

**Understanding the Importance of Firm  
Heterogeneity in a Liberalised Trade Environment:  
A Case Study of South African Footwear  
Manufacturers**

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## **Abstract**

Traditional trade theories, such as the Ricardian and Heckscher-Ohlin models, posit that comparative advantage determines a country's industrial structure in a liberalized trade environment. However, developments in contemporary trade theory challenge the central tenants of this approach. Ricardian and Heckscher-Ohlin models assume that industries are comprised of homogeneous firms that can be modeled using a representative firm. Under this conception, industrial evolution is driven by comparative advantages. However, empirical evidence of post-liberalisation industrial change indicates that industrial performance is significantly more variable than predicted by traditional models. Even within industries, firms exhibit markedly divergent performance. The new trade theory of heterogeneous firms thus argues that there are fundamental differences between firms, even within narrowly defined industries, and these differences drive a post-liberalisation churning process that results in the reallocation of capital and labour within an industry.

This study takes an innovative approach. Instead of comparing productivity across a large sample of firms in different industries, it uses a case study to examine, in depth, the differences between firms within a particular industry. The industry selected for the study is the South African footwear manufacturing sector. The study employs qualitative research techniques to interrogate the applicability of the new trade theory of heterogeneous firms and, importantly, to investigate the scope for constructive development policy.

It finds that there are marked differences between firms in the South African footwear manufacturing sector, and provides evidence that these differences matter. Additionally, it finds evidence of intra-industry reallocations in the period following trade liberalisation. These findings are significant in that they emphasise that in a liberalised trade environment, individual firms possess agency that allows them to develop a competitive advantage that may run contrary to the comparative advantage of the country in which they operate. These findings are helpful in developing a more accurate understanding of trade liberalisation dynamics, and they support the argument for industrial policy support in strategic industries.

## **Declaration**

The research described in this study was carried out in KwaZulu-Natal and the Western Cape from January 2012 to March 2012, under the supervision of Professor Imraan Valodia.

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. It is being submitted for the degree of Masters of Development Studies, in the Faculty of Humanities, Development and Social Science, University of KwaZulu-Natal, Durban, South Africa. None of the present work has been submitted previously for any degree or examination in any other University.

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Student signature

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Date

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## Acronyms and Abbreviations

ANC	African National Congress
BMA	Benchmarking and Manufacturing Analysts
CAD	Computer Aided Design
CI	Continuous Improvement
CMT	Cut, Make, Trim
CSP	Customised Sector Programme
CTCIP	Clothing and Textiles Productivity Improvement Programme
CTCP	Clothing and Textile Competitiveness Programme
DTI	Department of Trade and Industry
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution
GMROI	Gross Margin Return on Investment
GVC	Global Value Chain
IDC	Industrial Development Corporation
IPAP	Industrial Policy Action Plan
ISI	Import Substitution Industrialisation
JIT	Just In Time
NBCLISA	National Bargaining Council of the Leather Industry of South Africa
NGP	New Growth Path
OECD	Organisation for Economic Co-Operation and Development
PIP	Production Incentive Programme
PVC	Polyvinyl Chloride
SADC	South African Development Community
SAFLIA	South African Footwear and Leather Industries Association
SETA	Sector Education and Training Authority
SMME	Small, Medium and Micro Enterprises
TFP	Total Factor Productivity
TQM	Total Quality Management
WCM	World Class Manufacturing
WTO	World Trade Organisation

## Chapter 1: Introduction

The dynamics of trade liberalisation concern economists and social scientists for myriad reasons. One of the main areas of interest is the interaction between trade liberalisation and industrial performance. Through the lens of the new trade theory of heterogeneous firms, this thesis interrogates the industrial sector's response to liberalisation in South Africa by examining the case of footwear manufacturing in South Africa. It finds that there is significant heterogeneity among firms in the footwear sector, and that the ways in which these firms are different matters.

Traditional trade theories, such as the Ricardian and Heckscher-Ohlin model, posit that comparative advantage determines a country's industrial structure in a liberalised trade environment. According to the Ricardian theory of comparative advantage, relative factor prices are paramount and drive post-liberalisation industrial change. Under this conception of trade, industrial policy is developed at the level of the industry and focuses on increasing the competitiveness of sectors and industries in their entirety. However, developments in contemporary trade theory challenge the central tenants of this approach. Ricardian and Heckscher-Ohlin models of trade assume industries comprised of homogeneous firms that can thus be modelled using a representative firm. Under this conception, industrial evolution is driven by differences between countries with different relative factor prices. However, empirical evidence of post-liberalisation industrial change indicates that industrial performance is significantly more variable than is predicted by the Ricardian and Heckscher-Ohlin model. Even within industries, firms exhibit markedly divergent performance. Indeed, there is evidence that trade performance is often contrary to a particular comparative advantage. The new trade theory of heterogeneous firms thus argues that there are fundamental differences between firms, even within narrowly-defined industries, and these differences drive a post-liberalisation churning process that results in a reallocation of resources and market share from less competitive firms to those that are more competitive, even within a particular industry and in a particular country.

The preponderance of the empirical work in the new trade theory is based on firm surveys that compare various types of productivity at the firm level. These studies find that there are marked differences in productivity between firms *within* an industry, and that these

differences are often causally linked to firm performance. The more productive firms increase their market share, and often export, whilst low productivity is a marker that a firm will cease to produce. This causes a churning process whereby resources are reallocated from less to more productive firms. This is in contrast to comparative advantage trade theory which conceives of this churning process at an industry, or even national, level where resources are reallocated between countries in accordance with comparative advantage.

This study takes an innovative approach. Instead of comparing productivity across a large sample of firms in different industries, it uses a case study to examine, in depth, the differences between firms within a particular industry. It employs qualitative research techniques to interrogate the applicability of the new trade theory of heterogeneous firms and, importantly, to investigate the scope for constructive development policy. In this regard, the KwaZulu-Natal footwear manufacturing sector was identified as a subject of manageable size and one where there was evidence of significant post-liberalisation change. The study finds that there are indeed significant differences between firms within the industry, and that there is some evidence that the way in which firms are different matters and has a material impact on their performance in a liberalized trade environment.

The remainder of this thesis is organized thus. Chapter Two outlines the methodology of the study and related considerations. It defends the use of the mixed-methods approach, outlines the sampling procedure and the data collection methodology and provides a brief overview of the participants.

Chapter Three details the evolution of trade theory from its Ricardian origins and examines the contribution of the new trade theory of heterogeneous firms in light of contemporary empirical evidence. It then links this literature to that relating to global value chains (GVCs), clustering and world class manufacturing (WCM).

Chapter Four contains the background to the study. It gives a brief account of the general trade and industrial landscape of South Africa. It then provides an introduction to the footwear industry in South Africa in general and KwaZulu-Natal in particular and examines the impact of trade liberalisation on the industry in the previous two decades.

Chapter Five presents the results of the investigation. The chapter is divided into three subsections. Section one examines the qualitative data captured from the participating firms

during the interview process. Section two discusses the key informant interviews, and section three provides the analysis and some policy recommendations. Chapter Six concludes.

## **Chapter 2: Methodology**

Three main sources form the foundation of this study. The first is aggregated industry data that are compiled and presented annually by the South African Footwear and Leather Industries Association (SAFLIA). Unless otherwise stated, data from SAFLIA are representative of the entire formal South African footwear industry and not only those firms that are members of SAFLIA itself.

The second source of information is a set of detailed, semi-structured interviews conducted at various footwear firms in KwaZulu-Natal and in Cape Town and with various key stakeholders in the industry. These interviews were conducted by the author. This data set is comprised of seventeen in-depth interviews conducted at fifteen footwear firms where the respondent was the General Manager, the Owner-Manager or the Financial Director of the company. These interviews ranged from 35 minutes to 125 minutes and covered a variety of questions pertaining both to the industry in general and the firm in particular. One firm interview was conducted electronically, resulting in a total sample size of sixteen firms. In addition to the firm representatives, five key informants with special insight into the industry were selected and interviewed.

The third source of information is comprised of quantitative data collected from a sub-sample of the selected firms. These data were collected in part to provide comparative information to the data collected from the SAFLIA reports, and more importantly, to triangulate the data collected in the semi-structured interviews. This section of the research process posed several challenges, however. The first is that some of the smaller firms interviewed did not keep suitable, accurate and complete records of the nominated variables, whilst other firms refused to disclose operating information, even where it was collected. (Firms also feared triangulation by readers of this paper, using the qualitative and quantitative information provided to identify particular firms).

### **Sampling**

The selection of firms for this study was consistent with purposive sampling methodology. In this regard, the firms in the sample were selected in order to provide data points across the range of production types, output and employment size, and value-chain integration. However, in the relatively small and highly competitive footwear industry there was marked reticence by firms to participate in the study, driven largely by the fear that their participation

would result in the publication of confidential information regarding their competitive advantages. As a result, the researcher approached SAFLIA in order to procure their assistance in selecting and contacting the footwear firms. SAFLIA was established in 1997 and represents 52 out of the 197 footwear manufacturing firms currently operating in South Africa. Among other duties, SAFLIA represents its members in dialogue with the government and the private sector and it is a registered national employers' organisation, and as such it is party to the National Bargaining Council of the Leather Industry of South Africa (NBCLISA). As a result, SAFLIA was in a position not only to aid in the selection of the sample of footwear firms, but importantly it was able to assist the researcher in securing interviews with the representatives at the various firms.

Sixteen firms were selected in consultation with SAFLIA, the aim of the selection being to identify a range of firms that covered the scope of footwear manufacturing in the sector. As a result, firms in the sample intentionally span a variety of production techniques, product ranges and sourcing and distribution models. The resulting sample included firms that ranged in output from 25 pairs per day to over 5000 pairs, and in employment from 3 employees to around 700 staff. The sample was focused on KwaZulu-Natal, with thirteen of firms based in the province. However, three firms operating in the Western Cape were selected, not only to increase the sample size, but more importantly to provide reference material for triangulation of the data collected from firms in KwaZulu-Natal.

In terms of firm selection, there is the unavoidable selection bias in that only "successful" firms are operating, while those which are uncompetitive exit the market. However, the data outlined above should provide sufficient detail to examine variation between existing firms. That is, the data gathered should provide an insight into which firms are in ascendance, which are in decline, as well as characteristics that are correlated with their performance.

In addition to the sample of firms, several key informants were identified as being critical actors in the footwear sector. In line with the value-chain aspects of the project, as outlined below, it was deemed necessary to interview key informants operating in both the retail and government sectors, as well as those with insight into labour issues relating to the industry. As a result, the following key actors were identified and interviewed. The first was Mr Paul Theron, the Executive Director of SAFLIA. The second was the General Secretary of the NBCLISA, Mr Gerald Naidoo. The third of these key informants was Ms Elaine Smith, Director: Clothing and Textiles at the Department of Trade and Industry. Mr Justin Barnes,

the Chairman of Benchmarking and Manufacturing Analysts (BMA) was the fourth key informant. Fifth, Mr Lovell Emslie, Fundelani Consultant to the Department of Trade and Industry on the footwear cluster was interviewed regarding his assistance in developing various clusters for the industry. Finally, a buyer from one of the leading large retail chains was selected and interviewed. This buyer asked for his name and company to remain anonymous.

## **Research Methods**

This study combines aspects of three main research methods: quantitative methods, qualitative methods, and the value chain approach. McCormick and Schmitz (2001) argue that “research must be driven by the questions you seek to answer, and not the method. Often the most effective way of answering your question is to use a combination of methods and sources.” (McCormick and Schmitz, 2001:34). Drawing from the above, a mixed-methods approach was selected for this study as it allowed for three important aspects of the footwear industry to be studied.

According to Burke Johnson and Onwueghuzie (2004) mixed methods research “offers great promise for practicing researchers who would like to see methodologists describe and develop techniques that are closer to what researchers actually use in practice” (Burke Johnson and Onwueghuzie, 2004:15). They formally define the approach as “the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts of language into a single study.” (Ibid.). Their justification for the use of mixed methods is worth quoting in full:

“Philosophically, it [mixed methods] is the “third wave” or third research movement, a movement that moves past the paradigm wars by offering a logical and practical alternative...its logic of enquiry includes the use of induction, deduction and abduction. Mixed methods research also is an attempt to legitimate the use of multiple approaches in answering research questions, rather than restricting or constraining researchers’ choices (i.e., it rejects dogmatism). It is an expansive and creative form of research, not a limiting form of research. It is inclusive, pluralistic, and complementary, and it suggests that researchers take an eclectic approach to method selection and the thinking about the conduct of research. What is most fundamental is the research question-research methods should follow research questions in a way that offers the best chance to obtain useful answers. Many research questions and

combinations of questions are best and most fully answered through mixed research solutions.” (Ibid.:17-18).

The first aspect of the research is an objective study of the quantitative data relating to the operational performance - of both the selected footwear firms in particular and the industry in general - over the recent past. Whilst this section is fairly brief in the context of the entire study, it provides the vital numerical context in which the study is located. As Newman et al (2003) argue, “the term quantitative refers to a research paradigm designed to address questions that hypothesise relationships among variables that are measured frequently in numerical and objective ways.” (Newman et al, 2003:170).

The second aspect of the study is an investigative exercise which seeks to explore, uncover and understand the various ways in which firms in the footwear industry have experienced, and more importantly, responded to the process of trade liberalisation over the past two decades. As a result, this purpose is best served through the use of qualitative research approach. As Newman et al (2003) argue, the qualitative approach provides the tools to interrogate complex phenomena in ways not provided by the quantitative approach. They note that the qualitative approach allows for “research intended to achieve understanding [and] is made up of studies that delve below the surface of the phenomena, that is, investigations that have the goal of interpreting the meaning of phenomena. In other words, rather than measuring the phenomena, the purpose of studies within this category is to understand the meaning of the phenomena.” (Newman et al, 2003:179). Furthermore, Burke Johnson and Onwueghuzie (2004) note that “the major characteristics of traditional qualitative research are induction, discovery, exploration, theory/hypothesis generation, the researcher as the primary “instrument” of data collections, and qualitative analysis” (Burke Johnson and Onwueghuzie, 2004:474). In this regard it is evident that the qualitative approach can contribute meaningfully to a study such as this.

Finally, the third significant aspect of this research aims to understand how the firms in question relate to each other and to other members of the value chains in which they operate. This type of research is best suited to the value-chain research paradigm, as espoused by McCormick and Schmitz (2001) and Kaplinsky and Morris (2000) in their respective handbooks for value-chain research. McCormick and Schmitz (2001) emphasise that value-chain analysis is about relationships between various members of the chain, and in this regard, the approach is well suited to the research aims of this paper. The value-chain

approach is relatively recent and thus the guidelines for its implementation are a work in progress. As Kaplinsky and Morris (2000) argue,

“the world of production and exchange which we are observing [in value-chain research] is complex and heterogeneous. Not only do value chains differ (both within and between sectors), but so, too, do national and local contexts. So there is no mechanistic way of applying value chain methodology. Each chain will have particular characteristic, whose distinctiveness and wider relevance can only be effectively captured and analysed though an understanding of the broader issues which are involved.” (Kaplinsky and Morris, 2000:49).

### **Data Collection**

As mentioned above, the data for the study were collected from three main sources. The first source is the SAFLIA database. While much of the information on the database is kept confidential, specifically firm-level data, SAFLIA publishes selected, aggregated reports on the footwear industry in its annual “Footstats” report. It is these reports that are the source for the industry data reported below.

Data from the 16 footwear firms was collected through semi-structured interviews based on the questionnaire reproduced below. The interviews were recorded and transcribed. Discussions with the five key informants were also based on semi-structured interviews, each of which was tailored to the role of the particular individual.

Thirdly, quantitative data were collected from a subset of the respondent firms. These data were recorded by the respondents on a data collection form, either during the interview, or the form was completed after the interview and returned to the researcher electronically.

The semi-structured interviews aimed to cover the breadth of firm activity, from production to labour relations and value-chain positioning and integration. Respondents were first asked to sketch the main items produced by their firm, as well as the firm’s distribution network, and whether or not the firm exports, and in the event that the firm did export, the proportion of sales that were exported. In addition, respondents were asked about the design capabilities of their firms, as well as ownership of, and manufacture under, brand names.

The questions then moved to identify the challenges faced by the firm since the advent of South Africa’s liberalised international trade regime, and to interrogate the firm’s responses

to these challenges. Respondents were then asked about any weaknesses they had identified in the industry in general and in their firms in particular.

Discussion then turned towards productivity levels in the factory, with respondents asked about productivity levels, technical and design capabilities and any interventions introduced by the firm to enhance productivity. This included discussion on the level of technology in the firm, as well as the provision of employee training.

The firm's perception of the role of the government was then interrogated with questions addressing the perception of general government policies aimed at the industry, and the Production Incentive programme administered by the Industrial Development Corporation - on behalf of the Department of Trade and Industry - in particular. Respondents were asked to suggest any additional government policies or support that they believed would be beneficial to their operations.

As mentioned above, an examination of the footwear value chain is an important aspect of the study. As such, respondents were asked several questions relating to value chain positioning and integration, such as whether or not they outsourced any of the production process, the proportion of sales to large retail chain stores, and whether the firm had expanded along the value chain into component manufacture or the ownership of its own retail outlets.

Finally, firms were asked to provide the future growth plan for their firm, and invited to provide any additional comments. The full questionnaire is attached as an appendix.

### **Data compilation and analysis**

The semi-structured interviews were transcribed and the resulting text was then organized thematically according to the structure of the questionnaire on which the interview was based. This process facilitated inter-firm comparison. Secondly, data on several key variables, such as whether or not a firm used outworkers or engaged in export activity, was entered into a summary table in order to provide a comparative summary of several important variables.

The quantitative data collected from the sub-set of respondents was tabulated, and where appropriate, indices were created in order to preserve the confidentiality of the respondents. Several key variables and indices were selected based on their descriptive power regarding the performance of the industry. An employment index was created, charting the relative change in employment levels across the respondent firms. Secondly, an output index was generated, displaying the relative changes in output across the respondent firms for the

period. Total annual sales values were used to chart sales performance across the period. In addition to these three performance indicators, several ratios were constructed. The first is the ratio of total sales to total footwear production. This variable gives a good indication of the quality of shoes a firm produces based on the ex-factory price. Secondly, a basic labour-unit productivity measure was generated from the ratio of footwear output to employment. This ratio captures various underlying characteristics such as labour productivity, capital intensity and the use of outsourced labour.

The analysis which follows in chapter 5 is thus based on a combination of the secondary quantitative data collected from SAFLIA, the primary quantitative data collected directly from respondent firms, and the qualitative data collected from the semi-structured interviews with firm representatives and key informants in the industry.

## Chapter 3: Literature Review

### Introduction

This thesis is concerned with the relationship between trade policy and industrial response. As such, it incorporates two distinct but related theoretical fields. The first refers to the effects that a country's international trade policy has on the structure, dynamics and trajectory of its domestic industries. This literature presents a new conception of how the gains from trade liberalisation are distributed. It argues that the correct level of focus for analysing the effects of trade liberalisation is at the firm level, rather than at the industry or country level as is consistent with more traditional trade theory based on Ricardian or Heckscher-Ohlin models. In particular, it argues that there is significant heterogeneity between firms, even within the same narrowly-defined industry, and that post-liberalisation success is determined to a far greater extent by intra-firm dynamics, organisation and alignment than by a country's broader endowment structure or relative factor prices.

The second theoretical field includes the literature on global value chain (GVC) dynamics, clustering and firm-level competitiveness. Critically, this literature provides the framework for understanding some of the most important ways in which firms differ from one another, and how these differences determine the firms' success or failure in a globalised market. This literature is concerned with the horizontal and vertical linkages between all entities in a given production process, as well with certain particulars of firm structure and organisation.

