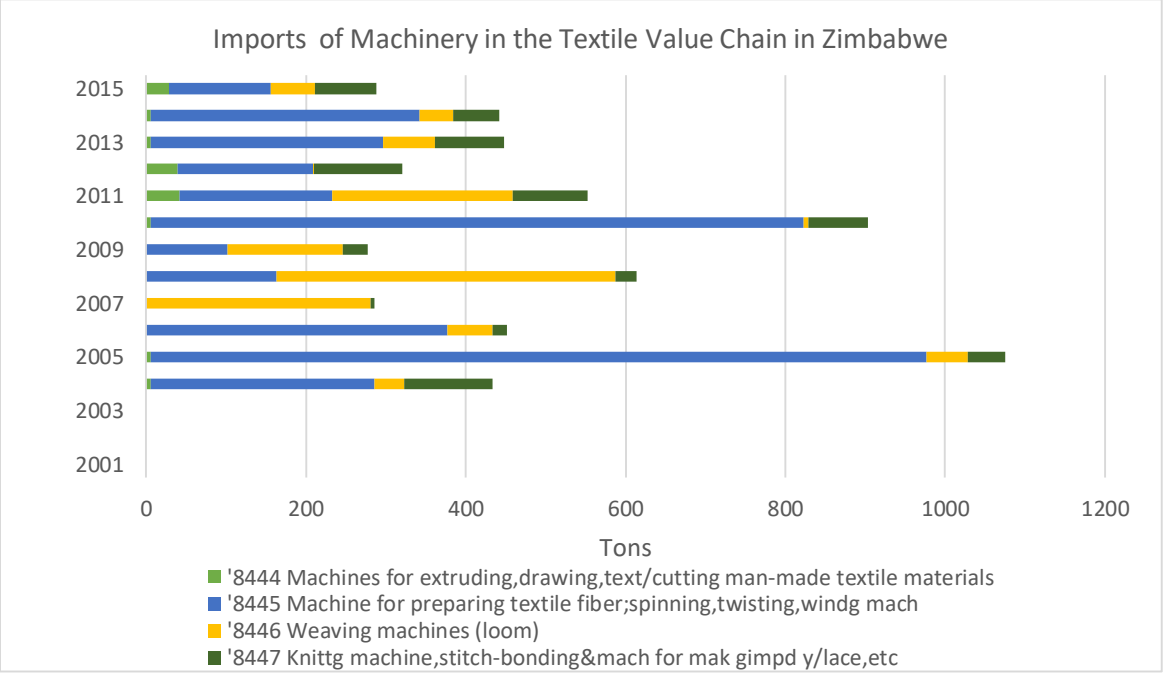
6.5 Spinning

In spinning lint is manufactured into yarn or wool. Upgrading or value addition to this regard involves consistency in quality, colour, finess and strength. Process upgrading in this regard resonates to combing yarn, multiple combing produces finer higher quality than single combing. Competiveness in spinning rests on procuring quality, cheap, cotton, as raw materials make up 60% of production cost. It also involves process upgrading in using newer

technologies. Product upgrading that is high quality yarns fetch higher prices in the market. For example, a 25 tex combed and waxed yarn sells at US $ 4, 85 compared to just 25 tex carded which fetches US $ 3, 20 in the local market. Local spinners manufacture yarns which are mainly medium to coarse combed and not combed for local consumption. The process used is mainly single combing. This illustrates spinners manufacture lower end yarn products and do not capitalise on multiple cotton processes considering the type of lint they procure is already a good quality. Although this research does not go into garment making, it was shown in chapter four that garments manufactures imported fabric made from finer yarns because the local industry was not producing it. This could provide a gap for upgrading for spinners. Of the yarns exported we saw that it comprised mainly of uncombed and single combed yarn illustrating the country exports less value added goods and providing opportunities for other countries to upgrade.

