

RINCO

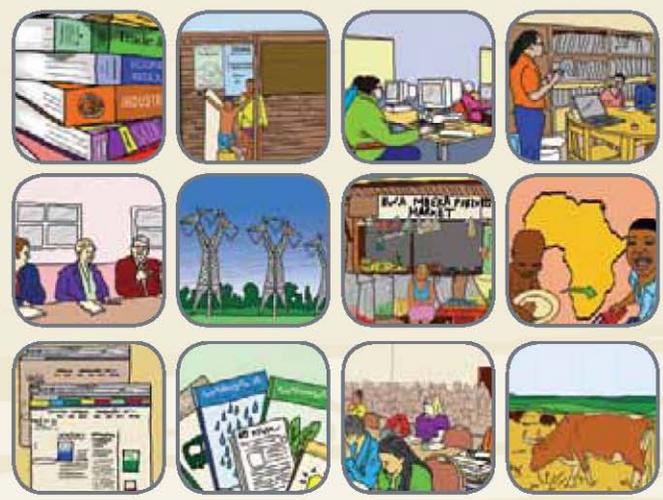
edinamandi
nani elihle!

YHCO



TIPS

TRADE & INDUSTRIAL POLICY STRATEGIES



Trade and Pro-Poor Growth Thematic Working Group

The Impact of Imported GMO Chickens on Zimbabwe's Poultry Industry

Evangelista Mudzonga

December 2009



indigenous growth

The Impact of Imported GMO Chickens on Zimbabwe's Poultry Industry



Draft Submitted to BIDPA

By Evengelista Mudzonga

**TRADES Centre
3 Downie Ave
Belgravia, Harare
Zimbabwe**

This paper has been produced under the SADRN project entitled "Trade and Poverty". It was supported by IDRC. The views expressed are those of the author and therefore in no way should be taken to reflect those of IDRC and BIDPA.

Acronyms

BIDPA	Botswana Institute for Development Policy Analysis
CFSAM	Crop and Food Security Assessment Mission
CSO	Central Statistical Office
CUTS	Consumer Unity and Trust Society
FAO	Food and Agriculture Organisation
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GMB	Grain Marketing Board
GMO	Genetically Modified Organism
IDRC	International Development Research Centre
LMAC	Livestock and Meat Advisory Council
OECD	Organisation for Economic Co-operation and Development
SADC	Southern African Development Community
SADRN	Southern African Development Research Network
WFP	World Food Programme
ZIMRA	Zimbabwe Revenue Authority
ZPA	Zimbabwe Poultry Association

Abstract

The paper has attempted to contribute to a key issue in the current debate on economic development: the link between trade and poverty. The paper focused on the impact of imported chickens on Zimbabwe's poultry industry. The general aim of the study was to find the impact of imported chicken on producers, consumers, retailers and government. The study relied on primary data collected through a survey. Questionnaires and interviews were used to gather information on the impact of imported chickens on producers, consumers and government. The method of ordinary least squares to estimate the model suggested to explain the linkages between trade and poverty. Quantity of domestically produced chickens, quantity of imported chickens and a dummy variable have been used as explanatory variables top rice of chickens, the depended variable. The quantity of domestically produced chickens and the dummy have been found to be significant in influencing the price of chickens on the local market. The quantity of locally produced chickens has been found to have an insignificant effect on the rice of the chickens

The results emanating from the study indicated that the imported chickens have had varied impact on the relevant players in the poultry industry. The consumers and retailers benefited, while producers lost. From the study the consumers benefited from a price reduction of chickens as a result of the influx of imported chicken in Zimbabwe. This translated to an improvement in welfare and hence has poverty reduction effect. The consumer surplus gain was estimated to be \$24 334. Producers generally faced stiff competition from imported chicken and hence their production was reduced. Retailers benefited most from price differential margin. They imported chicken at lower price and tried to match though generally at lower price the local producer's prices. Other significant results found were that the imported chickens have an impact on employment. There was an increase in unemployment as a result of closure of companies which are directly linked to poultry production.