Before moving to a detailed examination of the heterogeneous-firm literature, it is important to first provide a brief exposition of the evolution of trade theory in order to place recent developments in their proper context. This is necessary in order to understand the important ways in which the trade theory of heterogeneous firms differs from the classical approach to trade dynamics.

### Trade Theory: A Brief History

One of the most important concepts informing much of the traditional theory on trade is that of comparative advantage, which forms the basis of David Ricardo's theory of comparative advantage and trade (Ray, 1998). Importantly, Ricardian theory draws a distinction between absolute and comparative advantage, as outlined below.

To use a generalised form of the example proposed by Ray (1998), the Ricardian model can be defined using a simplified, two-country world economy (country N and country S) in

which only two commodities are produced: A and B. Both countries are capable of producing both goods, and labour is the only factor of production. However, Country N requires O units of labour to produce each good A, and P units to produce each good B, where  $P > O$ . Country S requires Q units of labour to produce one unit of good A, and R units to produce one unit of B, where  $Q > R$  and  $R > P$ . Thus it is clear that country N has an absolute advantage in the production of both A and B. However, using the concept of comparative advantage, the Ricardian model can show how it is still beneficial for both countries to trade with each other under such circumstances.

Under conditions of autarky, in country N the relative price of good A to B is  $O/P$  and in country S it is  $Q/R$ . Because  $O/P < Q/R$ , it is clear that the price of good A relative to good B is lower in country N. Similarly,  $R/Q < P/O$  and so the price of good B relative to the price of A is cheaper in country S. If, then, these countries trade these goods on the international market, it can be shown that the market price settles between the two autarkic price ratios and as a direct result, country N produces only good A and country S only good B and trade between the countries is generated in these goods. This trade allows both countries to consume at points that lie outside of their autarkic domestic production frontiers and thus, under the Ricardian model, both countries are better off with international trade (Ray, 1998).

Such comparative advantages can be generated by various sources including different levels of technology, factor endowments, divergent consumer preferences and economies of scale. While in the example provided above, the comparative advantage is generated by differences in technological capabilities, even if two countries have identical levels of technology, differing levels of factor endowments will create a comparative advantage from which trade is beneficial. In this regard, Eli Heckscher and Bertil Ohlin augmented the Ricardian trade model to include factor endowments in what is known as the Heckscher-Ohlin model of trade (Ray, 1998).

Working from the two country model above, two additional assumptions are applied. Goods A and B are now the product of both labour and capital, and country N is relatively well endowed with capital, while country S has relatively more labour. Production of good A is relatively more capital-intensive, whilst good B is more labour intensive. The model shows that, controlling for technical capability, “a country will tend to export commodities that are intensive in factors that are possessed by that country in relative abundance” (Ray, 1998:635). Thus, in the model above, country N will export good A and country S will export

good B. The characteristics of country N are broadly similar to those of many developed countries, while country S is similar to developing countries. Thus the Heckscher-Ohlin model predicts substantial levels of trade between developing and developed countries.

The models above assume consistent consumer preferences between countries. However, there are many instances where this does not hold, especially where there are marked differences in income levels between countries (Ray, 1998). This has important implications for the Heckscher-Ohlin model, because, if countries prefer relatively more of a good in which they also have a comparative advantage, then this will lead to a reduction in international trade. One such example of this is from developing countries which often have a comparative advantage in the production of basic foodstuffs, but also a correspondingly higher relative demand for these same products. In addition, consumers exhibit a significant preference for variety even within narrowly-defined product ranges. Such preferences may lead to significant trade between countries with similar endowments resulting in levels of international trade larger than those predicted by the Heckscher-Ohlin model (Ray, 1998).

In addition, the presence of economies of scale in certain industries can also determine trade patterns and volumes in ways that are not immediately obvious under the Heckscher-Ohlin model. Firstly, in industries where there are large fixed costs in production “trade may be viewed here as a way to concentrate the production of industries in some countries to maximize the effect of increasing returns to scale” (Ray, 1998:640). The combined result of the presence of economies of scale and consumer preference for variety is summarised neatly by Ray:

“Imagine that each product class has several products in it, differentiated by characteristics and/or brand names. If each of these products is produced under conditions of increasing returns to scale, then, although it is true that both countries A and B produce products in class X, it will be profitable for them to produce *different* products within each class...note that under this interpretation, trade will continue even if both countries have the same capital-labour endowments, but there will be no Heckscher-Ohlin component.” (Ray, 1998:640-1).

Evidence of economies of scale and consumer preference for variety led to the creation of “new” models of trade by Paul Krugman (1980), Elhana Helpman (1981) and William Ethier (1982).

“In these models, a combination of economies of scale and consumer preference for variety lead otherwise identical firms to “specialise” in distinct horizontal varieties, spurring two-way or “intra-industry” trade between countries...in a seminal contribution, Helpman and Krugman (1985) integrates old and new trade theory by embedding horizontal differentiation and increasing returns to scale in a model featuring endowment-based comparative advantage”. (Bernard et al., 2007:108).

Krugman (1979) presents an economic model where trade is caused by the presence of economies of scale rather than by differences in factor endowments or levels of technology (Krugman, 1979:469). Whilst other authors had examined the effects of increasing returns to scale that are external to firms, under Krugman’s model, returns to scale are assumed to be internal to firms. This has important implications for the underlying assumptions of the model. Under external scale economies, markets retain the classical assumption of perfect competition, whilst under internal scale economies the market structure approaches that of Chamberlain monopolistic competition (Ibid.). This conception results in a simple model that predicts “trade in a large number of differentiated products [that] fits in well with the empirical literature on ‘intra-industry’ trade” (Ibid.,:470).

The model assumes an economy that has only one scarce factor of production: labour. Furthermore, the economy is assumed to be able to produce a wide variety of goods while it actually only produces  $n$  goods, where  $n$  is a large number but small relative to the number of potential goods the economy could produce. It is assumed that all citizens share a common utility function, where total utility  $U$  is the sum of the utility from the consumption of each good and  $v$  expresses an individual’s preference for variety, as discussed above.

Under this theoretical framework, trade can be generated by competitive advantage that results from a firm taking advantage of increasing returns to scale and operating at a high level of output that minimizes its average cost. In terms of the model above, in industries where there is a large fixed cost, the average cost per unit decreases as output increases, at least across a certain range.

The final component in this exposition of traditional trade theory concerns the distribution of gains to trade. At the national level, the Ricardian and Heckscher-Ohlin models predict that whenever a particular country has a comparative advantage in production, for any one of the reasons discussed above, it will be beneficial for that country to engage in international trade. Provided that this requirement is fulfilled, in theory every country is better off if it engages in

international trade. However, distribution between countries covers only one aspect, and thus it is important to analyse how the gains to trade are distributed sub-nationally.

According to the theory, since country N has a relative advantage in capital-intensive good A, it will produce only A and it will demand more capital and labour to do so. These factors will be released as production of good B is reduced. However, they will be released in the wrong ratio for the production of A. As a result, the supply of labour in the economy exceeds its demand, and the wage rate falls and there is a corresponding rise in the rental rates of capital. Thus, in this economy, the owners of capital benefit at the expense of labour. In country S, however, the reverse occurs, and the owners of capital are adversely affected as the wage rate rises. This is known as the Stolper and Samuelson theorem. Based on the HO model, this theorem explains the effect of trade liberalisation on the distribution among productive factors. The principal prediction of the theorem is that the relative returns to the abundant factor can be increased by engaging in international trade. Thus “developing countries which introduce programmes of trade liberalisation should experience a rise in the relative return to labour, since they are abundant in labour, and a narrowing of the distribution of income” (Arbache et al., 2004:75).

The above exposition has clearly highlighted how traditional theories of trade are concerned with endowments and dynamics at the national level. As Bernard et al. (2007) note:

“in discussing the origins and implications of international trade, economists usually emphasise [national] comparative advantage, increasing returns to scale, and consumer love of variety, but pay relatively little attention to the firms that actually drive trade flows...while old trade theory can explain why a country is a net importer in one set of industries and a net exporter in another set, it cannot explain why some firms export and other produce solely for the domestic market, or how the firm-level decision to export interacts with comparative advantage” (Bernard et al., 2007:105-110).

Indeed, the traditional trade theories often ignore the evidence that “a large share of international trade takes place between relatively similar trading partners, apparently within industries” (Bernard et al., 2007:106). Bernard et al. (2007) argue that recent empirical analyses of trade liberalisation at the firm level provide evidence that an additional source of welfare can be generated through trade in the form of aggregate productivity growth which is driven by the “contraction and exit of low productivity firms and the expansion and entry into

export markets of higher-productivity firms. This reallocation of resources from low-to high-productivity establishments raises average industry productivity”. (Bernard et al., 2007:112). Furthermore, as Tybout (2001) and Melitz (2003) argue,

“recent empirical research using longitudinal plant or firm-level data from several countries has overwhelmingly substantiated the existence of large and persistent productivity differences among establishments in the same narrowly defined industries. Other studies have highlighted the large levels of resource reallocations that occur across establishments in the same industry” (Melitz, 2003:1695).

The issues of increasing aggregate productivity induced by falling trade costs forms the foundation of three general equilibrium trade models, based on the assumption of heterogeneous firms. The models by Bernard et al. (2000), Melitz (2003) and Yeaple (2002) emphasize the marked productivity differences across firms operating in an imperfectly competitive industry consisting of horizontally differentiated varieties (Bernard et al., 2003). According to the models, “as trade costs fall, industry productivity rises due to a reallocation of activity across firms: lower trade costs cause low productivity non-exporting firms to exit and high productivity non-exporters to increase their sales through exports, thereby increasing their weight in aggregate industry productivity. An important feature of these models is that the increase in aggregate productivity is not a result of faster firm productivity growth from exporting” (Bernard et al., 2003:2). As the authors argue:

“Identifying a connection between declining trade costs, firm reallocation and aggregate industry productivity gains has important implication for the literature examining the effect of trade liberalisation on economic growth. This literature has been conducted almost exclusively with aggregate cross-country data using various measures of openness to proxy for changes in trade costs...by examining more direct measures of trade liberalisation, and linking them to responses of individual firms within industries, we provide direct evidence on the extent to which trade liberalisation may affect productivity and therefore GDP growth. Our results suggest that changes in openness over time matters for productivity growth but that all industries are not affected equally”. (Bernard et al, 2003:3).

As Redding (2010) highlights “there is substantial heterogeneity in productivity, size and other economic characteristics even within narrowly defined industries” (Redding, 2010:3). The author argues that none of these important features is well explained by the traditional

theories of international trade, as these theories are based on the assumption of a representative firm within an industry, an assumption, which with the aid of recent empirical data, is demonstrably false (Redding, 2010). He notes that with the Heckscher-Ohlin and other comparative-advantage-based models, the emphasis is placed on net trade flows across industries. In addition, the joint assumptions of perfect competition and constant returns to scale imply that firm size is indeterminate. Moving to variety-based models, such as the one proposed by Krugman (1980), firms specialise in distinct, horizontally-differentiated product varieties, and as such there is two-way trade within industries. The assumption of consumer preference for variety in this model implies that all firms are exporters. However, these predictions are at odds with empirical observations about post-trade liberalisation firm behaviour. These traditional theories emphasise reallocations across industries, whilst in fact “much of the observed reallocation in the aftermath of trade liberalisation is found to occur across firms within narrowly defined industries” (Redding, 2010:4-5).

What follows is a more detailed examination of three of the most important models in the heterogeneous firm literature. Melitz (2003) constructs a dynamic industry model which sees heterogeneous firms producing a horizontally differentiated good with a single factor. The model links Hopenhayn’s (1992) framework to monopolistic competition in a general equilibrium setting. The model also extends the representative firm intra-industry trade model as espoused by Krugman (1980) by allowing for variation in firm productivity. (Bernard et al, 2003, 2007). As a result, firms produce a unique horizontal variety for the domestic market if their productivity is above some threshold, and they select into exporting to a foreign market if their productivity is above some higher threshold. In equilibrium state, the declining variable trade costs result in greater profits for exporters. These exporting firms are also the most productive plants because of their increased access to external markets and lower per unit costs net of trade. The lure of higher export profits pulls higher productivity non-exporting firms from the competitive fringe into the mainstream market. This in turn raises the product threshold for entry into the market, and as a result, the least productive, non-exporting, firms are forced to shut down and exit the market. A further prediction that is consistent across markets is that declining trade costs invite more foreign product varieties into the market and this reduces the domestic sales of all firms.

Under Melitz’s (2003) conception, potential entrants to the market face uncertainty concerning their productivity in the industry. Firms can enter the industry by paying a fixed entry (sunk) cost, and on so doing, draw their productivity from a fixed distribution.

According to the model, the productivity of each firm remains fixed thereafter, but all firms face a constant exogenous probability of death. The existence of a non-trivial fixed entry cost, and fixed production costs, imply that firms drawing a productivity level that is below the zero-profit productivity cut-off would make negative profits were they to produce, and therefore they chose not to produce and to exit the industry (Tybout, 2001). In addition, the fixed and variable costs associated with exporting ensure that of the firms active in the industry at any time, only those whose productivity exceeds the export-productivity cut-off are able to export profitably in equilibrium (Bernard et al., 2007).

According to the model, the reduction in trade costs increase the profits that existing exporters can earn in foreign markets, and reduce the export productivity cut-off above which firms select into export activity. The expansion of existing exporters and the entrance of new exporters increases demand for labour and thus drives up factor prices, reducing the profitability of the non-exporting firms. This reduction may induce some marginal, low productivity non-exporters to exit and as a result, output and employment are reallocated towards the remaining, higher-productivity firms. This causes an aggregate rise in industry productivity (Bernard et al., 2007).

As Melitz (2003), Ghironi and Melitz (2005) and Redding (2010) argue, this model reproduces many of the most salient patterns that have emerged in recent micro-level studies related to trade. It shows how both the exit of the least productive firms and the additional export activity of more productive firms reallocates market share towards these more productive firms. Additionally, it predicts that there will be a steady-state entry and exit of firms, and an accompanying steady-state job creation and destruction (Redding, 2010; Dunne, Robert and Samuelsson, 1989; Davis, Haltiwanger and Schuh, 1996; Baldwin, Dunne and Haltiwanger, 1998; Roberts and Tybout, 1996). Furthermore, “the model is also consistent with the widely reported stories in the business press describing how the exposure to trade enhances the growth opportunities of some firms while simultaneously contributing to the downfall or “downsizing” of other firms in the same industry” (Melitz, 2003:1695-6).

From this model specification, six testable hypotheses emerge (Bernard et al., 2003 and 2006). The first is that a decrease in variable trade costs<sup>1</sup> leads to an aggregate industry productivity gain. Secondly, a decrease in variable trade costs forces the least productive

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<sup>1</sup> In the models, variable trade costs are defined as “the sum of ad valorem duty and ad valorem freight and insurance costs” (Bernard et al, 2003:8).

firms to exit, and thirdly, it increases the number of exporting firms, and these new-exporters are drawn wither from the most productive non-exporters or new entrants. Fourthly, a decrease in variable trade costs increases export sales at existing exporting firms. Fifth, a decrease in variable trade costs reduces the domestic market share (and domestic revenue) of all surviving firms. Finally, a decrease in variable trade costs increases plant-level productivity (Bernard et al., 2003 and 2006). Bernard et al. (2006) note that there are two possible reasons for this last hypothesis. The first is that the increased levels of competition may induce plants to improve their productive efficiency. Lawrence (2000) labels this the “kick in the pants” effect (Bernard et al., 2006:921). In addition, it is possible that within plants there is substantial reallocation of resources and production techniques, evidence for which is found in Bernard et al. (2006).

The first five of these hypotheses are incorporated into the model Bernard et al. (2000), which is a static Ricardian model of heterogeneous firms, imperfect Bertrand competition with incomplete mark-ups, and international trade. According to this model, firms use identical input bundles but produce differentiated products under a monopolistic competition framework. Accordingly, when there is international trade accompanied by variable trade costs, a plant chooses to produce for the home market if it is the most efficient domestic producer of a particular product variety, and if no foreign producer can supply the same good at a lower cost net of trade costs. In addition, a domestic plant will export if it can produce for the domestic market, and if, net of trade costs, it is also the lowest-cost producer for a particular foreign market. Positive trade costs mean that only the most productive firms can absorb the cost of exporting, and thus exporting firms exhibit higher than average productivity (Bernard et al., 2003). A simulation of this model demonstrates that as trade costs fall, aggregate productivity rises (in line with hypothesis one) as a result of the expansion of high-productivity plants (hypotheses three and four) at the expense of lower productivity plants (hypothesis two).

Finally, the model proposed by Yeaple (2002) is also a static, one factor model in differentiated products. However, it differs from the Melitz and Bernard et al. models in three important respects. First, in terms of production, firms choose between producing a homogeneous non-tradable good, or a differentiated variety. Secondly, workers are heterogeneous in that they vary in terms of skill and finally, as a result of the two different production techniques to produce the two different goods, firm labour productivity is determined endogenously. As such, it takes the form of either a low fixed/high unit costs

production method (for the homogenous non-tradable) or a high fixed/low unit cost method (for the differentiated product). With trade costs, the firms with the highest productivity choose to produce the differentiated good using the high fixed cost production technique, and the products are exported. Conversely, firms with the lowest productivity produce the homogeneous good for the domestic market (Bernard et al., 2003).

Firms making use of the low fixed cost technology are associated with intermediate productivity levels. A reduction in trade costs increases the incentive for firms to adopt the high fixed cost production techniques and begin exporting. As a result, a significant number of firms adopt this technology, while the absolute number of domestic firms in the industry falls. As a result, total employment falls and the least skilled workers exit the industry. This leads to an observed labour productivity increase. These dynamics correspond to hypotheses one through three as outlined above (Bernard et al., 2003).

The central implication of all three models outlined above is that lower trade costs increase aggregate productivity (Bernard et al., 2003). In addition, all three models also predict that “high productivity non-exporters start exporting as trade costs fall (hypothesis three)...[and that] plant labour productivity is strongly positively associated with entering the export market. Declines in industry trade costs significantly increase the probability of becoming an exporter for the high-OECD industries...high productivity non-exporters are even more likely to become exporters when trade costs decline (Bernard et al., 2003:16). Regarding productivity, a metric central to these models, Van Biesebroeck (2003) notes:

“Productivity is used and discussed widely. Ever since Solow (1957) decomposed output growth into the contribution of input growth and a residual productivity term, the concept has increased in popularity. Productivity has generated a lot of interest in its own right and is used as a benchmark to rank firms or countries. Such rankings gained credibility once other studies documented that productivity is correlated with other indicators of success such as employment growth, export status, or technological adoption. Low productivity has also been found to predict exit, the ultimate performance standard...fundamentally, the objective of productivity measurement is to identify output differences that cannot be explained by input differences” (Van Biesebroeck, 2003:2).

The predictions of the models outlined above have gained additional support from recent empirical studies into the effects of trade liberalisation episodes on countries’ industrial

structure. In an important paper, Pavcnik (2002) finds that approximately two-thirds of the 19 percent increase in aggregate productivity in Chile, following its trade liberalisation in the late 1970s and early 1980s, is due to the proportionally higher survival and growth of high-productivity plants. In a survey of trade liberalisation reforms in developing countries, found in Tybout (2000), the intra-industry reallocations of resources are found to dominate inter-industry reallocations as predicted by older theories of comparative advantage. Trefler (2004) finds evidence of productivity gains from the expansion of high-productivity exporting firms in Canada in response to reductions in trade barriers. Indeed, the author finds that the effects of Canadian tariff reductions on industry productivity “are roughly twice as large as those on plant productivity, implying market share reallocations favouring high-productivity plants” (Bernard et al., 2007:113). Similar findings are detailed in Griliches and Regev (1995); Foster, Haltiwanger and Krizan (2001, 2002); and Olley and Pakes (1996). For a study on the United States, Bernard, Jensen and Schott (2006) find that the probability of plant death increases as trade costs fall, and further that decreasing trade costs are the largest determinant of plant death in the lowest productivity plants. Further evidence is found in studies by Caves (1998); Bartelsman and Doms (2000) and Ahn (2000).