I observed that industrial conditions - capacity underutilization which is about 10 000tonnes/year of the 39 000 tonnes capacity prevented spinners from producing a wider range of goods in the case all types of yarns. Remembering the complaints by local firms of cheap imports, local demand may also be low due to that. Unlike the ginning industry literature review notes machinery in the spinning industry is till up to date and that no massive re-tooling is required. I can agree with Zeparu, (2014) as imports of machinery in the textile industry illustrate over the year's machinery for spinning has been mostly imported. However, it may that imported machinery is not the latest and most efficient technology.

Figure 19: Imports of Textile Machinery



Source: Authors own compilation (Trademap, 2016)

As is seen throughout the chain, expansive and erratic supplies of utilities such as water and electricity constrain productivity. Drawing from chapter four, financing raw materials hinders firms from stocking lint as ginners require cash before delivery.

Spinners may not necessarily require recapitalisation for machinery, however investments in new efficient machinery would pave the way for competitiveness. Like the ginning industry, spinners exporting yarns and threads can make use of export and incentives.

However, this would be to a limited extent as only a few goods are being exported. Import incentives for machinery maybe of more use. In 2015 and 2016 the government introduced statutory instrument 151 of 2015 and 64 of 2016, these instruments restrict importation of certain goods on the Open General Import Licence. Some of these goods include yarns (of different colors,) and threads (sewing threads, threads of artificial filaments, twill, and polyester staple). The restrictions are meant to stimulate local demand of goods from spinners who can produce these products. Import restrictions for proponents of state led growth or infant industry protectionist's Fredrick List, would argue this would give industry a chance to grow, however necessary supportive policies such as infrastructure and utilities would need to be in place. For critiques of import restrictions, the argument would be it distorts the market and allows for rent seeking activities.

6.6 Weaving and knitting

Weaving and knitting manufactures yarn into fabrics. Value addition and upgrading in this regard includes product upgrading of knitting yarn to greige fabrics (lower value), white (bleached) fabrics to single colour (dyed), printed (multiple colours and designs) or printed and dyed fabrics. Whilst in weaving which is more intensive but producer finer fabrics results in grey fabrics which can be dyed and printed. The weaving and knitting industry in Zimbabwe has not been able to adequately supply the apparel and garments industry a variety of fabrics. Currently as illustrated earlier, the industry is able to make simple greige, bleached and dyed fabrics but a small variety of multiple colours and printed fabrics. No jean material is manufactured although it used to be. I conclude that if imports mainly Hs 5208; 5209 comprise of denim fabrics of cotton; twill weave cotton fabrics dyed; woven fabrics of cotton, dyed, nes; woven fabrics of cotton printed the industry has not been capable of product upgrading. In analysing the exports, out of the five exported product categories at four-digit level, Hs 5208; 5209; 5210; 5211; 5212, Zimbabwe exports more of Hs 5209 -woven cotton fabrics, 85% or more cotton, weight over 200 g/m2 and Hs 5208 - woven cotton fabrics, 85% or more cotton, weight less than 200 g/m2. Narrowing this to 6 digit levels for both codes it can be concluded that firm's export less value added goods. That is mainly twill weave cotton fabric unbleached; twill weave cotton fabrics dyed; woven fabrics of cotton unbleached and plain weave cotton fabric bleached.

For the reason that weavers and knitters are operating way below capacity with obsolete machinery they can only stick to producing certain type of fabrics. Like the dilemma of spinners without adequate capital stock to stock all varieties of yarns firms stick to manufacturing basic fabrics. What also limits manufacture of quality and variety fabric is the reliance on the medium to course yarn supplied by spinners. Though spinners could supply finer yarns price and demand for finer fabrics would need to outweigh production costs. In addition, raw materials such as dye incur a general import tariff of 5% and 15% vat which increases production costs. Tariffs on raw materials such as dyes are in stark contrast to the duty free import incentives. In one of the interviews Mr Worsfold, (2016) traversed that "I am not aware of any Zimra rebates, they make us pay duty and vat on our chemicals, dyes, and spare parts as far as I am aware".

Extra costs of demineralizing water, high electricity costs, labour costs and old technology has crippled fabric manufacturing. Other external constraints over the years have been the cheap imports of fabric making the industry uncompetitive.