The paper concludes with proposing strategies that can be adopted to deal with the supply side constraints of the poultry industry so as to improve its competitiveness and production.

Table of Contents

1 Background	6
1.1 An Overview of the Zimbabwean Broiler Industry	6
1.2 Regulation before and after the influx of imported chicken	9
1.3 Objectives of the study.....	10
1.4 Scope of the study	10
3: METHODOLOGY	16
3.0 Introduction	16
3.1 Research Instruments	18
3.2 Sampling methods used and the population sample.....	18
3.2 Limitations to the study	19
4: RESULTS	20
4.0 Introduction	20
4.1 Influx of imported chickens	21
4.2 Source of imported chicken	21
4.3 Effects of imported Chicken on Zimbabwe Poultry Players-	22
4.3.1 Poultry producers	22
4.3.2 Consumers	29
4.3.3 Retailers and Distributors	31
4.4 Downstream effects of chicken imports	33
4.5 Major Challenges faced by the local producers	34
5: CONCLUSION AND POLICY RECOMMENDATIONS	36
5.1 Conclusions	36
5.2 Policy recommendations	37
REFERENCE.....	40

List of Figure

Figure 1: Maize Production Trend in Zimbabwe	6
Figure 2: Maize and Chicken Production in Zimbabwe	9
Figure 3: Trade and Poverty linkages	13
Figure 4: Chickens sales in tonnes	23
Figure 5: Sales of Local produced Chickens	24
Figure 6: Comparison of Dressed broilers in over years	25
Figure 7: Employment Trends in one producer	29
Figure 8: Price of imported chicken	30
Figure 9: Consumers benefits perception on imported chickens	30
Figure10: Import quotas approved	32

List of Tables

Table 1 Zimbabwe - Maize area, yield and production, 1999-2009	7
Table 2 Population sample	19
Table 3: Producer loss	27
Table 4: Sales of imported chicken by one of the retailer outlets	27

1 Background

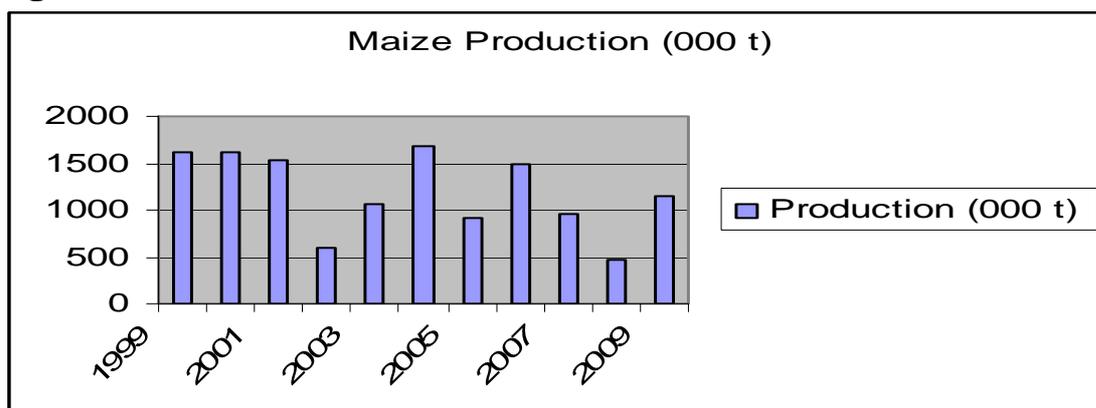
1.1 An Overview of the Zimbabwean Broiler Industry

The Zimbabwe broiler industry has been highly developed, sophisticated, self-sufficient in production of day old chicks, which has not only met local demands, but enjoyed significant exports, including the exports of breeding and production stock to the sub Saharan continent.

Broiler production, based on day old chick sales, over the years 2002 to 2007, has remained fairly stable at approximately 2,320,000 birds per month (Ministry of Agriculture, 2007). This can be projected to have yielded approximately 2,600 tonnes of poultry meat per month (31,300 tonnes per annum) and contributes significantly to the GDP. However these sales and contributions to national economy have been affected by the imported chickens. This study will therefore try to come up with general production trends and employment effects which resulted from imported chicken.