In terms of firm self-selection into exporting activities, Bernard and Jensen (1999) find evidence that more productive firms in the United States self-select into export markets. Similar findings are presented by Aw, Chen and Roberts (1997) for Taiwanese firms, and Clerides, Lach and Tybout (1998) for Columbia, Mexico and Morocco. In addition, Aw, Chen and Roberts (1997) find evidence that suggest that a decrease in trade protection increases the exit-rate of the least productive firms. In this regard, Liu and Tybout (1996), Liu (1993) and Tybout (1992) find that in Chile and Colombia, the measured productivity of firms exiting the market is systematically lower than the productivity of incumbent firms. In their study of Israeli turnover, Griliches and Regev (1995) find a similar pattern, and label this lower productivity the “shadow of death”.

Bernard et al. (2007) provide a concise summary of the role of the new trade theory as outlined above:

“Heterogeneous-firm models address a number of empirical challenges facing old and new trade theory. They capture the interaction between firm heterogeneity and international trade, with the productivity advantage of exporters explained by the self-selection of the most productive firms into exporting. The shift in resources from low-

to high-productivity firms generates improvements in aggregate productivity...the models feature simultaneous job creation and job destruction within industries as low-productivity firms exit and high-productivity firms expand” (Bernard et al., 2007:7).

However, while the studies noted above are in agreement that there is indeed significant heterogeneity between firms, the nature and extent of this heterogeneity is not investigated beyond being labelled as “productivity heterogeneity”. The following sections, and indeed this study in general, aim to address this omission by interrogating the exact nature of heterogeneity amongst South African footwear manufacturers. Furthermore, heterogeneous trade theory poses the risk of ignoring external firm linkages, and attributing firm performance solely to internal factors. In reality, while it is critical to understand internal dynamics, it is equally necessary to interrogate the external linkages between firms within an industry, as well as their connections along the supply chain. Global value chain and cluster theory provides an important contribution in this regard, and is explored below.

### **Global Value Chains**

As has been highlighted above, there is mounting evidence that firm-level response to trade liberalisation is one of the central determinants of a country’s industrial success in a globalised trade environment. Indeed, how firms engage with globalisation, both in terms of resource utilisation and strategic positioning, appears to be critical to their success (Schmitz, 2006 and Schmitz and Humphrey, 2002). An important lens through which to examine firm response is that of Global Value Chains (GVCs). The following section will provide an exposition of the GVC literature and highlight the importance of this body of theory to understanding several key aspects of firm-level response to changes in trade policy.

It is first important to highlight the key characteristics of GVCs and to place them in the correct global and economic context. Kaplinsky and Morris (2000) note that “the value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), deliver to final consumers, and final disposal after use” (Kaplinsky & Morris, 2000:2). Gereffi et al. (2005) define a value chain as “the process by which technology is combined with material and labour inputs, and the processed inputs are assembled, marketed, and distributed. A single firm may consist of only one link in this process, or it may be extensively vertically integrated” (Gereffi et al., 2005:79). Further, Gereffi et al (2005) show that the type of value chain, and its associated

governance, is determined largely by three variables: the complexity of the transactions; the ability of parties to codify these transactions; and the capabilities of the supply base. Kaplinsky and Morris (2000) present three important elements of GVC analysis. The first relates to an understanding of barriers to entry and rent-seeking. They argue:

“The value chain is an important construct for understanding the distribution of returns arising from design, production, marketing, coordination and recycling. Essentially, the primary returns accrue to those parties who are able to protect themselves from competition. This ability to insulate activities can be encapsulated by the concept of *rent*, which arises from the possession of scarce attributes and involves *barriers to entry*.” (Kaplinsky & Morris, 2000:11).

The second important element in GVC analysis is that of governance which “ensures that interactions between firms along the value chain exhibit some reflection of organisation rather than being simply random. Value chains are governed when parameters requiring product, process, and logistical qualifications are set which have consequences up or down the value chain encompassing bundles of activities, actors, roles or functions” (Kaplinsky & Morris, 2000:13-14).

The third important element in GVC analysis is an understanding of the different types of value chains. Broadly, there are two main types of value chains, as noted by Kaplinsky and Morris (2000). They distinguish between producer-driven and buyer-driven value chains, noting that some chains may embody aspects of both: for example, in clothing “GAP is an excellent example of a firm without its own manufacturing facilities and represents a classic form of buyer-drivenness, whereas Levi-Strauss governs a vertically integrated value chain” (Kaplinsky & Morris, 2000:17).

Discussions of global value chains raise the important question as to what benefits GVC analysis provides over more traditional economic investigations that would seek to analyse purchase and sale decisions at each level of interaction, rather than viewing the interactions relating to a particular product as part of a coherent chain. In this regard, Kaplinsky and Morris (2000) argue:

“Value chain analysis overcomes a number of important weaknesses of traditional sectoral analysis which tends to be static and suffers from the weakness of its own bounded parameters. For in restricting itself to sectoral analysis, it struggles to deal

with dynamic linkages between productive activities that go beyond that particular sector, whether they are of an inter-sectoral nature or between formal and informal sector activities...by its concentration on inter linkages it allows for an easy uncovering of the dynamics flow of economic, organisational and coercive activities between producers within different sectors, even on a global scale” (Kaplinsky & Morris, 2000:2).

In addition, the authors note that the GVC approach forces analysis to go beyond the traditional economic consideration of efficiency to include those factors that determine the participation of particular groups of producers in the final markets (Kaplinsky, 2000 and Kaplinsky & Morris, 2000).

As mentioned above, governance is a central concept in understanding the dynamics of value chains. In the GVC literature, governance is defined as “co-ordination of economic activities through non-market relationships” (Humphrey & Schmitz, 2000:4). “Governance” is divided by the authors into three categories: network, quasi-hierarchy and hierarchy. Gereffi et al. (2005) however, present a subtly different governance typology that includes five types of GVC governance: hierarchy, captive, relational, modular and market. These types range from high to low levels of explicit coordination and power asymmetry respectively (Gereffi et al., 2005:78). Kaplinsky and Morris (2000) note that governance in the above strands is manifest in three forms: legislative, judicial and executive governance. The authors are in agreement, however, that the exact scope of the upgrading opportunities available to a particular firm depend primarily on the nature of the value chain governance.

In addition to understanding the type of value chain in which a particular firm operates, and its associated governance structure, it is important to examine the upgrading opportunities presented by value chain participation and integration. Humphrey and Schmitz (2002) discuss the various types of upgrading that are made possible through participation in global value chains:

“Global value chain analysis emphasises that local producers learn a great deal from global buyers about how to improve their production processes, attain consistent and high quality, and increase the speed of response. This upgrading effect is particularly significant for local producers new to the global market” (Humphrey & Schmitz, 2002:5).

Furthermore, Gereffi (1999) and Gereffi and Memedovic (2003) conclude from their own research on the garment value chain that producers who endeavour to access the chain have promising prospects both for upgrading within production and afterwards into design, marketing and branding as a result of a combination of learning by exporting and organisational succession. (See also Giuliani et al., 2005).

The literature emphasises four distinct types of upgrading: process upgrading; product upgrading; functional upgrading and inter-sectoral upgrading. It also notes that it is important to understand the nature of value chain governance if one is to understand the upgrading opportunities available to a particular firm.

Of particular interest is product upgrading which is attributed to organisational succession, a process whereby “manufacturers start producing for buyers catering for the low end of the market and then move up to buyers targeting more sophisticated market segments” (Humphrey & Schmitz, 2002:5).

Regarding functional upgrading, the value chain approach is concerned with production systems that are geographically dispersed, meaning that firms and localities may specialise in only a narrow range of functions. In developing countries in particular, clusters may specialise in production activities only and as a result not possess the capabilities for product design, marketing and branding, “therefore, the process of acquiring new functions which generate higher incomes is potentially a critical part of an upgrading strategy” (Humphrey & Schmitz, 2002:5). In an example of East Asian garment manufacturers provided by Gereffi (1999), firms moved from the assembly of imported inputs to production based on locally procured inputs and then to the design of products sold under the brands of other firms and finally to the production and sale of branded merchandise where the brands were owned by the firms themselves.

This upgrading effect, however, is not automatic. It requires continuous investment by the local firms themselves in equipment, organisational structure and people. However, the efforts of local producers alone are in general insufficient to facilitate meaningful upgrading, and in this regard, foreign buyers and multinational corporations have a critical role to play. This gives rise to an important question: in what circumstances do large, powerful global buyers actively support the upgrading of often weak local producers? Schmitz (2006) argues that global buyers are more likely to provide support where the risk of supplier failure is high. Where suppliers are easy to replace, active buyer support is less likely. This is especially true

in the footwear sector, which is a strategic sub-sector for the economic and industrial development of Africa.

### **Clusters**

Whilst GVC analysis is concerned with the vertical linkages between firms, cluster analysis focuses on the horizontal linkages between firms at various stages of the production process. Clusters are comprised of a collection of firms performing similar functions, and can often enable the achievement of scale in certain activities, such as training or bulk procurement (Morris and Barnes, 2006 and 2008 and Schmitz, 2000). Humphrey and Schmitz (2002) examine the possibilities that the insertion of clusters into global value chains can have on the upgrading opportunities available to the firms involved. They argue

“the analysis of industrial clusters in developing countries builds on these perspectives, focusing on the role of local linkages in generating competitive advantage in labour-intensive export industries such as footwear and garments. However, these products are precisely the ones in which global buyers (whether agents, retailers or brand-name companies) have come to play an increasingly important role in the organisation of global production and distribution systems. One of the main literatures which analyses these systems, global value chain research, takes a very different approach to the question of upgrading, emphasising cross-border linkages between firms in global production and distribution systems, rather than local linkages” (Humphrey & Schmitz, 2002:1-2).

However, as Humphrey and Schmitz (2002) and Schmitz and Humphrey (2000) note, there is a tension between the GVC approach and cluster analysis. One is concerned with vertical, global linkages (GVC) whilst the other focuses on local, horizontal connections. As the authors note:

“Why is it important to ask how insertion into global value chains affects upgrading in the cluster? Both the cluster literature and the global value chain research emphasise that interaction is central to upgrading, but one gives prime importance to the interaction with local firms and institutions and the other accords prime importance to the interaction with global buyers. If this was just a matter of different emphasis it would be easy to bring together the two approaches and simply regard them as complimentary. However, the fusion is far from straightforward because the interaction with the global buyer tends to take place in the context of a very uneven

relationship. This inequality transforms the relationship and upgrading trajectories” (Humphrey & Schmitz, 2002:2).

In particular, the approaches differ in terms of their conception of the role of governance. Both the value chain and cluster approaches do emphasise the importance of upgrading in order to address competitiveness challenges in globalised markets. Similarly, both approaches highlight the role of value chain governance in facilitating upgrading, with the term governance here being used to denote the coordination of economic activities through nonmarket relationships. Humphrey and Schmitz (2002) argue that governance is particularly important for generating, transferring and diffusing knowledge that leads to innovation, which in turn enables firms to improve their performance. However, the authors note that the cluster and value chain approaches have different conceptions of the nature and scope of governance with resulting differences in understanding the implications for learning within clusters or chains, and the upgrading opportunities presented thereby. The literature on clusters emphasises the importance of governance at the local level, and the resulting role of incremental upgrading through interactions between firms and local institutions. As such, resources for upgrading are seen to emanate mainly from within the locality. Furthermore, under the clusters approach “links with the wider world are frequently acknowledged, but they are weakly theorised. Overall, the external world is characterised as a market presenting competitive challenges that must be met through improved organisation and effort within the cluster” (Humphrey & Schmitz, 2002:3).

In contrast, the literature on global value chains has a very different conception of inter-firm linkages. While this literature is also concerned with upgrading, here knowledge is seen to flow vertically through the chain. As such, particular attention has been paid to the role of powerful lead firms that “undertake the functional integration and coordination of internationally dispersed activities” (Gereffi, 1999:41) as well as to governance structures. According to Gereffi (1999), governance structures are the “authority and power relationships that determine how financial, material and human resources are allocated and flow within the chain (Gereffi, 1999:97). Humphrey and Schmitz (2002) argue that as a result of this power, global lead firms can play an important role in determining the upgrading opportunities of local producers. This emphasises the relationships between suppliers and buyers within the value chain, irrespective of where they are located. As the authors note, “global value chain analysis emphasises that local producers learn a great deal from global buyers about how to

improve their production processes, attain consistent and high quality, and increase the speed of response.” (Humphrey& Schmitz, 2002:54).

### **Firm-Level Competitiveness**

A further important concept in this study is the principle of World Class Manufacturing (WCM), specifically with regard to the competitiveness of local firms. The importance of this concept is summarized by Barnes and Morris (2006):

“South Africa’s integration in the global economy has brought both benefits and challenges to various manufacturing sectors. Globalisation has given South African firms the opportunity to venture into new export markets, with some degree of success achieved by those firms that have been able to compete against their increasingly competitive global counterparts. However, the liberalisation of South Africa’s trade regime since 1994 has generally placed manufacturers in vulnerable positions where they have been forced to compete against global competitors in both export and domestic markets after decades of protection...a key factor that has contributed to the difficulties being experienced by many firms is their lack of operational competitiveness. This encompasses the failure of many firms to adhere to advanced manufacturing processes (which we term World Class Manufacturing, or WCM) that have replaced the redundant practices that survived in South Africa as a result of “soft” market conditions fostered by high tariffs and other forms of domestic manufacturer protection such as local content programmes, as well as other quantitatively-based import restrictions in certain industries” (Barnes & Morris, 2006:2)

In this globalised world dominated by large retailers and multinational corporations, it is important that firms in the supply chain meet increasingly stringent and demanding key performance criteria and exhibit modern manufacturing practices and innovation activities. Such standards are collectively known as World Class Manufacturing. WCM represents the ability of the local producer to satisfy increasingly stringent demands of national and international customers by meeting their order winning and order qualifying requirements. In theory, adherence to Just in Time manufacturing principles (JIT), Total Quality Management (TQM) and processes of Continuous Improvement (CI) is necessary in order to achieve this. Practically, however, winning orders requires local firms to match or exceed the performance of international competitors in terms of price and a variety of other performance-based areas

that are often of greater importance to customers such as “quality, innovation, flexibility, reliability and the provision of other value adding services” (Barnes & Morris, 2006:4). In essence, world class manufacturing is based on ensuring that logistics are designed to maximise flexibility through the utilisation of unit flow production, just in time inventories, flexible machinery and rapid production changeovers, collectively known as Just In Time principles. This requires excellent communication and integration between customers and suppliers. Furthermore, WCM requires that quality be assessed and assured at each stage of production, rather than only at the stage of the finished product. Crucially, TQM requires excellent supplier relations, as well as a focus on preventative maintenance on tooling and machinery.

Barnes and Morris (2006) highlight that there is a trend to locate manufacturing operations in developing countries, and argue that as such, developing nations need to be highly competitive in order to benefit from this trend. They note that “while the commercial buyers in these global value chains are very demanding, insisting on lower prices, better quality, shorter lead times, smaller minimum quantities and supplier acceptance of as much risk as possible, the reward for manufacturers capable of meeting these requirements are very significant” (Barnes & Morris, 2006:6).

However, the authors argue that manufacturing firms in developing countries are constantly facing competitive challenges from firms in countries with even lower wage rates. Indeed, they note

“this is why cost pressures are particularly evident in price-sensitive product markets and labour-intensive industries...Sub-Saharan African firms cannot compete with China in terms of their productivity levels and have not developed manufacturing capabilities capable of differentiating themselves in terms of other key requirements. This is why WCM is so important to developing economy manufacturers. If they are to compete in the long term they need to develop a value proposition that satisfies both their domestic and international customer requirements” (Barnes & Morris, 2006:6).

Given this new stringent and competitive operating environment, industrial success will rely on more than the efficiency of any single firms. As a result, inter-firm learning, cooperation and joint action, both in the vertical value chain and horizontally in clusters, are important ways to raise competitiveness.

In this regard, Barnes and Morris (2006) argue that it is vital that firms are assisted in meaningfully upgrading their production activities and operational performance in order to meet manufacturing excellence requirements. They conclude “whilst demanding value chains may well assist in this process there is a direct role for provincial and metropolitan/local government in ensuring that local service providers are funded and encouraged to stimulate inter-firm cooperation and build learning and restructuring networks” (Barnes & Morris, 2006:15).

### **Summary**

This literature review has surveyed seemingly disparate aspects of trade and industrial policy theory. However, as the following research indicates, an understanding of the broader context of trade theory is essential to delineating firm- and sector-level responses to global forces. Too often, trade studies focus either on the macro-dynamics of changes in trade policy, examining the effects of liberalisation episodes at the national level. Similarly, value-chain studies often focus only on particular sectors or industries, and are blind to the broader trade and industrial policy context. This study intends to reconcile these two literatures to provide a more holistic view of the impact of trade liberalisation on footwear manufacturing, and the sector’s post-liberalisation response. In doing so, it touches on the clustering and world class manufacturing literatures as they form an important component of the larger work on global value chains.

## Chapter 4: The South African Context

This chapter focuses on two principle areas. The first is the more general trade and industrial policy context in South Africa over the past three decades, a period covering the last years of economic and political isolation under the Apartheid regime and the country's subsequent political and economic transition from an autarkic, pariah state to an open economy. It is important to understand this broader context if the changes in the footwear sector are to be understood. The second section of the chapter examines the transition of the footwear sector from one operating behind high walls of trade protection under the Apartheid government, to one integrated to a far greater extent in the global economy, and thus subjected to international competitive pressures.

South Africa's trade regime has shifted dramatically over the last three decades (Thurlow, 2006b). Until the 1970s, a policy of import-substitution industrialisation (ISI) was in place. The 1970s and 1980s saw a gradual expansion of trade activities, initially through efforts aimed at growing exports, before moving towards a more systematic approach to trade liberalisation. South Africa's economic performance was poor during the years leading up to liberalisation. Gross domestic product (GDP) grew at just over one percent per annum between 1985 and 1993. Concurrent with the weak performance was a decline in investment due both to political instability and declining foreign capital inflows (Thurlow, 2006b). Importantly, both labour employment and total factor productivity (TFP) were stagnant during this period and the small growth that was witnessed was driven primarily by the growth of the public service and government spending more generally.

The decade of the 1990s was a period of significant liberalisation for the South African economy (Edwards and Behar, 2006). Trade sanctions, established to pressurise the National Party government to enact democratic reforms, were removed in 1992. Following the Uruguay Round of negotiations under the World Trade Organisation (WTO)/General Agreement on Tariffs and Trade (GATT) the government, in 1994, committed itself to an ambitious programme of trade policy reform and tariff liberalisation. Following from the agreements, the reduction in tariffs was pronounced. The export incentive scheme was abolished by 1997 and by 1999 the number of tariff lines had decreased by 40 percent. Tariffs of clothing and textiles decreased from an average of 50.7 percent in 1993 to 24.0 percent by 2003, while tariffs on other manufactured goods decreased from an average of 27.7 percent to

7.4 percent over the same period, representing 52.7 percent and 73.2 percent average reductions respectively (Thurlow, 2006a).

This coincided with the implementation of the African National Congress's (ANC) new, centrist economic policy known as the Growth, Employment and Redistribution (GEAR) plan in 1995, the aim of which was to transform South Africa into "a competitive, outward orientated economy" (Edwards and Behar, 2006:1). Thurlow (2006b) notes that "the objective of this broad package of policies was to establish a 'fast growing economy that creates employment and encourages a redistribution of incomes in favour of the poor [through] the transformation towards a competitive outward-oriented economy'." (Thurlow, 2006b:1). In certain respects, GEAR performed as intended. Output growth increased, and both consumption and production levels of trade rose.