As with spinners and ginners, weavers and knitters can make use of import and export incentives. Until spinners can supply all yarn varieties, currently for firms to import they must be officially listed in the Statutory instrument 151 of 2015 so they can get rebate on yarns (of different colors) and threads (sewing threads, threads of artificial filaments, twill, polyester staple). Statutory 64 of 2016, restricting importation of certain goods the Open General Import Licence also covers woven fabrics of cotton (contain 85% or more by weight of cotton under HS codes 5208 and 5209. Woven fabrics of cotton contacting less than 85% by weight of cotton under HS code 5210 and 5211. As in spinning the restrictions may boost domestic demand however this depends on weavers and knitters making available goods demanded by garment manufacturers. The restriction also has positive implications in terms of restricting cheap substandard textile products. According to Mr Brnjac

> *'they destroy the quality chain with substandard products / cheap prices and fuel buyer corruption in most companies, duty free Imports of gloves via SADC & COMESA which actually originate from China or of sub-standard quality are killing our business and will cause us to shut down if price fairness is not created using the correct import duty rates, products are sold cheap and their quality is very poor which in turn creates a consumptive market for China to profit from as the gloves wear our very fast". (Mr Brnjac)*

Horizontal policies electricity, water, labour, quality assurance and transport

Other main factors that have emerged as impediments in the value chain and compromise competitiveness and value-addition are issues of erratic electricity supplies, high cost of water and electricity, high labour and transport costs and unreliable transport systems such as railways.

In order for any industry to function efficient plus cheap or reasonable utilities must accompany other supportive sectoral policies. Firstly, production costs in upstream and downstream industries in the cotton value chain attribute high electricity costs and erratic supplies as constraints. As shown earlier firms in Zimbabwe pay double to treble the amount of electricity continuously squeezing the profit margins of firms. In addition, erratic supply and low voltage often without prior notification damages control systems or results in recalibration of machinery which affects smooth operations. Particularly for weavers and spinners in the dyeing process once power cuts occur they affect a cycle resulting in rejects of fabric. The cost of switching to generators is not worthwhile and expansive. To this regard the ZIMASSET,

identified in its key drivers for projected growth targets a focus on power generation for economic productivity through rehabilitation of power plants and generation of more power. The policy however did not explicitly state subsidizing industries. In relation to water the ZIMASSET also prioritized improved water supply and tariffs. To this effect, water tariffs have been cut for raw water for industrial use and irrigation although water cuts are currently inevitable judging by prevailing macroeconomic conditions. As with other ministries it can be inferred that budget cuts may impair policy implementation.

Upgrading and value addition in textiles is also influenced by efficient cheap transport systems for delivery and procurement of materials. As illustrated by the CZI (2016) report, rail freight is 40% cheaper relative to road transport but poor maintenance and unpredictable delivery times restricts its use entirely. High transport costs are highlighted by Mr Brnjac who notes 'railways = poor service, trucking = expensive but efficient', and Mr Chihuri also notes "with Zimbabwe being landlocked moving lint via railway would be easy but the infrastructure no longer functions and henceforth firms are forced to use road transport which becomes more expansive". Transport rehabilitation in chapter 5 of the ZIMASSET, identified transport rehabilitation has a priority with improved railways as an objective. Budget allocations of 2016 remain the same as those of 2015 at US $ 3 million in addition to statutory funds of 10 million dollars. Until substantial improvements are made, firms across the country will continue to make use of road transport. Injurious to industry however is the upcoming act to ban the use of haulage trucks so bulky goods are transported via railway. Until railway transport is well functioning usage haulage will probably incur fines or require permits, squeezing firm production costs. There exists, no fuel subsidies for industry at the moment for road use and so firms incur full costs.

Labour issues have grappled industries across the nation. Generally, Zimbabwe has higher minimum wages within the region as reported by CZI (2016). High labour costs which naturally increase production costs have caused firms in the textile value chain to retrench whilst other companies simply closed. Interview findings from Mr Brnjac note "As we compete regionally, our labour costs should be similar to our competitors in Southern Africa, but instead we have higher wages costs with further expenses like National Employment Council (NEC), National Social Security Authority (Nssa) etc". It can be inferred that for some companies besides high labour costs, extra expenses costs from government worsens the situation. Mr Worsfold, (2016) conversed that "labour costs are high and as we speak are in the middle of a dispute, but government does nothing to help".