This industry has high potential for growth since Zimbabwe is ideally suited to poultry production because of the climatic conditions that favour chicken as well as maize and soya beans production, the main inputs for the industry. What is critical was the shortage of maize in 2008 which triggered government to relax import restriction of chicken. Figure 1 below shows the trend of maize production from 1999 to 2009, where the year 2008 has the least maize production. In 2009 the sector showed some signs of recovery which if sustained will ensure the recovery of the poultry industry in Zimbabwe.

Figure 1: Maize Production Trend in Zimbabwe



Source: 1999-2007 CSO, 2008 Agritex, 2009 CFSAM.

Prior to 2008 the poultry industry did not have much competition from imports partly because procuring an import permit was a cumbersome exercise and the local market was producing adequately for the local market.

Chicken producers are well represented throughout the country. At its full capacity local industry produces 2 600 tonnes of chicken meat per month. However, it has been producing 2 300 tonnes per month with more than 50% of it coming from the small scale producers (Zimbabwe Poultry Association, 2009). The industry would export 500 tonnes whilst the remaining 1 800tonnes would adequately meet the local demand. However in January and February 2009, 1 400 tonnes of chicken were imported and in March alone, more than 1 200 tonnes were also imported implying that the demand for chicken imports is increasing (Zimbabwe Poultry Association, 2009).

What went wrong?

The chicken production heavily relies on the local availability of the chicken feed which is mainly maize and soya beans. What started first was the shortage of maize in Zimbabwe.

Maize production over the years has been on a downward trend as shown in the table 1 below. The year 2008 registered lowest production (471 000 tonnes) since 1999. This mirrored the trend in the maize yield per hectare.

Table 1 Zimbabwe - Maize area, yield and production, 1999-2009

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Area (000 ha)	1 478	1 374	1 240	1 328	1 352	1 494	1 730	1 712	1 446	1 722	1 426
Yield (t/ha)	1.09	1.18	1.23	0.46	0.78	1.13	0.53	0.87	0.66	0.27	0.80
Production (000 t)	1 607	1 620	1 526	605	1 059	1 686	915	1 485	953	471	1 140

Source: 1999-2007 CSO, 2008 Agritex, 2009 CFSAM.

The annual national food requirement in 2009/2010 national food balance sheet is 2 074 000 tonnes with 1 738 000 tonnes going for human consumption whilst 150 000 for livestock feed and the rest for other use (FAO, 2009). Due to the monopoly power of the state owned Grain Marketing Board no one had the legal right to procure, distribute and market of grain. However, food insecurity in Zimbabwe was very acute in 2008 to the extent that this Board ran out of stock not only for human consumption but also for stock feed.

In Mid 2008 the broiler industry experienced critical shortages of maize, impacting on feed production. This and resulted in drastic decline in production, culminating in a shortfall in supply of chicken to the local market. Poultry production went down to the extent that depleted their stock for as business was just unviable. The local price of procuring maize per tonne went to as high as US\$800/tonne. With maize constituting 70% of chicken feed and this feed constituting 70% of raising a bird of chicken the price of chicken was forced up.

In October 2008 the price of chicken went up to between US\$8-10. Locally produced chickens were available in small quantities until October 2008. Compounded with food insecurity challenges, the government relaxed imports of basic food stuffs. In mid November 2008 imports started coming in.

This was due to low production levels in the agriculture sector as well as shortages of foreign currency by Grain Marketing Board (GMB). Poultry producers were not allowed to import GMO maize for their stock feed. They were forced to import GMO free maize which is more expensive than GMO maize. A tonne of maize going for US\$150/tonne in South Africa would land in Zimbabwe at US\$300 and the producers were forced to get the deliveries of these feeds at Beit Bridge since GMB did not have the funds to ferry the imported maize. This added costs to the production function of the producers. When food crisis reached its peak, the government relaxed the monopoly power of GMB and allowed private importation of grain to ensure food security. The government also liberalised importation of chickens to guarantee enough food to the public.