However, an area that remained consistently weak was employment growth. Edwards and Behar (2006) cite data which indicate that over 700 000 semi- and unskilled workers lost formal employment in manufacturing, mining and services between 1990 and 1998. Thurlow (2006b) notes that, according to the broad definition of unemployment (which includes discouraged work seekers), the unemployment rate increased from 29.4 percent to 42.9 percent between 1995 and 2003. He notes "rising unemployment affected all population groups and was caused by labour force participation rising considerably faster than job creation" (Thurlow, 2006b:4). Formal employment in the manufacturing sector declined in absolute terms too, from 1.6 million in 1990 to 1.2 million in 2004, with the decline in semi- and unskilled employment from 1.0 million to 0.7 million contributing the bulk of these job losses (Rodrik, 2006). Banerjee et al. (2008) raise some further concerns about South Africa's unemployment situation. They note that 60 percent of the unemployed have never held a job at all, with 68.3 percent of those having never worked being unemployed for a year or more.

Post-liberalisation economic performance was also relatively weak (Rodrik, 2006). South Africa's GDP growth rate in the decade following 1994 averaged 1.2 percent per annum "a rate that is comparable to that of sub-Saharan Africa (1.1 percent) and Latin America (0.8 percent), and is considerably below that of South Asia (3.7 percent) and East Asia (6.2 percent)" (Rodrik, 2006:2).

Rodrik (2006) proceeds to argue that the collapse in demand for semi- and unskilled workers was a direct result of the shrinking manufacturing sector. He notes that this could have been averted had South Africa been able, either to lower its real wage rate to the market-clearing

level, or foster an informal sector large enough to absorb the surplus labour. However, the former would have been a politically unpalatable solution. Regarding the latter, the informal economy in South Africa has remained stubbornly small relative to other middle-income countries.

The problem of a shrinking manufacturing sector is noted by Tregenna (2008) who emphasises the importance of the manufacturing sector, and argues that “the heterodox literature – notably that in the broad Kaldorian tradition – has regarded the manufacturing sector as being imbued with “special characteristics” not shared by the other sectors. This lead to manufacturing being accorded a special place in understanding the causal relationships of growth, as well as suggesting that from a policy perspective there needs to be a particular focus on the manufacturing sector” (Tregenna, 2008:S176).

### **De-industrialisation in South Africa**

In addition to the very high levels of unemployment witnessed during the 1990s and 2000s, there has been considerable debate as to whether South Africa is experiencing de-industrialisation. Rustomjee and Hanival (2010) provide evidence to this effect. In the table below, it is evident that there has been a contraction in the contribution to GDP of the secondary sector, while the services sector has grown.

**Table 1: Main Sectors**

<b>Structure of South Africa's Economy - main sectors as % of GDP, 1980 to 2006</b>							
	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2006</b>
<b>Primary Sector</b>	15.5	14.3	13.1	11.7	10.8	9.7	8.8
<b>Secondary Sector</b>	27.6	26.1	26.0	25.0	24.2	23.5	23.6
<b>Tertiary Sector</b>	56.9	59.6	61.0	63.3	64.9	66.9	67.6

Source: Rustomjee and Hanival (2010:15)

The table above indicates that the secondary sector contracted by 14.5 percent between 1980 and 2006, in line with the expansion of the tertiary sector. Within the secondary sector, the contribution of manufacturing to GDP has also contracted over the period, as seen below.

**Table 2: Secondary Sector**

<b>Structure of South Africa's Economy: secondary sector - % of sector's contribution</b>							
	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2006</b>
<b>Secondary Sector</b>	27.6	26.1	26.0	25.0	24.2	23.5	23.6
<b>Manufacturing</b>	21.3	20.1	20.1	19.3	19.0	18.0	18.0
<b>Electricity, Gas and Water</b>	2.0	2.4	2.6	2.8	2.7	2.4	2.4
<b>Construction</b>	4.4	3.7	3.3	2.8	2.5	3.1	3.3

Source: Rustomjee and Hanival (2010:16).

### **South Africa's Industrial Policy**

Rodrik, (2004 and 2006) and Hausmann et al. (2008) argue that remedying South Africa's economic problems requires directed intervention from the state. They note that the productive diversification that is required in order to accelerate economic growth in South Africa is not an automatic process that will be generated by well-functioning markets if left to their own devices. Instead, it requires a nurturing and experimental approach by the government and the private sector acting together in a strategic partnership. In particular, Rodrik (2006) argues that this partnership should target the non-mineral tradables sectors, as an expansion of these sectors, and in particular of manufacturing, "will be good for both growth and employment...and since tradables are relatively low-skill intensive in South Africa compared to service activities that have been the major beneficiary of recent patterns of structural change, such a strategy will entail shared growth rather than trickle-down growth. The cures for low growth and high unemployment are largely one and the same" (Rodrik, 2006:4). In this regard it is necessary to highlight the salient aspects of South Africa's more recent industrial policy, focusing on two documents: the Industrial Policy Action Plan, and the New Growth Plan.

The second Industrial Policy Action Plan (IPAP 2) includes a diagnostics section identifying constraints to growth in the clothing, footwear and textiles sectors (IPAP2, 2010:64-67). Whilst this section correctly identifies several important constraints such as a lack of productivity-enhancing capital equipment, and severe skills shortages, it does not include any discussion on the very important role that insertion into global value chains can play in upgrading and advancing the footwear industry.

The New Growth Path (NGP) outlines the supportive role that government can take to facilitate job creation in manufacturing. Indeed, it claims:

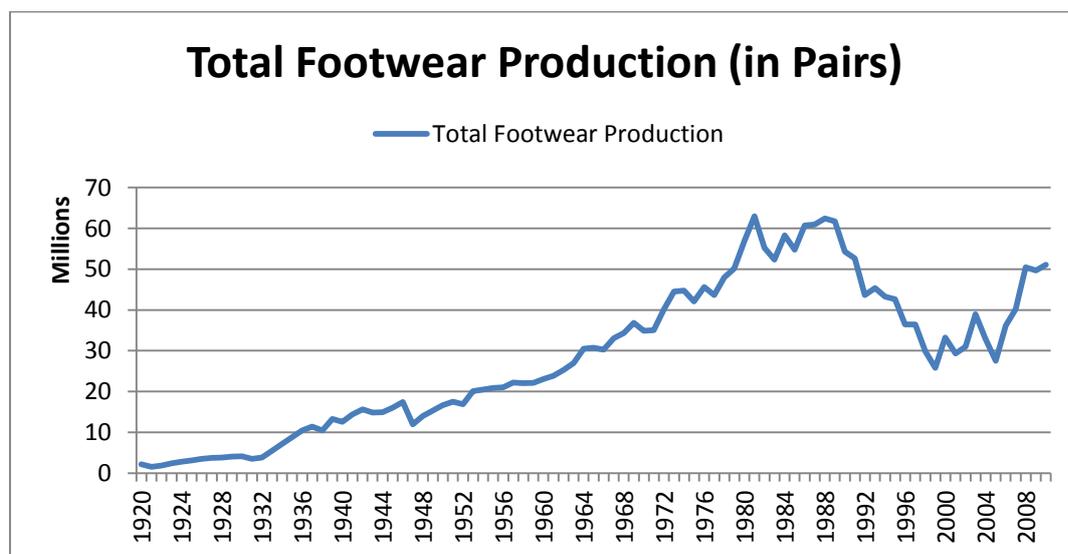
“Over the short to medium term, [the government] can support labour-absorbing activities, especially in the agricultural value chain, light manufacturing and services, to generate large-scale employment. Government can provide effective inducements to private investment in targeted sectors principally by prioritising labour-absorbing activities for the provision of appropriate and cost-effective infrastructure, regulatory interventions that effectively address market and state failures, measures to improve skills systems, and in some cases subsidies to production and innovation.” (NGP, 2011:7).

However, the policy documents are often silent on exactly how the industries mentioned above are to be best supported, and how “regulatory interventions” can be best deployed.

### Footwear Manufacturing in South Africa

This chapter now turns to a more detailed examination of the South African footwear manufacturing sector and its performance across this period of transition and into the 21<sup>st</sup> century. It is evident from the graph below that the footwear industry enjoyed a long and sustained increase in production from 1920 until the late 1980s, when local production was greater than 60 million pairs per year. However, following South Africa’s emergence from Apartheid-era sanctions, and its subsequent membership of the World Trade Organisation in 1995, local footwear production suffered a precipitous decline. However, by the year 2000 the industry appeared to be staging a recovery, and despite a secondary decline in 2004-2005, production in 2010 reached 51 million pairs, up from a low of 25.8 million in 1999.

Figure 1: Historical Footwear Production



Source: Own calculations from SAFLIA data

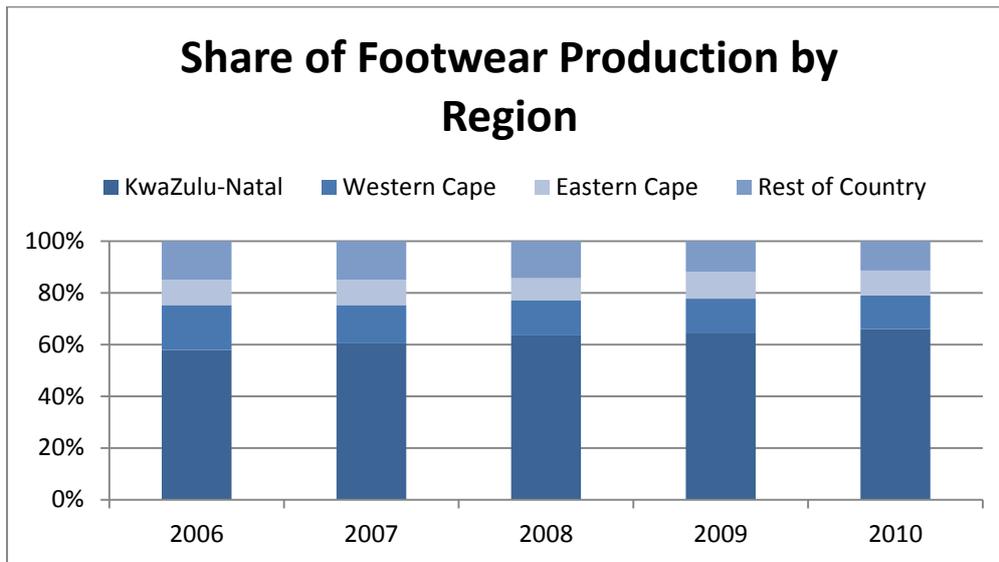
As a result of the trade liberalisation programme outlined above, both legal and illegal footwear imports soon began flooding the country. In 1999, 20.2 million pairs of footwear were imported, and by 2010 this figure was approaching 200 million. This had a deleterious impact on the footwear industry, the extent of which is outlined below. Imports coming into South Africa far outweighed the exports: in 1999, only 1.3 million pairs of shoes were exported up from 1.1 million pairs in 1998. Domestic footwear production also decreased, from 61 million pairs of shoes in 1981 to 29.9 million pairs in 1998. In addition, the employment rate in the industry fell from 25 931 employees in 1987 to 14 984 in 1998 (a 42 percent decline) (SAFLIA, 2000).

### **Why footwear is important to KwaZulu-Natal**

With current employment levels at just over 10 000 employees nationally (SAFLIA, 2010), the footwear industry does not rank as one of the largest in the manufacturing sector. However, as the following graphs indicate, KwaZulu-Natal currently produces over 60 percent of total industry production and employs over 50 percent of workers in the industry.

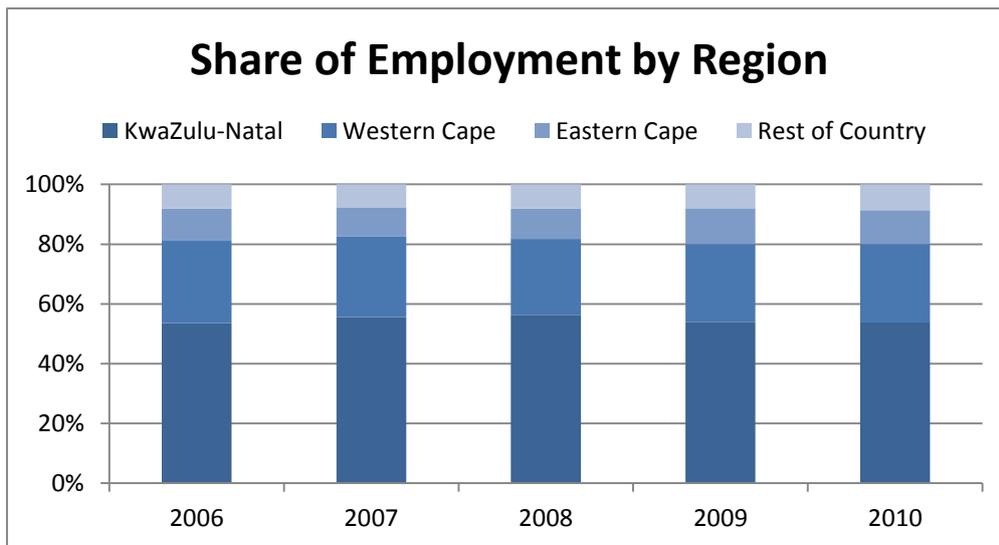
Furthermore, KwaZulu-Natal's share of total footwear production has steadily increased over the period 2006 to 2010, rising from 57.9 percent of total output in 2006 to 66.1 percent in 2010. The province's share of employment, however, has been relatively stable at an average of 54.6 percent across the same period. As the results below show, several productive and competitive footwear firms currently operate with KwaZulu-Natal. Not only do these firms provide examples of how footwear manufacturing can succeed in the province, but they themselves, if properly supported, can contribute to provincial and national growth and job creation targets.

**Figure 2: Footwear Production by Region**



Source: Own calculations from SAFLIA data

**Figure 3: Employment by Region**

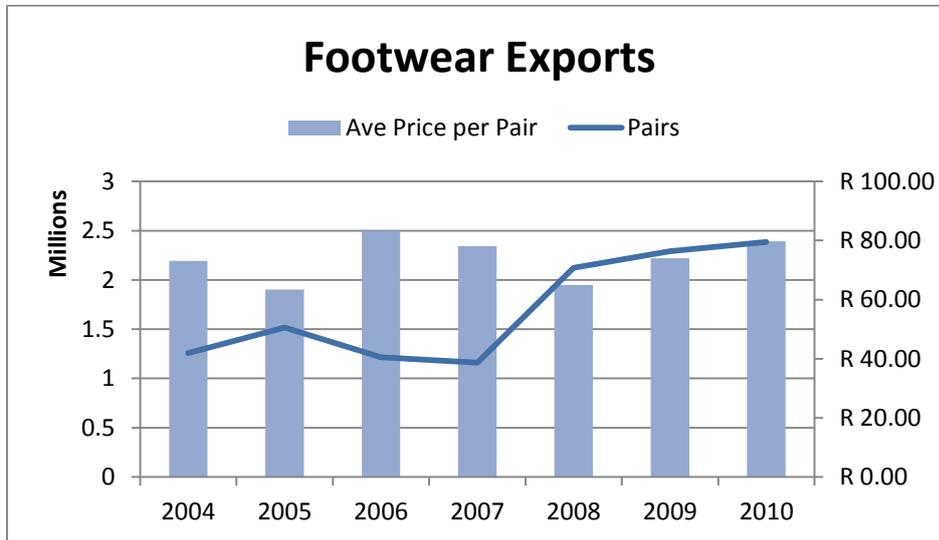


Source: Own calculations from SAFLIA data

In terms of international trade, some interesting results are evident in the graphs below. Regarding the nature of trade in footwear, it is apparent that South Africa exports shoes that are significantly more expensive than those it imports. Indeed, over the seven year period between 2004 and 2010, the average price for exported shoes was R73.81 per pair, compared to R26.26 per pair for imported shoes. However, on aggregate, imports dwarf exports by a significant margin, with imports averaging 144 875 856 pairs per year over the period compared to 1 706 781 pairs per year for exports. In terms of trade dynamics, export

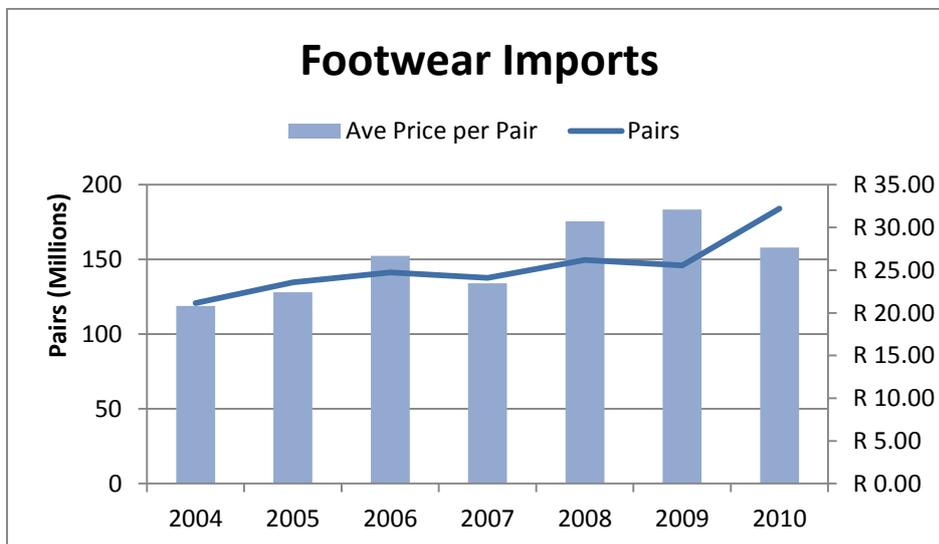
increased by 89 percent over the period, compared to an increase of 53 percent for imports. These differences notwithstanding, it is evident from these trade results that local production has given up a significant share of production to international producers.

Figure 4: Footwear Exports



Source: Own calculations from SAFLIA data

Figure 5: Footwear Imports

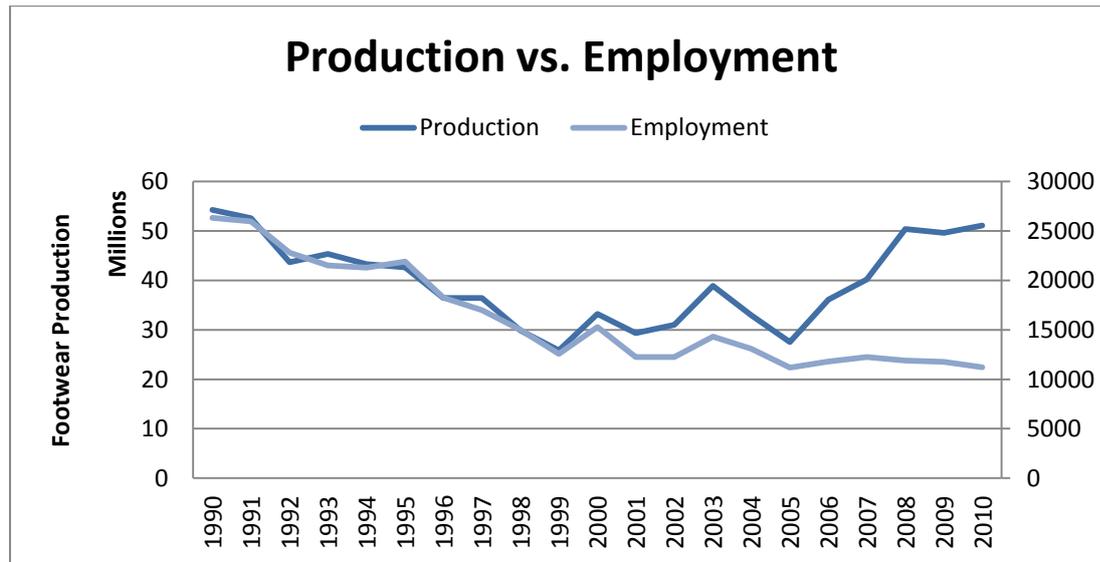


Source: Own calculations from SAFLIA data

The graph below illustrates the significant decline in employment in the footwear industry which largely paralleled its contraction in the years following South African trade liberalisation. Indeed, total official employment in the industry decreased from 26 332 in 1990 to a low of 11 212 in 2010. However, it is also evident from the graph that, as of 1999,

the employment and production trends began to diverge, with a 98 percent increase in production between 1999 and 2010, compared with a decrease of 11 percent in total employment. As is discussed in more detail below, this divergence, and accompanying apparent increase in worker productivity is most likely attributable to two main developments.