In the downstream sector of ginning, spinning, weaving and knitting, I conclude that policies of recapitalization until implemented will address issues of re-tooling for efficient production, but will not necessarily induce more local demand. The only other policies currently available, fiscal incentives employed through trade policies are inefficient to induce value addition per se and only effective in as much as costs of accessing benefits outweighs the administration involved in utilizing them. It also applies that market forces such as high interest's rates employed by banks, loan deferments by contractors and cheap imports of textiles negatively influences development of the chain. In addition, although policy has recently employed import restrictions of textiles, it does not fully address issues of illegal imports that are mislabelled or do not qualify for the SADC double transformation. As in the upstream sector of the value chain, if impediments to industry of low cost water and electricity, its supply, good and efficient transports systems such as rail and low labour costs are not addressed, sectoral policies become inefficient. Therefor I conclude that no single policy can been sufficient to trigger the cotton to textile value chain development, in addition a multitude of policies may also not be sufficient if they are not developed jointly or if their joint impact is not considered.

6.7 Impact of the cotton to textile industry and industrialisation

Drawing from the Heckscher – Ohlin model, proponents of comparative advantage would advocate that Zimbabwe should stick to exporting raw cotton and import textiles and apparel. Whilst this was probably acceptable in short term allocative efficiency before the textile industry was established it is not acceptable in long term adjustments and development trajectories of developing countries. For starters production and export of primary processed agricultural goods fetches lower returns that are subject to price volatility and do not induce or stimulate local manufacturing capable of creating employment, skilling labour, generating income and contributing to the general welfare of the country. Even if the country relied on imports of these goods, it would increase the import wage bill and imbalances in balance of payments.

Drawing from Tregenna (2009), deindustrialization is defined in as a sustained decline in both share of manufacturing in total employment and share of manufacturing in GDP. Structuralist such as Kaldorian perspectives argue that manufacturing has special properties as an engine for industrial development. In this thinking (Tregenna, 2011) asserts dynamic economies of scale in manufacturing; strong backward and forward linkages between manufacturing and other sectors of the domestic economy; strong properties of learning-by-doing; innovation and

technological progress; and the importance of manufacturing for the balance of payments are strongly associated with characteristics of the manufacturing sector. Therefor for the cotton to textile value chain and beyond value addition and upgrading contributes to manufacturing which contributes to industrialisation. Ideally a fully functioning textile sector would induce increased demand for other components of the economy such as chemicals, services, packaging, and retail, manufacture of yarn, lint, buttons, hangers, and ultimately agriculture.

Drawing from the local economics' trends, it can be illustrated that deindustrialisation is in fact taking place in Zimbabwe. This is because the different components that make up manufacturing such textiles, clothing and footwear etc have exhibit low volume manufacturing indexes (VMI) therefor lowering the volume of manufacturing overall. Since this research is interested in textiles data illustrates that VMI (using a weight of 28) was 107,4 in 2011, peaked to 117,5 in 2012, dropped by nearly half to 86,1 in 2013, dropped again to 80,1 in 2014 and stood at 70 in 2015. Employment also tumbled down from 6800 in 2009 to 3072 in 2014. It can be seen that as output decreased so did employment, proving that structuralist theories by Tregenna (2008, 2011), Blankenburg, Palma, and Tregenna (2008) and Kaldorian perspectives provide economic logic and rigour. A note of importance is that other sectors in the manufacturing industry such as clothing and footwear, chemicals and petroleum, transport equipment and metal products have been on the decline as well. Kaldor's (1969) third law speaks of the industry-agriculture nexus, which explains that there is a connection between agriculture and manufacturing, it notes this connection doesn't only occur because it creates extra wage goods for growing urban populations, but because it creates and induces conditions for demand in the manufacturing sector. We can make an assumption that destruction of one or the other may induce de-industrialization.