When this happened, imported chicken started flowing into the Zimbabwean market. Local chickens were practically replaced on the market as the imported chickens were very cheap. The main suppliers are South Africa and Latin American countries (e.g. Uruguay, Paraguay and Brazil).

Grain is mainly imported from these countries who are exporting their chickens to Zimbabwe already placing the local producer at a disadvantage in terms of costs of production. Their production efficiencies and farming methods are more superior to the ones employed in Zimbabwe making their final products very cheap.

The supply of imported maize and imported chicken feed has since stabilized and is once again available on the local market. In March 2009 however, locally a tonne of maize ranged between US\$300-US\$400 which was still way above the average international price of around US\$250. This clearly shows how unviable the poultry business is at the moment.

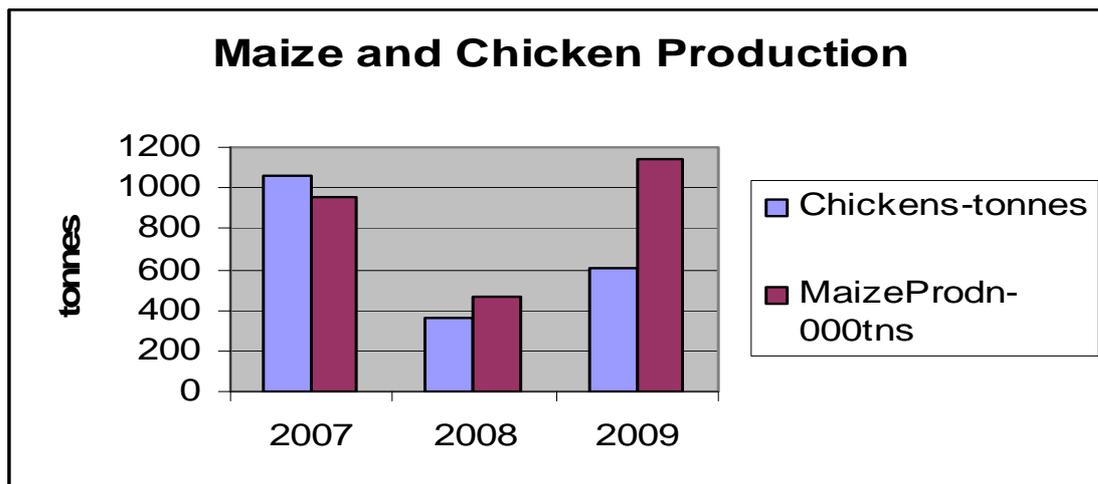
While poultry producers have slightly increased production, they are unable to revive production to previous levels, as a result of significant and increasing volumes of discounted chickens continuing to be imported.

Moreover, they use organic production methods which take 6-8 weeks before chickens are ready for the markets (The Herald, 1 April 2009). The imported chickens only take 3 weeks to be ready for the market. Low chicken production was also as a result of price controls. After importing the feeds, the producers could not set the price of their chickens in the face of price controls and business

was no longer viable. As a result the local poultry industry collapsed and the local producers lost the chicken trade to those produced outside Zimbabwe. Currently (October, 2009) the industry capacity utilisation is very low with some producers operating at levels as low as 20%. (Zimbabwe Poultry Association, 2009)

There is a clear positive relationship between maize and chicken production in Zimbabwe as shown in figure 2 below. In general 2008 depicts the decline in both maize and chicken production. This is the crux of why government opted to open the market for chicken. In 2009 there is an indication of a general increase in maize and chicken production implying that a pick in maize production will revive the local chicken production. There was a decline in feed availability which affected the local production of chicken. Importantly to this study is however not to show in detail this relationship but to assess what then was the resultant impact of these chicken in Zimbabwe.