Figure 6: Footwear Production and Employment



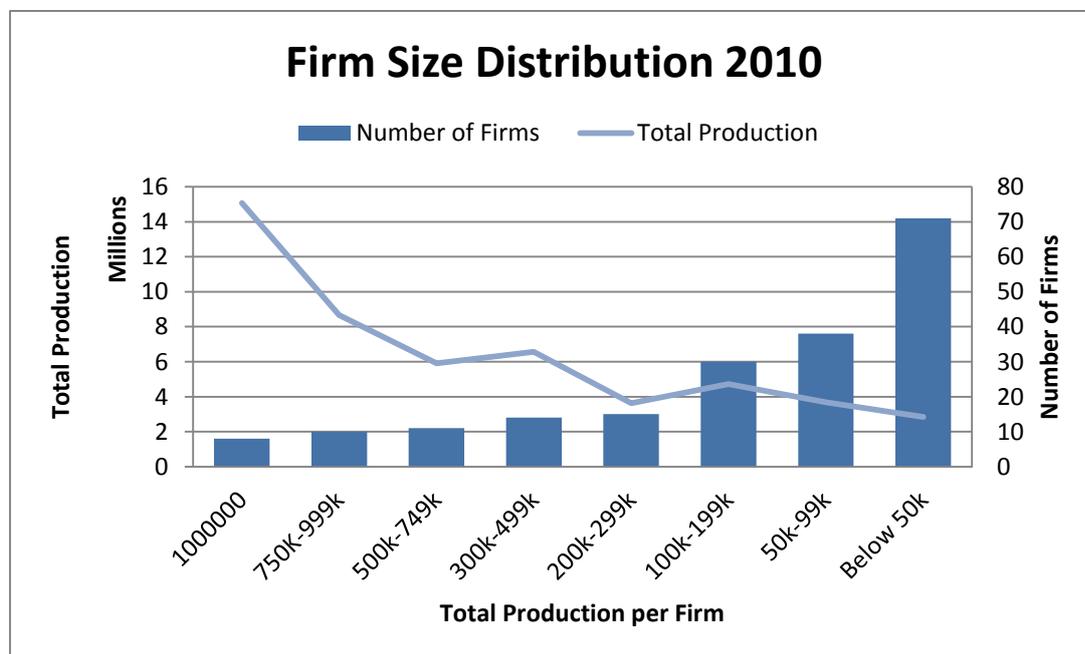
Source: Own calculations from SAFLIA data

The first is an increase in the technological capabilities of the firms, enabling workers to function more efficiently. The second, and possibly greater, cause relates to the effect of the three-tier wage system that is discussed in detail below. This system allows firms to contract out various sections of their production line to Cut Make Trim (CMT) operators. These CMT operators are allowed to pay wage rates that are substantially lower than those agreed during the wage negotiation process and enforced by the bargaining council. As a result, they can offer work to larger firms at a substantial discount to the larger firms’ own production costs. However, employment by those firms classified as tier-three manufacturers is not included in any of the employment statistics for the industry. As such, one plausible hypothesis regarding the divergence apparent in Figure 6 is that employment in the industry does largely track output, but the apparent “gap” in industry employment is in fact representative of the hidden employment in the informal footwear sector.

Two other trends are worth noting. The first is that the average size of firms, by employment, in the industry increased constantly over the period 2006-2010, rising from an average of 51

in 2006 to 57 in 2010. However, this trend to larger firms notwithstanding, it is clear from the graph of the size distribution of firms that while large firms contribute the greatest share of production, they are outnumbered significantly by smaller firms. Nationally there are 70 firms that produce fewer than 50 000 pairs per annum, compared to only eight firms that produce greater than one million pairs per firm per annum. As discussed in more detail below, this trend towards a smaller number of larger firms is significant, as it provides evidence supporting the hypothesis outlined in the literature that heterogeneity drives a process of churning that leads to a reallocation of capital and labour towards more productive and efficient firms.

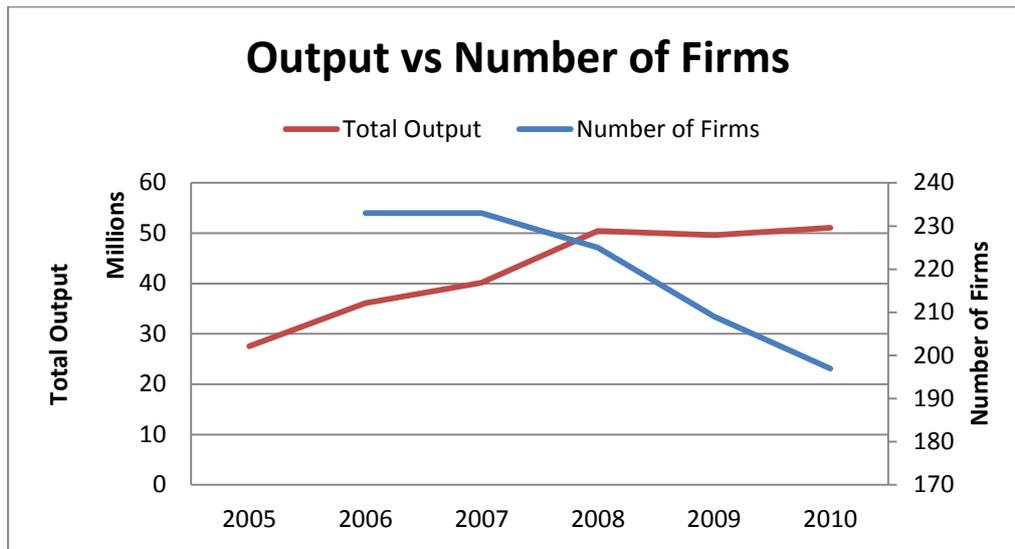
Figure 7: Output by Firm Size



Source: Own calculations from SAFLIA data

The final firm-level trend is the relationship between total output and the number of firms in the industry. Between 2006 and 2010, the number of firms in the industry decreased from 233 to 197. However, this decrease in the total number of firms was accompanied by an increase in total production from 36 million pairs in 2006 to 51 million pairs in 2010.

Figure 8: Output and Firm Population



Source: Own calculations from SAFLIA data

### Summary

The past three decades have marked a period of significant structural change in the South African economy. During the 1990s the country made a rapid transition from an isolated state with highly protected industries, to a participant in the global economy through a process of trade liberalisation and other economic reforms. However, despite enjoying some gains through increased trade and openness, the country has continually struggled with high unemployment and a sustained contraction of the manufacturing sector. Footwear manufacturing, the industry under investigation here, witnessed a massive contraction during the 1990s as it struggled to compete with the cheap imports that flooded the country post-liberalisation. However, more recent evidence suggests that the industry is staging somewhat of a resurgence, recapturing market-share initially lost to foreign firms. Domestic output has recovered from a low of 24.8 million pairs in 1999 to 51 million pairs in 2010. The remainder of this study explores the intra-industry dynamics of this structural change with the aim of understanding the various ways in which footwear manufacturers have responded to the advent of a liberalised trade environment.

## Chapter 5: Results

The central aim of this study is to interrogate the literature regarding the heterogeneity of firms. If, as the literature claims, firms within narrowly defined industries are in fact materially different, this has important implications, not only for understanding the effects of trade liberalisation, but for developing and implementing industrial policy that is relevant and effective. The general finding, as predicted by the literature, is that there is significant heterogeneity. The benefit of a case study such as this, however, is that it allows for the nature of this heterogeneity to be interrogated, beyond the more general finding that firms within an industry exhibit significant variations in productivity. It allows one to go beyond the finding that firms are different, and to examine how they are different, and the implications that this heterogeneity has for industrial policy and the success of the industry.

### **Descriptive Results**

The following chapter is divided into three sections. Section one examines the qualitative data gathered during the in-depth interviews with the representatives from the sixteen firms in the sample, as well as what quantitative data the firms were willing to release. It aims to understand the differences between footwear firms, and in particular, how they understand the challenges of operating in a liberalised trade environment, and how they have responded to these challenges. Due to the qualitative nature of the study, and the sample size, there is no attempt to identify causal patterns. Instead, the study aims to understand the different ways in which firms have responded to trade liberalisation and to interrogate the nature of intra-industry churning that is predicted by the literature.

Section two discusses the key informant interviews conducted with several important role players in the footwear industry. The purpose here is to place the firm responses into the broader context of footwear manufacturing in South Africa as well as to triangulate the findings in section one. Section three provides some policy recommendations.

An examination of some important characteristics of the respondent firms indicates that the purposive sampling process resulted in a diverse sample of firms. All sixteen firms produce leather footwear of some kind, while only eight of these firms also produce synthetic footwear. Six firms export directly to the South African Development Community (SADC) region, with a further three exporting to SADC countries through the use of footwear brokers.

Four firms reported exporting to countries outside of the SADC region. Three firms do not export any of their production at all.

In terms of distribution network, eleven firms sell at least some of their production to large retail chain stores, the importance of which is detailed below. Ten firms outsource at least some aspects of the production line to subcontractors in order to exploit a special wage dispensation. Nine firms report using computerized design programs in conceiving and drafting new footwear designs. In addition, the firms cover a wide range of employment. The smallest firm had three employees in 2011, while the largest employed 722 individuals in the same year. However, as the results below indicate, employment over the recent past has been highly variable amongst the sample of firms.

The following section presents a more detailed description of the firms in the sample. Due to the investigative nature of the study, it is necessary to examine, in some detail, certain important characteristic of the participant firms.

#### **Firm A**

Firm A is a small, formal footwear manufacturer based in KwaZulu-Natal. In 2011 it employed a total of 46 people. It is classified as a Small, Medium or Micro Enterprise (SMME). At the time of the interview, the firm was producing approximately 400 designs covering men's and ladies' formal and casual leather footwear.

The production process focuses on the ability to produce a multitude of designs simultaneously, and also to switch between designs with the minimum downtime. The factory also is centred on minimizing production time. Hawkers approach the factory shop and place their orders, usually after picking an existing design from the catalogue, and, if the materials are available, the order can be processed and dispatched on the day. The respondent claimed "I can take an order at 8am and give you the shoe at 12pm". Accompanying this quick-production strategy has been a marked reduction in the size of a minimum order. As the respondent highlighted "our whole business model has changed. We loved putting large orders through. But now I have a one pair minimum order. This is down from 500 pairs". While the firm produces myriad designs, it is important to note that it does not, in fact, possess any substantive design capabilities. Instead, shoes are reverse engineered from existing designs sourced from South African and international designers and brands. As the respondent conceded: "In reality, it's copying an overseas product".

90 percent of the firm's production is sold to footwear "hawkers" (or middle-men) through a factory shop located on the premises. The balance is sold to independent retailers. 50 percent of the sales through the factory shop are eventually exported to neighbouring SADC countries. When asked about the firm's relationship with large retail chains, the respondent noted "I never target chain stores. I was too small and I never had enough funding to fund their requirements as they want terms of 120 days...so we targeted them [the hawkers] because there were more of them around and it's a cash transaction". Regarding value chain positioning, Firm A sources leather through middle men in Pakistan and India, and, as mentioned above, owns a factory shop through which it sells the majority of its produce.

The respondent highlighted two areas of concern in terms of employment. The first related to what he perceived as restrictive labour laws. He commented "we found them [the labour laws] to be highly restrictive in terms of, no longer could you hire a guy based on merit or dismiss him. I can't employ on a trial basis". In response to a question about whether his firm utilised the three-tier wage agreement, he noted "even though we are a small company and we are allowed in terms of our bargaining council to pay up to 60 percent [of the wage rate agreed by the bargaining council], we pay a lot more than 60 percent. We found that the people we find at 60 percent, as you train them they become more efficient and more valuable, and if you want to hang on to them you have to offer more than 60 percent...there is a lack of skilled labour in the system. Skilled labour will not work for 60 percent".

### **Firm B**

Firm B is located a few hundred meters from Firm A and is also a leather-footwear producing SMME. Firm B produces footwear for men, women, children and infants. In terms of employment and output, firm B is the second-smallest firm in the sample, employing a total of 15 staff and producing approximately 35 500 pairs of shoes per annum.

The respondent highlighted the effect that trade liberalisation has had on his firm by charting its history.

"The business actually started in a little single garage at home and then what I did is used all the offcut leather of different factories, nearby factories. I found leather, I found glue and various materials that I could use and I used those materials for a year and then I developed a little knife to cut those pieces out, and then sewed it all together with a zigzag machine and then shaped it off...and we sold. We couldn't

keep up with demands. After six months, the factory was working 365 days, 24 hours. And from that garage, within two months we had to move to much larger premises”.

However, the respondent proceeded to detail the challenges faced by the advent of competition from China and elsewhere. “The other problem we had is that we can’t compete with the Chinese market because our labour is expensive. Very, very expensive.” The effects of this increased competition are evident in the firm’s performance figures. Footwear output decreased from 71 500 pairs in 2007 to 35 461 pairs in 2011, a reduction of 50.4 percent. Employment remained fairly stable over the period, decreasing from 16 staff in 2007 to 15 staff in 2011. However, the factory now runs on an alternating, three-day, four-day cycle.

99 percent of all production is sold through three firm-owned factory shops located in the surrounding areas. The bulk of production is purchased by hawkers (similar to Firm A) and distributed across South Africa and into neighbouring SADC countries. The respondent noted that one of the key constraints to expanding the distribution network was the financing terms of the large retail stores. “They [the retailers] come here and tell us ‘we can buy so much’, but they won’t pay cash. We had Edgars over here, and we had Pepstores. But Pepstores say they want champagne at mineral water prices, and they won’t pay cash. You have to wait 120 days”.

Regarding the “skills problem”, the respondent noted “we just do training ourselves. These guys know nothing about shoes, but we train them to. The big guys, when our guys leave, the big guys take them because they are so multi skilled”. In terms of outsourcing, the firm makes use of a single sub-contracted worker who performs hand-lacing.

### **Firm C**

Firm C was the first formal manufacturer visited. Located in KwaZulu-Natal, it employs 424 full time staff, and its footwear output in 2011 was 615 000 pairs. However, the firm has seen decreases in both output and employment over the recent past. In 2005 it produced 745 000 pairs and employed 629 full-time staff. Indeed, the respondent noted “this year [2012] is the worst start we’ve had to the footwear industry in South Africa...it’s very much fuelled by uncertainty in the market place.” In addition to its compliment of full-time staff, the firm employs approximately 400 outworkers who perform closing and hand-stitching operations.

The respondent confirmed the theoretical predictions relating to WCM and value chain integration by arguing that South African manufactures could be competitive if they could

operate a quick-response model. He noted that the company had invested in an automatic cutting table, and argued “cutting technology doesn’t necessarily speed up the process, but it allows me to cut smaller volume runs. Because we are a niche market project, we don’t have the luxury that they have in China to do 1000 pairs, one colour, one size. I do twelve pairs in a pack, and in that twelve pairs there will be six different sizes.” He noted that local manufacturers, whilst producing at a higher cost than their East Asian competitors, could compete both on quality and response time. “We can adapt to get the retailers back into stock much quicker. We also do run replenishment stock programmes which they can’t do through the importers”.

Firm C owns 11 retail outlets, through which it sells some of its branded products. In addition, it supplies a national network of over 600 independent retail stores. It supplies around 10 percent of its output to retail stores under house brand names. The respondent expounded on the firm’s reasons for limiting chain-store business:

“because house brands pretty much will fight for the lowest price wherever they get it. Okay, Woolworths, for instance, will come to me, ask me to do a development for them. I do the development for them and I get [an order for] 30 000 pairs this year. The product works well for them so the next year they will go to a cheaper sourcing house and they’ll source volume at a cheaper sourcing house so they can make more profit. So I don’t own that business. I don’t have sustained long term longevity in that...if they [the retailers] don’t get their full 140-180 percent margin on it, they don’t want your product.”

Conversely he noted that when the firm produced under its own name brands it was able to extract a greater margin from the sales. “When you have a good brand you can relatively dictate to the market what you are prepared to do with the brand.” In addition to domestic sales, the firm exports approximately 10 percent of its production. These exports supply markets in Australia, Canada and France.

As mentioned above, the firm controls retail outlets which sell one of the firms brand exclusively. The respondent noted that the firm controls the entire value chain for this particular brand. It imports leather from South Asia directly, and manufactures the soles in-house. The respondent argued that it was necessary to source leather directly, as local leather quality was poor and local suppliers had lengthy turn-around times, taking up to eight weeks to supply an order. He said that this necessitates carrying large volumes of raw materials.

“It’s better for me to carry a large percentage in raw materials because the raw materials I can turn into any finished product”.

The respondent highlighted several challenges facing his firm. The first is a serious skills shortage, particularly for higher-skilled positions. The firm makes use of a designer based in Italy as it claims that this is a cheaper option than the South African alternative, where constrained supply increases the price. Secondly, the respondent claimed that there is a “lack of capacity in the local supply base”, leading to poor quality components, and long lead-times from domestic suppliers. Third, the respondent noted that many of the smaller “subsistence firms”, as he labelled them, merely copy designs developed by firms such as Firm C, undermining their competitive advantage in design.

#### **Firm D**

Firm D is a large, formal operation in KwaZulu-Natal specialising in the manufacturing of men’s formal, leather footwear. In 2011 it employed 415 permanent employees, and produced 275 000 pairs. In addition to the permanent staff contingent, the firm employs approximately 400 staff on a subcontracting basis. The firm specialises producing goodyear-welted footwear, and claims to be one of three South African manufacturers to use this production process. The firm’s recent performance appears typical of South African footwear manufacturers. At the peak of its production, it was producing up to 5000 pairs per day. By 2011, this had decreased to only 1600. In the sample, the firm produces the second most expensive footwear, as measured by the ex-factory price. For 2011, the average sale price was R343 per pair, a figure ten times larger than the lowest cost producer in the sample.

The firm’s production is predominantly sold to small, independent retailers. In addition, the firm has won several government tenders to supply safety footwear to various government departments. Contrary to Firm C, Firm D claimed that one aspect of the firm’s success was that it specialised in manufacturing, and it did not compete with its customers or suppliers by moving further up or down the value chain. As a result, the firm does not own any of its own retail outlets, nor does it manufacture any components. The firm exports a small percentage of its production to countries in the SADC region.

The factory floor visit highlighted that this is a very traditional firm. Production is ordered around large batches, and as such there is a significant amount of work in progress on the shop floor. New designs are driven by the firm itself, and not in response to the demands of the retail customers. The effect of the batch-processing on productivity is evident in the

average output per employee, which is 670 pairs per annum. This is only one tenth that of the most “productive” firm in the sample, Firm F, which produced 6663 pairs per employee in 2011.

### **Firm E**

Firm E is the first firm visited that produces both synthetic and leather footwear. The bulk of the production is for ladies’ fashion footwear. The respondent noted that the firm had initially struggled in the post-liberalisation era, but had taken the decision to move away from high cost, high quality production based on large runs, to the lower-end of the price range. As the respondent noted, in the pre-liberalisation period, a large production run consisted of producing up to 24 000 pairs in one size and one colour. He noted that this had now decreased to 3000 pairs with multiple colours and sizes. This shift altered the fundamentals of the firm’s operations. In 2004 it exported 60 percent of production to the United Kingdom. These were predominately high-value footwear designs. By 2011, only 8 percent of production was exported, the bulk to neighbouring Zimbabwe. The impact that this structural change has had on the business is profound. In 2005 the firm employed 50 permanent staff and produced 130 000 pairs with a total value of approximately R6 000 000. By 2011 it was producing 950 000 pairs to the value of R32 000 000, and employment had risen to 250 permanent staff.