Chapter 7 Conclusion

7.0 Introduction

In conclusion, the context of this research lay in the objective of the Zimbabwean government's gradual initiatives since 2009 to arrest deindustrialisation, and embody reindustrialisation as the essence for development and structural transformation from production of primary goods to manufacturing of value added goods for the domestic and export market. One of the economic sectors in through which this is envisioned is value-addition of agricultural commodities such as cotton through supporting downstream industries in textiles and clothing. This is traced through its policies since the dollarization of the economy in 2009. For example, in the in The Short Term Emergency Recovery Programme (STERP) of 2009 textiles and ginning was identified under strategically targeted industries, in the Industrial Development Policy 2012 -2016, which reports that "whilst in Zimbabwe it might appear that the industrial value chain is complete; in sectors such as cotton, iron and steel and sugar, the level of transformation beyond primary processing still needs to be enhanced" [and so] "the Government has identified four (4) priority sectors as the pillars and engine for this IDP 2012–2016, namely Agri-business (Food and beverages, Clothing and Textiles, Leather & Footwear and Wood and Furniture)…."(Ministry of Industry and Commerce, 2012).

Against this background, the broader problem this research sought to address was how the government through its objectives had sort to address de-industrialisation through supporting value addition and upgrading. The research focused on the evolution of cotton to textiles value chain and investigated how much value-addition was employed to cotton products locally and for exports; what market conditions, forces and industry initiatives/strategies influenced the attempts to increase value added, and how successful or not have these been; what policies both broader industrial and macroeconomic and sector-specific policies were in place or have been implemented to support the growth of cotton to textiles value added or shifting into higher value added production and what the impact of the cotton to textile industry has been towards industrial development.

7.1 Implications for theoretical frameworks

The theoretical frameworks underlying the research had three components: firstly, the theory of comparative advantage supported by proponents of the Heckscher – Ohlin model does not necessarily support long term adjustments of development trajectories of developing countries, in the case of Zimbabwe, which wants to address de-industrialisation or industrialisation. This is because continued exports of raw materials are subject to price vitality whilst imports of

finished goods would only serve to increase the import wage bill and deter linkages with other sectors. Thus second, the research was mainly imbedded in structuralist economic theory that argued that manufacturing has special properties since it is an engine for industrial development and that it unleashes strong backward and forward linkages between manufacturing and other sectors of the domestic economy, it has strong properties of learning-by-doing; innovation and technological progress; and the importance of manufacturing for the balance of payments are strongly associated with characteristics of the manufacturing sector. The research was also embedded in the Kaldorian industry-agriculture nexus, which explains that there is a connection between agriculture and manufacturing, it notes this connection does not only occur because agriculture creates extra wage goods for growing urban populations, but because it creates and induces conditions for demand in the manufacturing sector, promoting upstream industries. Both theoretical frameworks I believe are able to provide an understanding and explain the objectives of the government. Third, and most critical to the research was that in state led industrial development structural transformation does not just emerge; it needs to be actively constructed and advanced and remade through conscious effort, positive stimulus and policy by the state.

The starting point for this research was that with clear cut objectives by government, industrial policy initiatives and instruments should be sufficient or warrant value addition and upgrading in the cotton to textile value chain to contribute to the volume of manufacturing index and overall industrial development.

The research – which is basically a case study- employed qualitative and quantitative approaches to data analysis and collected data through secondary research and interviews. In analysing the cotton to textile industry nexus, the research used a global value chain (GVC) approach as developed by Gereffi and Fernandez-Stark (2011) and value chain analysis by Morris and Kaplinsky (2001) as both approaches provided the research with an analytical framework to analyse processes within a country and sector context including connections and linkages. The value chain approach helped to understand links where no direct equity relations exists, for example, the influence of governance structures in a local context. By investigating linkages and processes the research was able we are able to draw out first and foremost the level of value addition and upgrading taking palace and constraints at each stage of the chain. The evidence gathered here was then used to assess how policy had supported the objective of value addition and upgrading.