Figure 2: Maize and Chicken Production in Zimbabwe



ZPA, 2009 and FAO, 2009

1.2 Regulation before and after the influx of imported chicken

In terms of regulation, chickens coming from the SADC region are charged 15% duty upon presentation of the SADC certificate of origin. However the general rate of duty for chickens coming from outside SADC is 40%. Under the Zimbabwe – South Africa bilateral agreement, chickens enter into these two countries duty free.

Importation of chickens requires a Certificate of Health which can only be authenticated by the Ministry of Agriculture through its veterinary department

that the imports are safe for human consumption. This requires the veterinary specialists to visit exporting country facilities and inspect them for this purpose.

Regulation pre and post the influx of chickens has not changed. However volumes of the chicken imports increased into the country. Actually the imports of chicken began when the government announced the relaxation of duties on basic commodities. What necessitated the influx of imported chicken into Zimbabwe was merely shortage and higher price of domestically produced chicken.

1.3 Objectives of the study

The main objective of the study is to highlight the impact of imported chickens on the local poultry industry which is the main source of livelihood for millions of Zimbabweans. The study will also show the impact of liberalisation on the consumer surplus. It will contribute to the dialogue on the impact of liberalisation on poverty thus boosting information on trade and agriculture specifically on Zimbabwe. The study will propose options for reducing vulnerability of poultry producers to imported chickens. The study will provide information to the government of Zimbabwe on the need to reposition the poultry industry in order to address poverty in the country.

Specifically this study is expected to:

- a) Establish the impact of the influx of imported chickens on Zimbabwe's poultry industry
- b) Make proposals on how broiler production can contribute to poverty reduction and socio economic development through the support of broiler producers.
- c) Identify specific strategies to be employed to enable supply-side constraints and production competitiveness
- d) Investigate ,highlight potential constraints and recommend , motivate possible solutions

1.4 Scope of the study

The study will focus on broiler production as well as the consumers. It must make proposals on how broiler production can contribute to poverty reduction and socioeconomic development through support of broiler producers. It must identify specific strategies to be employed to enable supply-side constraints and production competitiveness. Potential constraints must be investigated and highlighted and possible solutions must be recommended and motivated.

Of course 70 % of the population is in the rural areas but study will focus on the urban population since they are the largest consumers of commercial poultry produce. A representative sample of the peri-urban producers shall represent the rest of the small producers throughout the country.

2: LITERATURE REVIEW

2.0 Introduction

This section will explore the theoretical linkages between poverty and trade. It will also trace other studies done in other countries to investigate this linkage.

2.1 Theoretical underpinnings

Theoretically trade and poverty are linked through various transmission mechanisms. As shown in figure 3 below trade can affect poverty through prices, output, and tax revenues. A conceptual framework decomposing the links between trade policy and poverty has been developed by L. Alan Winters (2000a, 2002a). Poverty is affected through income, employment, capital assets and access to financial capital. The link that has seen the most sustained debate among economists is the one between greater openness and growth. While there is a good deal of empirical support for the argument that trade liberalization and openness stimulate long-run growth and income, the case has certainly not yet been completely proven. Sustained growth requires increases in productivity, and most of the evidence suggests that trade liberalization operates through this route. This link informs us that in the short run some factor owners could suffer if productivity increases faster than output.

Thus the effects of trade on wages and employment are important, especially those of unskilled workers. If trade boosts the demand for labour-intensive products, it boosts the demand for labour, and either wages or employment (or both) will increase. If poverty is measured by counting individuals below the poverty line—the headcount index—it is also important where the various wage rates lie relative to the poverty line. If wages are pushed up from poverty line to higher levels, or the expanding sectors offer above poverty line wages, then headcount poverty will fall. If trade destroys local production it results in unemployment and therefore increases poverty.

Dirk Willem te Velde, (2006) provided a theoretical link between poverty and regional integration providing various routes for which these are related. The basis is a simple mapping of a set of links describing how poverty is affected by regional integration. According to this framework, regional integration affects poverty through trade, investment, migration and other complementary policies. This is achieved through the following ways.