The firm produces both synthetic and leather shoes. The firm sources material for soles, and the bulk of the leather for the uppers from local manufacturers. The firm is similar to Firms A and B in that it does not conduct pioneering design work, but rather it employs pattern-cutters who “knock-off” existing designs. The firm makes limited use of subcontractors in closing at peak times.

85 percent of the firm’s production is supplied to retail chains, whilst the balance is sold to independent retailers. The retail chain producing is almost exclusive under the particular retailer’s house brand. The respondent, in contrast to Firm C, claimed to have a productive relationship with the large retail chains. He noted “the relationship [with the retailers] is enhanced because the retailers need local manufacturers for the quicker turnaround...the guys that are able to turn their stock quicker I believe are the most successful guys on the retail side”.

### **Firm F**

Firm F is one of the most interesting firms in the sample as it, along with Firm E, illustrates the benefits of integrating vertically with large retailers in pursuit of fast-fashion production. The firm produces 5000 pairs per day, 99 percent of which is sold to one large retail chain. The firm produced 1 072 708 pairs of shoes in 2011, and employed 161 full-time staff, and an addition 15 staff in an outwork capacity. 98 percent of the firm's production is synthetic footwear, predominantly for the ladies' fashion market. The firm has shown rapid increases in employment and output in the recent past. In 2005 it employed 35 full-time staff and produced 251 000 pairs. In comparison to Firms C and D, Firm F produces at a significantly lower price point, with an average price of R37 per pair in 2011.

The respondent claimed that the firm's success was in part a result of its capitalising on opportunities presented by the closure of other firms in the industry. The firm has a strong design team, with a full-time designer and a full-time range builder. The respondent noted "if you don't spend money there [on development costs] you are dead". Indeed, the firm is developing a 3D computer-aided design system that will be linked to the buyers at the retailer, minimizing the time taken to develop a new design. In addition, it is targeting the fast-fashion segment, and as a result it can run a stock-replenishment programme of up to 10 000 pairs in a three week period. As the respondent highlighted "because of quick turnaround, you find that you don't necessarily have to be the cheapest because your sales volumes are up...and it helps them [the retailers] with their stock holdings". In order to achieve these quick turnaround times, the firm manufactures only three designs at any one time, allowing it to minimize downtimes due to style changes. As a result, it is able to produce 5000 pairs per day.

Due to the nature of Firm F's relationship with the large retailer, it has not attempted to move up the value chain into retail. However, it had recently purchased an injection moulding plant, allowing it to manufacture its own PVC soles. Other components are sourced directly from China, where the firm maintains an office to allow it to source materials.

### **Firm G**

Firm G is significantly different to the six firms discussed above in that it specialises in the production of school shoes, and thus its business differs from the firms above in several material aspects. 90 percent of production is school shoes. This production covers a range from entry-level, synthetic shoes, to higher-quality leather. The remaining 10 percent is comprised of synthetic sandal manufacturing for chain stores. The respondent claimed that

the firm's competitive advantage, in comparison to its Chinese counterparts, is to be "in stock, in store, at the right size, at the right time". In 2011 it was producing approximately 5000 pairs of school shoes per day, and employing 200 full-time staff.

The firm sells a large proportion of its production to large retail chain stores, including the Edcon and Pepkor groups. The respondent noted "if you don't touch retailers, who do you sell to?" He acknowledged that chain stores have the reputation for closing factories, but he argued that local manufacturers who could reliably provide consistent high quality could compete with foreign manufacturers. However, he noted that the lack of skilled labour in the industry hampered its expansion. "If retail gave us 20 percent of their order book, no one has the ability to increase their capacity to what retail can buy [due to a lack of skills]."

The firm has chosen not to expand up the value chain into retailing. However, due to some strong concerns about the capacity of the local component supply base, it has chosen to extend its control down the value chain, and as a result it currently manufactures 90 percent of its TPI and PVC soles in-house. Leather is procured from local tanneries whilst all synthetic material is sourced from China. Firm G differs from Firms E and F in that it does not target the fast fashion market. The school shoe model is based on very large holdings of finished goods so that retailers can be restocked in the minimum time. Due to the annual, cyclical nature of school shoe demand, the firm can increase its stock holdings to accurately anticipate demand and ensure its ability to restock the retailers with the correct designs and sizes.

#### **Firm H**

Firm H is a large, formal manufacturer. In 2011 it employed 288 full-time staff and produced approximately 385 000 pairs of shoes. 90 percent of its production is leather uppers, whilst the balance is the production of synthetic footwear. 70 percent of the firm's production is sold to large retail chain stores and the balance is to small independents. The respondent emphasised that this distribution pattern was a marked shift from the previous structure in the 1990s, where only 30 percent of production was sold to chain stores, while 70 percent was to independent retailers. He also noted that while there had been this prominent shift, it was important to the firm to retain supply to the 600 independent retailers as they allowed for a greater margin than the larger chain stores. Of total production, approximately 5 percent is exported each year to the SADC region.

Firm H has undergone a profound change in its manufacturing approach in order to align production methods with the fast-fashion requirements of the large chain stores. The respondent noted that whilst South African manufacturers are unable to compete with Chinese imports on price, they have an advantage in that they can restock retailers more quickly, and also develop and manufacture new designs in less time. He provided the following example:

“A retailer buys a shoe from China for R80 and sells it for R200. South African manufacturers can make it for R100. But, from China, you might get three stock turns [in a year]. From [Firm H], we can guarantee six stock turns. From China you have a 15 percent markdown compared to a one percent markdown for South African manufacturers. Zara is a good example of this. We know that the model works. What we now have to do is convince more retailers to buy locally...we as an industry have to learn to upgrade and deliver international standards. But the model works.”

The firm has begun to extend its control down the value chain, and currently manufactures a proportion of the soles and insoles it requires in production. 70 percent of the firm’s leather is sourced from abroad while the balance is locally sourced.

### **Firm I**

Firm I produces ladies leather fashion footwear. This firm provides yet another example of the challenges faced by firms operating in the post-liberalised market. At its pre-liberalisation peak, Firm I produced 5000 pairs per day. In 2011 it produced an average of 1500 pairs per day or 390 000 pairs per annum, and employed 313 full-time staff. In contrast to Firm H, Firm I has seen a substantial shift away from chain store business. Whilst chain stores used to account for 80 percent of the firm’s total sales, the firm has now closed every chain store account and sells exclusively to independent retailers, with 10 percent of total production being sold to retail stores owned by the firm. In addition, approximately 8 percent of total production is exported to the European Union.

The respondent noted that one of the main challenges facing the industry was an acute cash-flow constraint. “The industry is in huge trouble because of a lack of cash flow. As one by one the companies close, whatever they owe the suppliers comes out of the cash flow of the industry.”

The firm distributes its production to various independent retailers in addition to the retail stores it owns. The respondent noted that it is extremely hard to recruit skilled labour, particularly in design. As a result, the firm has established its own SETA-funded training centre. In addition, the firm is a participant in the government-incentivised cluster scheme, called a Centre of Excellence, which will incorporate design, innovation and training.

### **Firm J**

Firm J is the smallest firm in the sample. In 2011 it employed four staff members and produced approximately 9 200 pairs of shoes. It specialises in leather footwear, particularly security and riding boots, bowling shoes and nurses shoes. These are then distributed through a network of independent retailers, most of which are located in Johannesburg. All the components and materials for the shoes are locally sourced.

The firm began production in 1972 with two employees. By the 1990s, employment had risen to 80 permanent staff, however, this declined with the advent of a liberalised trade environment. The respondent for Firm J reiterated that the main challenge facing the industry is one of cash flow: “You see, everything you buy today, you have to pay cash. So if you have to pay labour you have to pay cash. If you have to buy soles you have to pay cash, solution, you have to pay cash. I need somebody to inject a lump sum for me to buy material and then we can start...I can do more work if I have cash flow, and then I can employ more people.” The factory is a basic operation, comprising of very old machinery and casual staff who are employed when there are orders to process.

### **Firm K**

Firm K is the only CMT factory in the sample. It employs 26 people and does closing and lasting outwork. Under the bargaining council agreement it is classified as a tier two manufacturer, meaning it can pay 60 percent of the bargaining council wage. The firm began operations as a full footwear manufacturer. However, with the increased competition from China, the respondent identified a gap in the market performing outwork for much larger firms. Thus, in 2009 she restarted the operation with five employees. She commented “I am so glad that I changed to CMT. I’ve grown in the three years, and I’ve managed to keep a stable work force.”

The firm recruits new employees from the surrounding community, with the respondent adding: “I employ a lot of women as well because I believe that women should be empowered.” Indeed, 75 percent of the current workforce is female. The firm predominantly

performs closing work for a large school shoe manufacturer, and as a result, its peak production times mirror that of the large firm. As a result the factory operates at full capacity for 7 months of the year, when it operates for six or seven days per week. The respondent said that networking is a challenge, noting that she has extra capacity which she could exploit were she able to establish relationships with other large manufacturers.

### **Firm L**

Firm L is a large factory located in KwaZulu-Natal where it produces leather shoes. The firm has seen growth in output, increasing production from 142 000 pairs in 2005 to 218 000 in 2011. Employment, however, decreased across the period from 121 full-time staff in 2005 to 108 in 2011. 6 percent of production is exported to the SADC region. In contrast to firms such as Firms E and F, Firm L has moved away from lower cost, high volume manufacturing to higher quality footwear. 40 percent of Firm L's production is sold to independent retailers, 55 percent to large chain stores and the balance comprises government tender work.

The firm has expanded down the value chain and currently manufactures 90 percent of its soles in-house. 30 percent of leather is sourced locally, whilst the balance and all other components are imported by stockists. As the respondent noted "there are so few [local] suppliers now that there is not the variety of stock available." In addition, the firm runs a SETA-certified training school, where it has trained between 10 and 15 people per year since 2005. The firm employs a permanent designer, and claims to be developing its fast fashion capabilities.

### **Firm M**

Firm M is the second school shoe manufacture in the sample. In 2011 is produced 13 000 pairs per day and employed 650 full-time staff. The school shoes are predominantly produced from synthetic material, although there are some designs that are produced using leather uppers. 95 percent of all production is to large retail chains, with the balance being sold to independent retailers. The firm exports a small proportion of its production to Ghana and Zimbabwe.

All the firm's soles are manufactured in-house, and the PVC compound used in their manufacture is also produced by the firm. Leather is procured locally and all other components are imported directly from Taiwan. The firm has also chosen to train its own staff, and has received a SETA grant for 20 learners per year through its training school.

**Firm N**

Firm N is a large footwear manufacturer based in Cape Town and is the third school shoe manufacturer in the sample. In 2011 it employed 271 full-time staff. 95 percent of its production is leather shoes, and the balance is synthetic. 66 percent of its production is distributed to large retail chain and the remainder is sold to independent retailers. The respondent noted that this has shifted from a 50-50 split in 2002. A small proportion of total production is exported to the SADC region. All the soles used by the firm are manufactured in-house, and all leather is sourced from South African tanneries. The respondent noted that production peaked in the mid-1990s before a period of decline that lasted into the mid-2000s, but that it has subsequently been stable since 2008. Firm N is different to the other school shoe manufacturers in the sample in that it owns its own brand, to which the firm directs significant resources in marketing.

**Firm O**

Firm O is located in Cape Town, and is markedly different to the other firms in the sample. 80 percent of the firm's sales comprise of imported shoes that are then resold in the domestic market. These include synthetic sports shoes, men's and ladies' formal shoes, and corporate safety shoes.

Firm O distributes its production through 16 firm-owned factory shops, 1 500 independent retailers, of which approximately 800 will purchase shoes in any given month, and large chain stores. 60 percent of production is sold to the independent retailers, 30 percent to large retailers and the balance is retailed through the factory shops. A small proportion of production is exported to the SADC region, while 18 000 pairs per annum are exported worldwide under the PUMA brand. The respondent noted that this is part of a strategy by PUMA to diversify its supply base to ensure continuity in production.

The 1990s proved similarly challenging to Firm O. Prior to 1993 it produced 10 000 pairs per day and employed approximately 2 000 employees. By 2011 production had decreased to between 1 500 and 2 000 pairs per day, and employment to 629. While the respondent acknowledged that retailer chains are an important source of business, he said it was company policy not to allow any one customer to purchase more than 6 percent of production.

The firm focuses on maintaining a diversity of designs. Each division has a head designer, and designs are developed on 3D computer-aided design software.

## **Firm P**

Firm P is the final firm in the sample. Due to an audit at the time field work was conducted in Cape Town, the firm elected to respond via email. Firm P is based in Cape Town and employed 419 people in 2011. In the same year it produced 235 000 pairs of shoes. 75 percent of production is supplied to independent retailers, and the balance is sold to large chain stores. The firm does not export. The respondent cited a skills shortage and the volatile Rand as the main challenges to operating profitably.

The firm employs an in-house designer and uses computer-aided design, resulting in the development of between 80 and 100 styles annually. However, the firm does not produce according to the fast-fashion model. As the respondent noted “all customers buy from a general range each season and minor changes are made for large orders if necessary. No development as such is undertaken for specific customers.”

In terms of value chain control, the firm owns a factory shop, and it manufactures all sole and heel components in-house. Similar to the other two Cape Town-based firms, Firm P does not make use of any subcontractors.

## **Analytical Results**

### **A typology of respondent firms**

The above examination of the firm-level data collected in the interviews reveals that the respondent firms can be loosely separated into four main groupings. The first group consists of larger, formal manufacturers that are integrated into the buyer-driven value chains headed by the large retail chain stores. These firms demonstrated significant increases in output and employment between 2007 and 2011, in particular Firms E and F. These two firms specialize in quick response, as measured both by the total time from order to delivery, and in terms of manufacturing throughput time, and sell their products directly into large retail chains.

The second group is similarly comprised of large, formal manufacturers, but differs in several key aspects to those in group one. These firms operate according to more traditional manufacturing methods involving batch-processing and very large production runs of a limited model range. In contrast to the retail-integrated manufacturers in the first group, these firms generally manufacture footwear for government tenders, independent retail outlets and factory shops.

The third grouping consists of smaller firms producing largely copied designs, such as Firm A and Firm B. The primary distribution channel for these firms is the factory shop, through which production reaches the general public as well as footwear “brokers” who act as middle men between the factory and independent retailers, both in South Africa and in the wider SADC region.

The final group consists of the Cut Make Trim operators, of which there was one respondent in the sample, although various other firms made use of CMTs in their production process. Firms in this group specialize in certain aspects of the production process, usually lasting or closing, and perform this work on an outsourcing basis for some of the larger firms. This arrangement is made feasible by the three-tier negotiated wage agreement which is discussed in more detail below.

In addition to the particular challenges outlined by the individual firms, the interviews highlighted several key problems in the footwear industry more generally. These included a chronic skills shortage, severe cash flow constraints, low-priced imports-especially from East Asia, difficulty in procuring manufacturing resources locally, a weak supply base and retailers who are seen to have unreasonable demands, both in terms of order-winning criteria as well as extended payment terms. As one respondent noted, “the industry is in big trouble. The industry is in huge trouble because of a lack of cash flow. As one by one, the companies close, whatever they owe the suppliers comes out of the cash flow of the industry...it’s a huge challenge at this point in time, the cash flow of the industry.”

### **Intra-Industry Heterogeneity**

Nowhere is the evidence of firm heterogeneity starker than in the following graphs, depicting employment and output respectively. The index of employment maps changes in employment between 2005 and 2011, with 2005 set as the base year. As is evident from the graph, two of the firms in the sample have almost quadrupled the number of employees, whilst two have seen their employment levels halve over the period. Again, the two best-performing firms are Firms E and Firm F.

In terms of output, there is again significant variation between the firms. In 2011, two of the firms, Firm B and Firm D, were producing only 50 percent of their 2007 output, whilst Firm F was producing almost 40 percent more. A comparison of the graphs reveals that the two firms with the greatest growth in output also enjoyed the greatest employment growth.

Figure 9: Employment

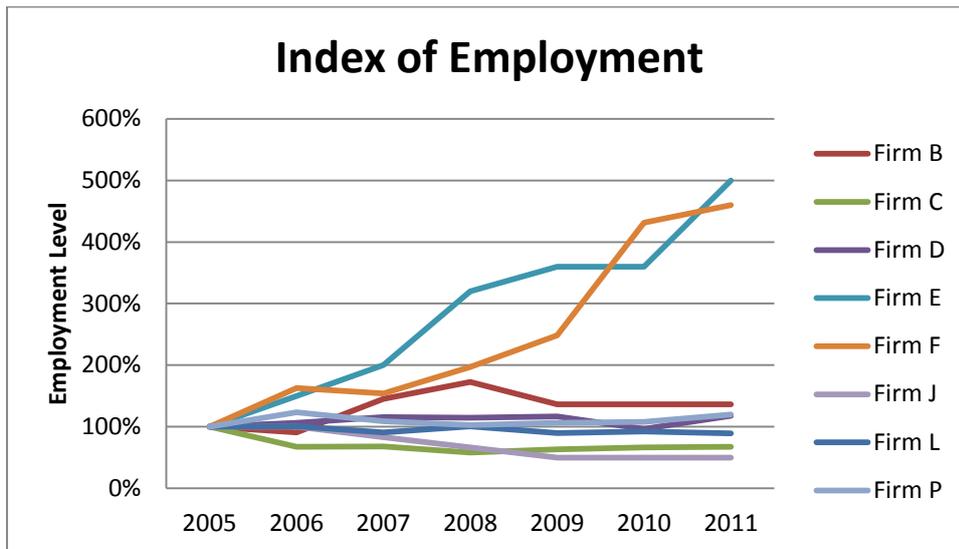
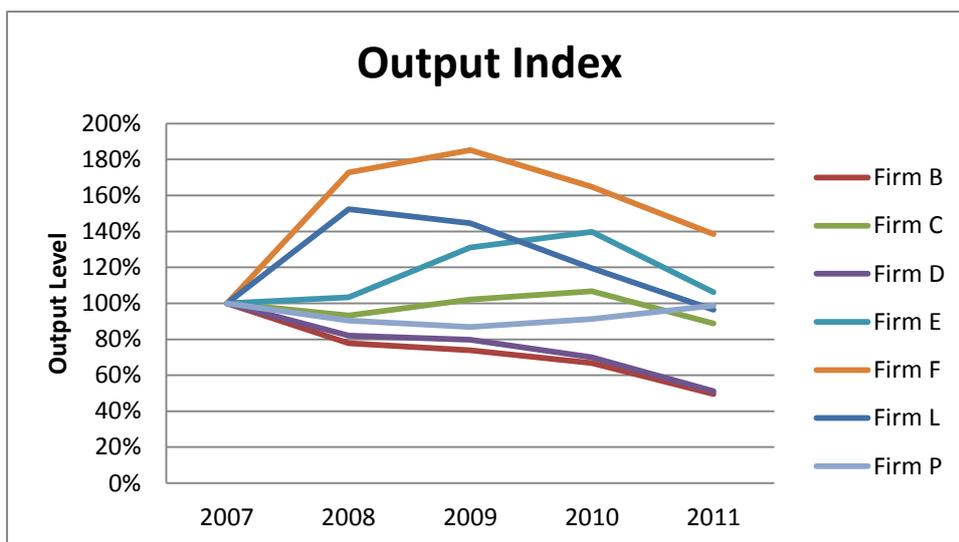


Figure 10: Output



### Productivity

The table below contains a very basic measure of labour productivity. This measure is the quotient of the total annual production and the total employment level in the firm. Again, there is significant heterogeneity evident here. Firm P is the least productive firm by this measure. Out of the firms in this sample, Firm P uses the more traditional, batch-processing production method, and sells the bulk of its production to independent retailers. The most productive firm in the sample is Firm F, noted above for its growth in both output and employment.