The gaps in the study lay in obtaining specific firm level data such as company capacity utilizations from secondary sources and through interviews. However, aggregate reliable proxies were gathered. The limitations for this research were that it is generally very difficult to obtain data on Zimbabwe as one finds for example that company websites do not work, are not available, contact details have long been changed, government web pages are not updated nor do they contain some of the necessary information for example budget allocations older than 2015 cannot be traced easily. In addition, during the first set of interviews Zimbabwe had its presidential elections and getting firms or government to interviews was difficult and in the second set for the research corrections the country was faced with an unexpected turmoil this June and July majorly economic protests and unrest. Even with questionnaires sent via email, the response rate was low whilst other firms noted they did not wish to assist. Although responses from more firms would have been good to try and corroborate what products are really still being produced locally, trade data provided an acceptable proxy of what was being manufactured and exported.

7.2 Hypothesis 1

There has been very limited value added development in Zimbabwean cotton production during the period of 2009 to 2016

I do not reject the first hypothesis that there has been limited value addition in the Zimbabwean cotton to textile chain during the period of 2009 to 2016. The main findings of the hypothesis stated above illustrated that my research originally contributes to the existing literature on the cotton to textile value chain, by providing a deeper understanding of the chain through the lens of the global value chain (GVC) approach developed by Gereffi and Fernandez-Stark (2011) and value chain analysis by Morris and Kaplinsky (2001). I specifically applied their frameworks to a local context to understand connections and linkages and more so where no direct equity exists. I originally addressed gaps of understanding what is meant by value-addition in each stage of the chain by drawing out specific typologies, for example product or process upgrading. More so, and not found in any prior research, I used the Prebisch- Singer hypothesis to dig deeper at the 4^{th} and 6^{th} World Harmonized System trade codes to investigate the components of exported goods and assess how much value addition was employed in exported goods of the cotton trading code HS 52. I also updated trade data from prior research and managed to add the element of imports of textile machinery to ascertain whether machinery to upgrade or new firms were being set up.

Thus forth in research and development, there has been product upgrading and value-addition employed by the Cotton Research Institute (CRI). The CRI has intellectual property rights (IP) (among others) on high quality, high yielding cultivars, the LS9219 2001 a long staple variety and the most common used CRI MS 1 and CRI MS 2 which are medium staples, and give Zimbabwe cotton a good reputation and competitive edge in the region. The varieties have potential yields of 1500 to 4200 kg/ha. However, in recent years the institution has not been able to sustain itself and relies on non-core activities such as selling agricultural commodities. Although financing research and improving high yielding seed varieties is identified as priority in the Agriculture Investment Plan and the Comprehensive Agricultural Policy Framework 2012 – 2032 (CAPF), government has not been able to finance the institution due to budget constraints.

Upstream industry

Second, the research found that 250 000 – 300 000 small scale farmers (90% of whom are contracted), producing 99% of the crop, have had low yields which averaged between 400 and 700 kg/ha despite using the high yielding cultivars (product upgrading) and therefor resulting in low overall production declines. Value addition in this case process upgrading (practising good agronomic practise and use of inputs such as fertilizer), has been hampered by constraints that emanated from a decline in agricultural finance that went down from US $ 42 million in 2012 to US $14, 6 million in 2015; poor agronomic practices, and the draught.

Downstream industry

Third, the ginning industry currently operates at 30% from the 600 000 installed capacity, it employs very little product upgrading. Government policy allows 70% of cotton lint to be exported and 30% retained for local industry but 80 to 90% of lint is exported. Exported lint which is largely cotton uncombed and un-carded makes up the bulk of all cotton exports even when further downstream exports are included, clothing, home textiles etc. It is the only code with a positive trade balance. Poor performance is largely attributed to inadequate supply of cotton, recovery of working capital as loan repayment from contracted farmers is low and absolute machinery. However, there is evidence of functional upgrading by ginners who have employed financial

Fourth, spinners also offer very little product upgrading or value addition. Spinners manufacture medium to coarse yarns and export uncombed and single combed yarn. Though trade data illustrates more exports than imports when compared to other HS codes,

manufactured products lack upgrading to finer multiple combed yarns. Some of the constraints capital stock to finance raw materials as ginners require cash before delivery.

Fifth in weaving and knitting (fabric manufacturing), very little upgrading also takes place. Capacity utilization stand at barely 10%. Industry produces simple greige, bleached and dyed fabrics and a small variety of multiple coloured and printed fabrics whilst no jean material is manufactured (and comprises the most imported). Exports comprise mainly of unbleached and plain fabrics again of little value add. Constraints emanate from obsolete machinery and imports of cheap fabric and apparel that kill local demand.

Across the whole value chain and mostly in the downstream industries erratic and costly supply of utilities in addition to expansive labour and current liquidity constraints remain a sever threat to industry survival and competitiveness.

7.3 Hypothesis 2

The sector and broader industrial policy environment and developments have a very limited impact on increasing value added and upgrading.

I do not reject the hypothesis above. The main findings of the hypothesis stated above illustrated that my research originally contributed in policy analysis of the cotton to textile value chain by trying to match policy objectives in the Short Term Emergency Recovery Programme (STERP 1 +2) of 2009, 2010 – 2014, the Medium Term Plan (MTP) of 2011 - 2015, the Industrial Development Policy (IDP) of 2012 to 2016 and the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zimasset) of (2014 – 2018) with actual policy instruments such as support programmes, fiscal incentives, trade incentives or restriction etc. employed towards the cotton to textile value chain.

First the research found out that in research and development objectives to enhance discovery and improvement of new cultivars across all agricultural crops is well articulated in policy documents. However, the government lacks the necessary finance and so other industry initiatives such as selling agricultural equipment and obtaining royalties from cotton breeders allows the Cotton Research Institute to function although minimally.

Second the objectives stated in agricultural and industrial policies are robust and sufficient to warrant value addition and upgrading in production of cotton. It was found that through Agricultural Marketing Authority Act that obliges ginners and merchants to contract farmers in order to buy cotton at the end of the season, fills the gap that government is aware it cannot fulfil. By no means is the contract farming scheme perfect but it has allowed access to finance

in otherwise an environment where agricultural finance is difficult to obtain. It was also found several policies to roll out more extension officers and address draught through irrigation are being implemented at a slow pace due to liquidity constraints and a tight fiscal budget.

Third in the downstream sector of ginning, spinning, weaving and knitting, it was found that policies of recapitalization until implemented will address issues of re-tooling for efficient production, but will not necessarily induce more local demand. The only other policy instruments currently available, fiscal incentives (rebates and tax incentives) employed through trade policies are inefficient to induce value addition per se as costs of accessing benefits outweighs the administration involved in utilizing them as interview findings show the red tape involved in accessing any rebate incentive is simply dis -incentivizes firms to make use them. However, the new trade restriction of textiles into the country may induce capacity utilization and local demand but this hinges on overall production costs being reduced.

The research found that market forces such as high interest's rates employed by banks, loan deferments by contractors and cheap imports of textiles negatively influences development of the chain. In addition, the research found no policy to fully addresses issues of illegal imports that are mislabelled or do not qualify for the SADC double transformation.

Overall the research found across the entire chain if impediments to low production costs, that is high water and electricity costs, erratic supplies of the aforementioned utilities, high transport costs as rail systems no longer function and high labour costs are not addressed concurrently, sector specific policies become inefficient. Therefor I conclude that no single policy can been sufficient to trigger the cotton to textile value chain development, in addition a multitude of policies may also not be sufficient if they are not developed jointly or if their joint impact is not considered

7.4 Hypothesis 3

The limited contribution of the cotton to textile value chain towards manufacturing does not lead to re-industrialisation.

I do not reject the hypothesis above. The main findings of the hypothesis stated above illustrated that my research extended existing literature to cover the period of 2009 to 2016. The research found that employment and the volume of manufacturing index in textiles and ginning has been declining significantly and thus drawing from structuralist perspectives, as output decreases, employment decreases and de- industrialisation takes place.

Room for future research questions should one wish to carry on with this research would be to further investigate how the ginning industry could lower the price of lint and possibly induce demand from downstream industry. Room for further research would comprise fleshing out how increased demand could be induced as well as state procurement to possibly induce capacity utilization.

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