**Table 3: Productivity**

<b>Productivity (pairs per capita)</b>					
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Firm B</b>	4470	2926	3524	3181	2364
<b>Firm C</b>	1619	1765	1777	1773	1450
<b>Firm D</b>	1330	1102	1053	1117	670
<b>Firm E</b>	8950	5781	6517	6950	3800
<b>Firm F</b>	14341	19382	16480	8453	6663
<b>Firm L</b>	2060	2832	3007	2419	2023
<b>Firm P</b>	674	646	600	622	608

**Price**

The table below indicates the average price per pair of shoes for each of the firms. Firms E and F, the “fast-fashion” firms, produce significantly cheaper shoes than the other firms. Firm P, a more traditional manufacturer, produces the most expensive shoes, with Firm D producing the second most expensive products. Firm D is also a predominantly traditional manufacturer specialising in the production of goodyear-welted footwear.

**Table 4:Pricing**

<b>Average Price Per Pair</b>					
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Firm B</b>	R 87	R 96	R 90	R 98	R 107
<b>Firm C</b>	R 179	R 190	R 200	R 207	R 220
<b>Firm D</b>	R 226	R 274	R 284	R 314	R 343
<b>Firm E</b>	R 24	R 29	R 25	R 24	R 34
<b>Firm F</b>	R 25	R 20	R 26	R 34	R 37
<b>Firm L</b>	R 113	R 125	R 138	R 149	R 147
<b>Firm P</b>	R 295	R 334	R 360	R 368	R 381

The data presented above are the preliminary evidence to support the contention of the literature that there is significant heterogeneity within even narrowly-defined industries. However, the strength of a case study such as this is that it allows for an examination beyond the numerical data. What follows is a detailed discussion of the various ways in which the firms in the sample are different than each other. Of particular importance are labour

agreements, value chain integration and cluster participation, labour skill levels, engagement in government initiatives and the degree to which firms can produce according to the fast fashion model. These themes are expanded below. This exposition is followed by an analysis of the impact that these differences have on South Africa's industrial ambitions.

The following section analyses the information presented above in terms of the literature presented in chapter three. In particular, it aims to show how the post-liberalisation churning that is evident in the industry is related to the material differences between firms in the sample.

Broadly, it appears that value chain integration is one of the most important factors associated with firm performance under the new trade regime. However, it is clear that firms differ in how they structure their employment, the extent of their control of the value chain in which they operate and in how they produce their footwear. The implications of this heterogeneity are discussed below.

### **Retailers and Fast-Fashion Manufacturing**

During the interviews it was apparent that a firm's relationship with large retail chain stores is an important determinant of the nature and structure of a firm's business. What is evident is that there is a dualism in terms of the perceived benefits, or otherwise, to engaging in business with a large retailer, and this split largely mirrors the split between small and large footwear firms. Of the thirteen firms interviewed, only five did not engage in any business with large retailers. The main reason for this is the payment terms of the retailers: in some instances the retailers require firms to supply them with 120 days credit. This creates severe cash-flow problems for the small firms and results in them self-selecting out of large retail supply.

However, it appears that despite these challenges, engaging in business with large retail chains is essential if firms are to grow output and employment. Indeed, as one respondent noted "the bigger your footprint in the mall, the bigger your market share is going to grow. The big five [retailers] have muscle and get the best rental, and they have credit".

Fast fashion refers to the ability of a manufacturing firm to develop and manufacture new products and deliver them to the relevant retail outlets. As a concept it extends well beyond manufacturing throughput time, although this is an important aspect. Fast fashion requires the shortest possible time between the initial design conception, and the delivery of the product

to the store. This model provides the retailers with increased flexibility to adapt rapidly to changing sales patterns, and as a result, manufacturing firms producing fast fashion are able to command a premium for their production over the traditional, long-lead time manufacturing associated with imported footwear.

When asked why more retailers and manufacturers had not pursued the fast-fashion model, Professor Barnes, Chairman of Benchmarking and Manufacturing Analysts-a company that develops fast-fashion clusters and provides WCM advice-argued that South African retailers continue to employ crude business models that maximize gross-margin percent, rather than gross margin return on investment, or GMROI. GMROI differs from gross-margin percent in that the focus is on turning smaller amounts of inventory more quickly, thus reducing the initial investment, and consequently reducing write-downs. However, he notes that a move from the traditional model to the fast-fashion system requires more than a mere paradigm shift on the part of the retailers. “The problem is you need a much more sophisticated business model. You need a better IT system, you need a better logistics system, you need better distribution systems [to capitalize on the benefits of fast-fashion]. We have none of those things. The retailers are going to have to spend upwards of R100 million [in order to move to quick response retail].” While the move to fast-fashion is clearly a costly one, Professor Barnes noted that “we [BMA] have done some modelling, we’ve done a whole lot of work, we’ve done a pilot. I mean the results have just been staggering. You grow top line sales, if you run the quick response model, by an average of around about 15 percent. That’s huge.”

A representative from a large retail company that is moving towards the fast fashion business model confirmed these findings. He noted that the move to quick response retail was part of a global trend driven largely by the success of Spanish manufacturer Zara. “If you are looking at speed to market, and it’s not only happening here, it’s a worldwide trend, retailers are now looking at sourcing closer to home. And there are various reasons for that. The two main ones are the speed and the main reason is the increasing costs of freight...I think those are key factors that are driving the desire to source closer to home. The problem though is that are the local manufacturers geared up to handle, do they have the capability and capacity to satisfy the local retailers’ needs. There’s been very little investment in plant and machinery here”.

Confirming that manufacturing success is not dependent primarily on comparative advantage, the retail representative confirmed that the quick response model presented a significant opportunity for local firms to generate a competitive advantage. He argued

“If you are going to be competing purely on the traditional model you are then competing directly with China, and you are not going to win that race. If you are going to compete on the fast fashion model, you then need to look at three areas. The first area would be the pre-production phase and that deals with the issues around product development, component, availability. And it also deals with the issues around understanding what the retailers want. The second phase would be the production phase and this is where the whole thing about capacity and capabilities comes in. The third area is around logistics: you know, how quickly we can get it from the factory floor into the customer’s bags...the problem remains the componentry. Unless the components are available here, we are not going to achieve what we want to achieve.”

The retailer’s response triangulated the position of Mr Emslie on the importance of clusters in ensuring that manufactures are able to deliver the fast-fashion promise. He noted that quick response is dependent on more than merely the manufacturers’ ability to produce goods quickly. “If we then follow the supply chain with footwear...it’s important that we have a good flow of product and of information. That’s where we fall down. That’s the biggest frustration now. So if you take the production phase, we might be able to produce 1000 pairs within one week, but if it’s taking 5 weeks to get the components, it just defeats the whole point. [Success] is not only dependent on the firm. It’s the suppliers to the firm as well.”

In terms of the types and capabilities of firms that the retailers would choose as suppliers, the retailer noted that firms need to

“conform to our performance requirements. Can they pick and pack? Speed to market. Conformance to our distribution requirements. Compliance to legal, ethical, environmental requirements. Requirements are benchmarked against a predetermined number of days. Can you deliver a good quality product to us? What we do is probe the processes that are in place that enable you to deliver a good quality product to us. Notice, I didn’t mention price once. It’s about response time. I’m not saying that price isn’t important, but if you have all of those in place, and you reduce all your waste, because fast fashion, an end product is the reduction of waste. It’s well documented

that the more you delay the purchasing decision, the better decision you are making. But this doesn't mean that your entire assortment must be based on that. 56 days, 90 days, 120 days. Fast fashion is about the 56 day section. You don't want to compete with China on the 90-120 day section.”

In this regard, it is illustrative to examine two of the respondent firms in more detail as they provide evidence of how integration into the quick response model can improve output and grow employment. The relevant firms are Firm E and Firm F. As indicated in the descriptive results above, both firms produce high volumes of low-cost footwear based on the quick response model.

In 2005, Firm E produced 130 000 pairs, and by 2011 this had increased to 950 000 pairs. The respondent from this firm attributed its success to a productive relationship with its retail partners, as highlighted above. Similarly, Firm F grew its output by 39 percent between 2007 and 2011, and increased employment by 360 percent. Between 2007 and 2011 the firm produced 5 894 487 pairs of shoes at an average price of R26 per pair-clearly supplying the lower end of the market. By 2011 Firm F was producing 5000 pairs per day, with 99 percent of production going to one particular retailer. However, there are some important differences between the firms, notably that Firm F conducts far more research and development activity in terms of designing new footwear, compared to Firm E which merely copies existing designs from local and international manufacturers.

The manager of Firm F attributes its success to various key performance areas which confirm the assertions of Professor Barnes and the retail representative. The first is that the firm has a full-time designer and a full-time range-builder, allowing for a very quick turnaround time for orders. Indeed, the firm is able to replenish up to 10 000 pairs within three weeks. The firm designs shoes on a Computer Aided Design (CAD) system, which is linked directly to the retailer, allowing for modifications and new designs to be processed quickly. The manager noted “because of quick turnaround, you find that you don't necessarily have to be the cheapest because your sales volumes are up...and it helps them [the retailers] with their stock holdings”. The firm's outlook includes the construction of a new factory which will facilitate and increase in production of 100 percent over the next two years.

### **Exports**

The data collected on exports provides interesting material for analysis. Traditional trade theory predicts that no footwear should be produced in South Africa, and certainly there

should be no exporting of footwear from the country. However, the results show a very different picture. Ten of the firms in the sample export footwear to the SADC region, and four firms export to international markets beyond the SADC area. Indeed, Firm A indirectly exports up to 50 percent of its production to the SADC region, while Firm C exports 10 percent of total production to Australia, Canada and France. In this regard, the literature, as outlined in Bernard and Jensen (1999), predicts that more productive firms are able to internalise the costs of embarking on exporting. However, there is some evidence in this research that there are other factors, such as pre-existing relationships with foreign buyers, which might influence a firm's decision to export. The exact dynamics behind this export activity warrant a more detailed investigation but are beyond the scope of this study.

### **Cut, Make Trim Operators**

An important value chain consideration relates to the role that CMT operators play in the industry. CMTs are usually small firms that undertake work outsourced by larger firms. Under the three-tier system outlined below, CMTs are usually classified as either Tier Two or Tier Three operators, and thus are able to pay substantially lower wages than those set by the bargaining council and applied to the Tier One firms. However, these firms are often small, informal operations and thus cannot take advantage of business from the large retailers, for the reasons outlined above. However, the cost-saving that they present to the larger firms that do engage in business with retailers makes CMTs a very attractive option for the formal operators to increase their capacity.

However, cooperation between firms in terms of outsourcing is often hampered by information asymmetries. As one respondent noted "quality is a huge concern with outsourcing". As a result, firms often may be unwilling to embark on outsourcing due to the associated risk. Furthermore, the research revealed that there are small firms who would be willing to operate in a CMT capacity, but have been unable or unsuccessful in terms of making contact with a larger firm.

The rise of CMT firms is part of a larger move towards informal production in the industry. Mosoeta (2001) argues that the post-liberalisation footwear industry in South Africa has followed the "low road" towards increasing informalisation. She notes that formal employment in the Pietermaritzburg footwear industry decreased by 62.08 percent between 1989 and 1999. She argues

“the rise of the informal sector encourages the separation of workers into a core of ‘insiders’-permanent workers with rights, better wages and benefits, access to training, and so on-and a periphery of “outsiders”-vulnerable workers who are casual, temporary, subcontracted, with fewer rights, reduced wages, and little job security. This two tier or dualism in the labour market between the “formal” and “informal” sector, “insiders” and “outsiders”, the “core” and the periphery” continues to grow in South Africa where even the “core” is also being eroded through retrenchments and casualization”. (Mosoeta, 2001:193).

She adds,

“The informal sector, Manchester Road<sup>2</sup> represents a world where work is precarious, unsustainable and risky, and in which social protection is non-existent. Instead of extending social rights to all citizens, the responsibility for social protection is transferred to the family and the poor leading to a social crisis where the sustainability of the household is a risk...therefore, Manchester Road illustrates an ever-continuing trend in South Africa towards casualization of work. These [mainly black] women, because of their precarious working conditions, are socially excluded. They are particularly vulnerable to exclusion from the core workforce. This process of social exclusion and vulnerability follow gender racial lines. As seen in Manchester Road, casualization of labour ‘impacts negatively on those who are already socially excluded, such as women’.” (Mosoeta, 2001:195).

Only one of the firms in the sample for this study is a CMT firm. The owner of this firm argued that CMTs have an important role to play in providing employment as the nature of the work allows for those who would not normally be able to work a full shift in a factory to maintain gainful employment. Since certain aspects of the production chain, such as closing, do not require fixed capital equipment, employees can work on a more flexible basis as they can take work to their homes. Mr Naidoo’s assertions (discussed in detail below) regarding the efficacy of the three tier system were confirmed by this respondent who emphasised “I am never worried about the wage part. I am quite happy about that. That 60 percent and 75 percent helps us to maintain labour, and that’s the support they [the government] have given

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<sup>2</sup> Manchester Road is a street in north eastern Pietermaritzburg. It runs through an area where many informal footwear manufacturers operate.

us, which is excellent. I'm very appreciative of that, because if it wasn't for that I wouldn't have this business".

### **Unions and the Three-Tier Wage System**

The three-tier Bargaining Council wage-rate agreement was introduced in 2005 in response to concerns that the footwear industry was failing to attract new, small firms to enter production. As Mr Naidoo, Chairman of the Bargaining Council noted, in 2005 the parties agreed to address the challenge of attracting small businesses to the industry. This was centred on the assumption that the larger businesses have different challenges to the smaller employers. He argued that:

“[t]he smaller employees are more challenged you know in terms of the size of the business they have more issues pertaining to maybe the bank and so forth. So what we've done we felt that maybe it would not be appropriate to have one set of minimum wage and this applies mostly to the minimum wage. We felt that maybe the formal employers are able to pay their employees more. So what we've done we've introduced a categorisation of employers...formal sector, the semi-formal sector and the informal sector. Okay so the formal sector: we looked at how do we classify a formal sector employer.”

Mr Naidoo emphasised that the introduction of the three-tier system was a central support to the industry. He argued that “while other industries were shedding jobs, we managed to stabilise the industry...in my opinion that was certainly attributed to the three tier system. We attracted new employers to the industry”.

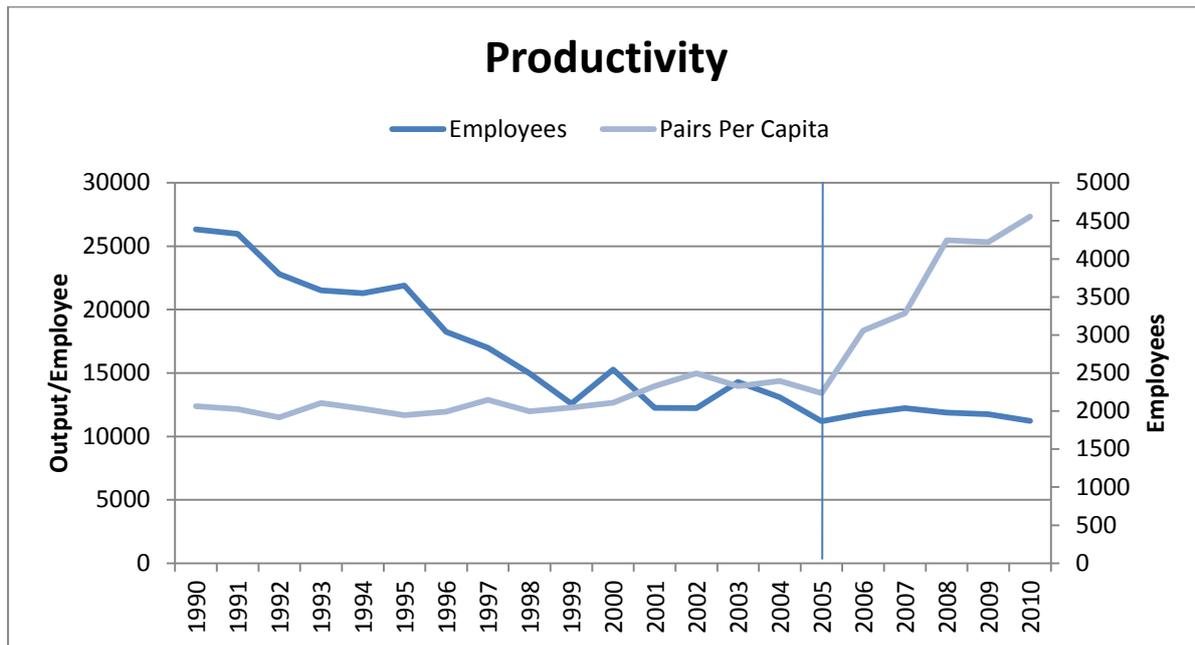
As a result, a tiered wage system was introduced. Three tiers were created: formal, semi-formal and informal, and firms are allocated into a tier based on a points system that takes into account several key variables such as output, employment, the use of raw materials and production under a brand-name. A preliminary analysis of the tier system indicates that it has been a success. Footwear output has increased dramatically since 2005, with some firm manager attributing this growth to the introduction of the system. As one respondent said “[the three tier system] was one of the major events in our industry that saved us from disappearing.”

Under the tiered system, the minimum wage rates set for firms are dependent on the tier in which they are classified. Firms in the first tier are classified as “formal” firms, and as such are required to pay 100 percent of the minimum wage set by bargaining council negotiations. Firms in tier two are classified as “semi-formal” firms, and are required to pay at least 75 percent of the minimum wage. Third-tier or informal firms do not have to meet the minimum wage rates set during bargaining council negotiations. In addition, there is an “Enabling Clause” which allows a firm to negotiate lower wage rates with its employees on an annual basis. Tier one firms are permitted to negotiate wage rates down to 80 percent of the minimum wage, whilst tier two firms are permitted to negotiate rates down to 60 percent of minimum wage. This mechanism was introduced to allow for some temporary flexibility to enable firms to react to adverse economic shocks by allowing them to temporarily decrease their wage bill.

However, as one respondent noted, wage rates are often a product of supply-side constraints. He argued: “even though we are a small company and we are allowed in terms of our bargaining council to pay up to 60 percent [of the negotiated wage], we pay a lot more than 60 percent. We found that the people we find at 60 percent, as you train them they become more efficient and more valuable, and if you want to hang on to them you have to offer them more than 60 percent”.

It is important to note, however, that employment figures by tier-three (or informal) employers are not captured by the official employment figures for the industry. The impact that this has on the industry’s productivity figures is clear from Figure 11 below. While it is true that productivity in the industry had increased slightly in the years preceding 2005, the rapid growth in productivity after 2005 in part captures the effect of outsourcing of work to firms whose employment figures remain unobserved. Indeed, one of the larger firms in the sample reported that it indirectly employed as many workers through the outworking system as it did directly in the factory. Such evidence indicates that the reported employment figures for the industry could be significantly below the actual employment levels. The broader effects of this policy are thus deserving of further study.

Figure 11: Productivity



### Skills and Training

As mentioned above, one of the characteristics that makes the footwear industry of great importance in any discussion about job creation is the ability of the industry to absorb unskilled and inexperienced labour. As one of the respondents noted “we are training people every day...unskilled hands can, with very little training, make shoes”. Another manager responded “[we] bring a worker in as a sweeper and train him to the point where he becomes a fully skilled operator.” However, several key concerns were evident in the interviews regarding skills and training in the industry, and these are discussed in more detail below.

The first relates to the accessibility of the Sector Education Training Authority (SETA) funds for the training of employees. At the time of the interviews, only five of the thirteen firms had managed to successfully access the funding made available under the scheme. For those that had done so, the system appears to function adequately. Indeed, the learner throughput in these firms ranged from eight learners per year to forty at one of the larger firms.

However, there were some serious concerns raised by many of the respondents that the certification requirements needed for SETA certification were too stringent or too time-consuming and as a result, many firms have resorted to funding their own training. While those who have access to SETA funds find the system helpful, the reaction of those who do not is less positive. One respondent called the process “absolutely hopeless” noting that in his opinion firms are left to their own devices when it comes to employee training. Similarly,

another respondent noted “[there is a lot of money available in the SETA system] but I have never accessed a cent and I pay my levies and I pay everything, so for me it’s a cost”. This sentiment is echoed by a third respondent who commented “I have not seen a small SMME benefit from anything that the SETAs offer”. Another respondent commented “It should have been a lot easier for me to access the funding to train labour instead of going through a whole process. That whole thing is flawed. I think it’s more of a money making scheme”.

In addition to the general criticisms about the SETA system, many firms complained specifically about skills shortage in the product development and design segment of the production line, with competent designers being noted as being extremely hard to source. Furthermore, training new designers is expensive and a common criticism from the respondents is that universities of technology are not currently producing graduates with the correct skills to be useful in the footwear industry.

### **Government Policy**

An examination of trade regime and industrial policy necessarily involves a discussion of the government’s role, not only in determining trade policy, but in providing industrial policy support. In particular, during periods of trade liberalisation, governments are presented with two broad courses of action. The first is to allow the markets to reallocate capital and labour, through a process of churning, to their most efficient positions in the post-liberalisation economy. The second option, and the one chosen by the South African government, is to use non-protectionist strategies to support strategic industries (as identified by the government) through the transition period and beyond. To a certain extent, whether or not a government chooses to support particular sectors and industries is informed by its ideological position. In the South African case, however, the decision to support certain industries was largely a pragmatic and strategic one. As discussed above, the country is struggling under a crippling burden of unemployment and thus the government has made a medium-term commitment to support industries that have been identified as having a significant labour-absorbing capacity. The footwear sector is one such sector, having been identified under the Customised Sector Programme (CSP) in addition to clothing, textiles, leather and leather goods as an industry where employment could be initially stabilized and then grown at a manageable cost. The principle vehicle for achieving this aim is the Clothing and Textiles Competitiveness Programme (CTCP). This programme comprises two particular interventions. The first is the Clothing and Textiles Productivity Improvement Programme (CTCIP) and the second is the Production Incentive Programme (PIP). The PIP aims to transform the structure of the

clothing, textiles, footwear and leather industries through the issuing of grants to facilitate technological and other capital upgrading.

As the theory in chapter three suggests, achieving international competitiveness in manufacturing is a product of more than a country's capital-labour price ratio. Indeed, the value chain literature suggests that by achieving world class manufacturing standards, countries can be competitive even in areas where they do not necessarily possess a comparative advantage. However, achieving WCM benchmarks requires significant capital upgrading, in addition to training interventions. Due to the poor performance of the footwear industry post-liberalisation, the market is reluctant to extend sufficient credit, especially to smaller firms, to enable them to upgrade their capital equipment to the extent that they are internationally competitive. As a result, the Department of Trade and Industry (DTI) has chosen to address what it considers to be a market failure with the provision of a competitiveness improvement grant to allow firms to invest in capital, training and process interventions to enable them to achieve WCM status.

This programme was generally well received by the firms in the sample, with eight of the firms reporting that they had applied for funding under the scheme. One firm, reporting having been approved for the first round of the DTI funding, commented that "the concept behind it is brilliant...the money behind it is definitely going to be of great use". A respondent from one of the larger firms in the sample noted that "a large portion of our growth has come directly because of government intervention...for the first time in twenty years I can start buying new equipment to build my product range".

However, while the programme has been received favourably by the firms, there are some concerns about its implementation, and in particular the time taken to process and administer the grant. As one respondent noted "you have no idea of the run around they have given us. I will buy the machine whether I get the funding or not....I must be honest, the first round got good funding. I think we caught the second round and that has been a disaster [but] I think it's good for the industry if they can improve the technology as that can make us more productive without asking for slave labour".

The second aspect of government support relates to the development of clusters. Capitalising on the opportunities presented by quick response, however, requires the upgrading of technology and capacity in several key areas along the value chain, extending beyond the footwear manufacturers themselves. Mr Emslie, a consultant to the DTI emphasised that the

most important of these is in the design and product development section of the manufacturing process. As a result, the DTI, under the CSP for footwear, is currently establishing two tiers of clusters that will facilitate this upgrading through the creation of shared resource centres and skill development programmes.

The first tier is a national cluster that will be based at the Vaal University of Technology and incorporate 3D design technology, 3D printing equipment and robotic milling capabilities to expedite the production of sample lasts. A key weakness in the current quick response strategy is the lead time to create a product sample. The technology investment in the national cluster seeks to overcome this by reducing sample production time from as long as two months to as little as three days.

The second tier cluster focuses on the establishment of three centres of excellence. These centres will each be located at a lead firm and will incorporate a training centre aimed at addressing the skills shortage in the industry. Significantly, these centres of excellence will be required to identify SMMEs as production and supply partners with the aim of integrating the smaller manufacturers into the retail-driven supply chain in order to realise the benefits of this value chain as outlined above. These regional clusters will operate in conjunction with a lead retailer in order to facilitate the necessary value chain upgrading.

### **Analysis**

The results presented above are in agreement with the preponderance of literature which posits that there is significant heterogeneity between the firms. It appears that much of this heterogeneity is in terms of traditional productivity, as predicted by the theory and confirmed by the empirical literature. However, the most important finding in this paper is that differences between firms go beyond productivity, and these differences matter. There is evidence to suggest that various government initiatives, wage agreements, differing value chain integration and cluster participation mean that total factor productivity differences are not the extent of material firm heterogeneity.

As discussed in the literature review, the weight of this evidence confirms that there is significant heterogeneity between firms, even in very narrowly defined industries. While this may seem intuitive, much of the trade theory on which industrial policy is based—such as Ricardian theory of comparative advantage—operates on the strong assumption of a representative firm in a given industry. The heterogeneous theory therefore makes an invaluable contribution to the literature with the majority of studies econometrically

confirming that there is significant heterogeneity in productivity (defined in various ways) between the firms. However, these studies stop short of investigating how and why productivity measures are so different between firms. This project cannot be accomplished econometrically, but rather need to be based on in-depth examinations of various industries and sectors.

At the commencement of this research, it was expected that the firms would differ materially in the skill levels of their staff, their technological capabilities and capital stock, as well as their production processes. It was expected that the ability of firms to produce under the fast-fashion model was dependent on the speed at which goods were moved through the factory. Firms' relationships with each other, and other firms up and down the value chain, were not hypothesized as being an important determinant of individual firm success. But, in fact, it is evident that the factors discussed above are important ways in which the firms differ from each other. This study does not purport to establish any causal links between these factors and the observed heterogeneity between the firms. Its principle finding is that firms, even within a narrowly defined industry such as footwear, are different from each other in ways that matter. A detailed understanding of these differences contributes to a more holistic picture of post-liberalisation churning within an industry. Indeed, the churning process that is discussed in the literature is largely attributed to productivity differences between firms: less productive firms are unable to compete with more productive firms internationally, and contract and close in the years following liberalisation. The more productive firms, however, are able to compete with international competitors, and expand, in terms of both production and employment. The most productive firms are able to produce at margins that allow them to absorb costs associated with exporting, and thus become exporters.

However, this research has indicated that this churning process might be the result of factors beyond productivity alone. Value chain integration seems to be associated with firm success, and there is evidence from the literature that cluster participation is similarly important. It is possible, however, that factors such as value chain integration and position, cluster participation, wage agreements and outsourcing might all be determined by underlying productivity. This could manifest in various ways. Only productive firms may be able to meet the order-winning criteria of large retail firms. Similarly, productive firms might self-select into beneficial cluster participation. However, given that productivity is problematic to define and even more so to measure, these other factors act as proxies for underlying productivity, regardless as to whether they are the primary driver of the heterogeneity in performance.

It is important to note that since many of the factors mentioned above are management-related, there is the strong possibility that good management is the variable responsible both for high levels of productivity and the factors highlighted here as being associated with firm survival. There was qualitative evidence to suggest this. One of the benefits of qualitative interviews with key informants is that it allows for an in depth view into the management style in the particular firms. It is the opinion of the researcher that those firms in which the managers were innovative and abreast of the latest developments in WCM were also the firms embarking on beneficial value chain and cluster integration, as well as participating in relevant government schemes. In this regard, care needs to be exercised regarding government interventions as it is possible that some of these interventions may in fact support bad management, allowing poorly run firms to survive and occupy market share that could be absorbed by more efficient and better-managed firms. Indeed, given that some firms display extremely impressive performance, firm support may “prop up” poor firms and preserve their market share, thus creating an inefficient market. However, the clustering literature suggests that the presence of coordination failures between firms can explain, in part, poor performance. In this instance, the government can play a meaningful role as coordinator.

The findings regarding heterogeneity are important, particularly with regard to the implementation of successful industrial policy, which is dependent on an accurate and complete understanding of the process of trade liberalisation and its effects on industry. Secondly, and perhaps of more immediate importance, is the developmental impact that such findings can have on South Africa’s growth path. Footwear is one of the sectors targeted by the CSP which aims to first stabilize and then grow employment in key labour-intensive manufacturing sectors. If, as understood in traditional trade theory, competitiveness is the result of comparative advantage in the form of relative factor prices, then there is very little a willing government can do to support industrial growth. Under this conception of trade, price alone is the determining factor. However, the evidence presented here, and elsewhere, is that comparative advantage has a far smaller impact on industrial response to trade liberalisation than presumed under the Ricardian model (see also, Lin and Chang, 2009). This finding was anecdotally confirmed by the respondent from the large retail company who highlighted the price was only one, relatively minor, consideration in the procurement assessment procedure undertaken by his firm.

If, as this thesis contends, manufacturing competitiveness is determined by factors other than comparative advantage, then there is an opportunity for meaningful government intervention

in order to assist firms to become developed in those areas that matter. This seems to be reflected in the current policies of the South African government. The DTI has embarked on several important interventions relating to the footwear sector. These have been discussed in detail above, and include cluster-development support and productivity interventions-such as capital upgrading finance. The Department of Labour has also been involved in cost-related interventions, the three-tier wage agreement being notable in this respect.

Drawing on the performance of Firms E and F and the information gathered in the key informant interviews, this thesis makes the tentative policy suggestion that in order to grow output and employment in the footwear industry, it is necessary that footwear manufacturers align themselves with fast fashion production. However, there is also evidence that fast fashion is not the only area where footwear firms can produce profitably. There is evidence that the more traditional manufacturers succeed in their production niches, such as supplying the informal, hawker market, or producing specialist footwear such as school shoes.

The development of the fast fashion model requires vertical development along the value chain and horizontal cooperation in the form of cluster development. As Mr Emslie noted, both the DTI and the Industrial Development Corporation (IDC) are currently working to encourage fast fashion cluster development. However, the success of this model is dependent on support from the major retailers. The performance of Firms E and F suggest that there is scope for a mutually beneficial relationship for both retailers and manufacturers in this regard.

### **Concluding Remarks**

This research has provided some evidence to support two important predictions of trade theory with heterogeneous firms. The first is that there is significant intra-industry heterogeneity. As detailed above, the firms in this sample differ markedly in their productivity, production techniques, price points, value chain integration and cluster participation. Following from this finding, there evidence to support the second prediction of this new trade theory: that these differences drive an intra-industry reallocation process from the less to the more productive firms within the industry. Even within the relatively small sample selected for this research, there is evidence that certain firms in the footwear industry are expanding, both in terms of output and employment, whilst others are contracting.

These findings are significant in that they emphasise that in a liberalised trade environment, individual firms possess agency that allows them to develop a competitive advantage that

may run contrary to the comparative advantage of the country in which they operate. Not only are these findings important for a more accurate understanding of trade liberalisation dynamics, but they support the argument for industrial policy support in strategic industries.

## Chapter 6: Conclusion

The principle aim of this research is to establish whether or not there is evidence of intra-industry heterogeneity in the post-liberalisation footwear sector in South Africa, as is predicted by the literature. Further, it aims to interrogate the nature of this heterogeneity. In particular, it seeks to go beyond the existing literature, which posits that there is significant firm heterogeneity even within narrowly defined industries, and to examine whether the ways in which firms are different matter.

The research employed the mixed-methods approach in order to facilitate an in-depth interrogation of the post-liberalisation dynamics in the South African footwear sector. The qualitative aspect of the study comprised seventeen in-depth interviews with representatives from fifteen footwear firms in the Western Cape and KwaZulu-Natal. In addition, interviews were conducted with five key informants filling important roles in the footwear sector. These qualitative data were augmented by quantitative data collected from a subsample of the respondent firms, as well as industry data which were supplied by the South African Footwear and Leather Industries Association.

This investigation has found that there are significant differences between firms within the South African footwear industry. Firms differ in terms of their value chain integration and cluster participation, employment regime, production techniques and materials and distribution networks. More importantly, there is some evidence that these differences matter. In accordance with the predictions of the new trade theory, there is evidence of significant churning in the local footwear industry. While the industry as a whole suffered a precipitous decline in output and employment in the years following trade liberalisation, it appears that there has been a substantial reallocation of resources *between* firms *within* the industry. While many firms have ceased production, there are those that have increased production and employment and some firms do in fact export. This behaviour is consistent with the predictions of the new trade theory of heterogeneous firms. However, this study has sought to go beyond confirming the presence of heterogeneity and to interrogate how the firms are different, and to examine the implications of these differences.

In particular, the research found that the nature and extent to which firms were integrated, or otherwise, in value-chains and clusters matters. There is some evidence that those firms which are integrated in the retail-buyer led value chains are performing well. These firms in

general manufacture according to the fast-fashion model, employing quick response times and producing small runs of a wide variety of rapidly evolving designs.

In addition to operational competitiveness, the research found that there are several other important and often related factors that are at play in the industry, such as the wage exemption that allows CMT firms as well as SMMEs to gain exemptions from the bargaining council wage agreements. Importantly, the research found that a significant proportion of the firms in the sample were engaged in export activity of some kind. This behaviour is predicted in the heterogeneous firms literature, but is contrary to the predictions of Heckscher-Ohlin and Ricardian trade theory.

The above results suggest that individual firms within an industry possess agency in terms of what and how they manufacture, and where they distribute their products. In a marked departure from the traditional theory of trade, where industry performance is driven predominantly by comparative advantage, these results indicate that firms can take actions which can improve their international competitiveness, regardless of relative factor prices. The importance of this agency cannot be overstated.

According to the literature, heterogeneity under liberalised trade conditions causes significant *intra-industry* churning, resulting in capital and labour being reallocated from less to more productive firms *within* a particular industry, rather than from less to more comparatively advantaged industries (inter-industry reallocation) as is predicted under traditional trade theory. There is evidence of this reallocation in this research. Whilst there has not been an attempt to establish a causal link between productivity, value chain integration and cluster participation, and firm performance, there is evidence that the firms integrated in vertical, retail-driven value chains are performing very well. Whether this is at the expense of their domestic or international competitors, however, has not been established.

The ability of local firms to fill the fast-fashion niche provides them with a competitive advantage over cheaper producers in the east. This conclusion is important as it provides evidence that a neoliberal attitude to international trade does not preclude meaningful, non-protectionist government intervention. The evidence on the efficacy of clusters and value-chains is indicative of this in that it highlights that there are meaningful way in which government can support industry by addressing information asymmetries, problems of scale and coordination failures. What remains to be seen is whether such interventions can create an industry with longevity.

Qualitative research was the main research technique employed in this research. As discussed above, this approach offers several important advantages over quantitative research when answering the questions posed by this particular research. In particular, it facilitated an in depth examination of the footwear sector, rather than a broad, and shallow, analysis using aggregated quantitative data across industries, as has been the approach of many of the studies in the literature. However, there are some limitations to qualitative research in this context which it is important to note.

The use of qualitative research results in concerns regarding the reliability of the findings, especially given that a significant proportion of the data was gathered through in-depth interviews completed by one interviewer. It is not known to what extent this has affected the results of the research, nor whether other researchers conducting similar research would reach the same conclusions. Furthermore, there are concerns regarding the generalizability of the results. Given the narrow scope of the research, caution should be exercised when generalising the findings to a broader geographical or sectoral level. While there is some evidence that heterogeneity is present in other industries and areas, the nature and impact of this cannot be inferred from this study.

The above concerns notwithstanding, the research has yielded interesting results that show promise for South Africa's industrial ambitions. That there is evidence that individual firms have agency is an important finding as it allows, not only for individual firms to be successful, but for there to be meaningful industrial policy to support firms in industries, even against their comparative advantage. While the trade theory on heterogeneous firms makes a valuable contribution to the theoretical understanding of trade dynamics, it has, in addition, more tangible consequences. The most important of these is that policy can influence industrial structure, even in a liberalised trade environment.

Under traditional theories of comparative advantage, countries and their governments have very little control over their industrial structure under free trade. However, where there is material firm heterogeneity, and where this heterogeneity matters, governments and other actors can develop and implement industrial policy that can positively impact industrial and trade performance. In the case of South African footwear manufacturers it appears that fostering value chain integration with large retail firms is one way in which local producers can compete. Under this understanding of trade and competitiveness, relative factor prices

and comparative advantage are no longer the main determinants of trade competitiveness and industrialisation.

In conclusion, this research presents evidence that leads to the tentative conclusion that there is significant heterogeneity between firms in the South African footwear sector. This finding is consistent with the new theory of trade with heterogeneous firms. Further, it finds that this heterogeneity is non-trivial: the ways in which firms differ is important. In particular, it was found that the extent to which firms are integrated in vertical, buyer-driven value chains is an important factor in their success or otherwise. Not only are these findings of interest in relation to trade theory, but they offer the possibility that the footwear industry may respond positively to policy interventions.

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## Appendices

### Appendix A:

Semi-structured interview schedule:

#### Questionnaire for David Francis

Dear Respondent,

Thank you for agreeing to take part in this research. The purpose of this study is to identify key characteristics and policies that footwear manufactures believe are contributing to their current success. As such, the following questions are open-ended and the aim of this interview is to learn from you what you think your firm does particularly well, and how the current policy environment aids or hinders your progress.

Thank you.

#### Question 1:

What are your main product lines?

To whom do you sell your products? (Independents, large chain stores, government etc.)

Do you export? If yes, what proportion (of total pairs) do you export?

#### Question 2:

What have been the main challenges that your business has faced since the advent of trade liberalisation in the 1990s? What responses do you believe have been most effective in helping your firm react to these challenges?

#### Question 3:

What do you think are the particular weaknesses (if any) that hinder your firm's growth? And the industry in general?

#### Question 4:

Productivity levels are often highlighted as key to a firm's competitive advantage. Please outline what steps your firm has taken to increase productivity levels.

#### Question 5:

What investments are you making in technology? Do you have a cutting table/offline nester?

#### Question 6:

Please detail your design capabilities and processes. Do you have an in-house designer?

**Question 7:**

In your opinion, which government policies do you find to be the most supportive in the industry? Have you applied for the Productivity Incentive Scheme from the IDC? Please give details. How would you rate the effectiveness of production incentives from the IDC?

**Question 8:**

If you were to make any suggestions or changes regarding policies that you think would benefit your firm, what would these be? How do you think current policies can be improved?

**Question 9:**

Do you make use of subcontractors? If yes, how is this organised? How many people do you use for this outwork?

**Question 10:**

Can you describe your relationships with retailers? Do you have your own retail outlet? Do you work with retailers to develop products?

**Question 11:**

Looking down the supply chain, from where do you source your components? Do you manufacture any components in house? How would you rate the strength of your suppliers?

**Question 12:**

Looking forward, what is your vision for future growth for your firm?

**Any further comments?**