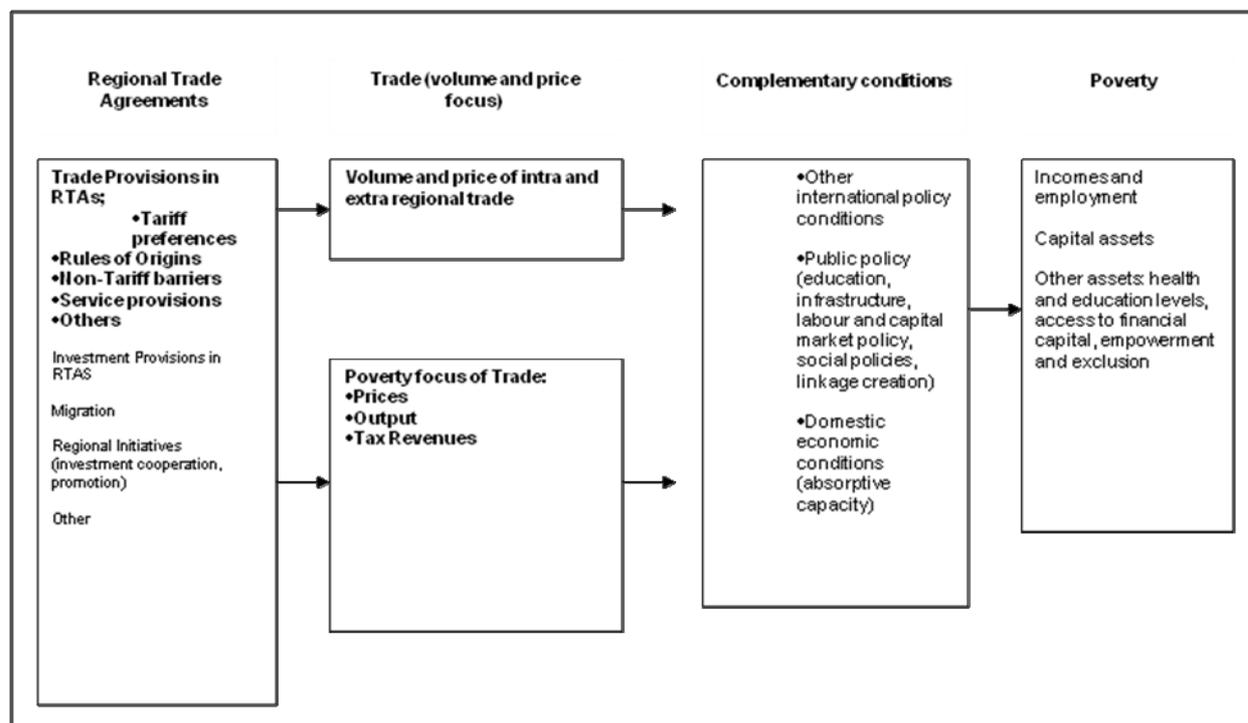
Thus regional integration can affect poverty at the country level through a number of routes:

- *Route 1* through the volume and poverty focus of trade
- □ *Route 2* through the volume and poverty focus of investment
- *Route 3* through the volume and poverty focus of migration
- *Route 4* through other routes.

The route which is of interest to this study is the first one. The diagram below provide such a linkage.

TRADE AND POVERTY LINKAGES

Figure 3: Trade and Poverty linkages



Source: Dirk Willem te Velde, (2006)

Theoretically it is known that a firm that has market power can increase profit by raising price above marginal cost. This mostly happens to monopolies. The degree to which the firm can raise the price depends on the availability of alternatives (substitutes) Demand side substitutions is applicable when the products are differentiated (Church and Ware, 2000). This market power is restrained by threats of imports in an open economy. Bhagwati's (1965) model describes a domestic monopolist which faces competition from foreign suppliers. Corden's (1976) model is an extension of Bhagwati's model and it captures the situation where domestic monopolist faces a competitive international market. These models are however not going to be discussed in detail but they highlight the inability of the domestic firms to increase price if faced with international competition. They give an insight of what happened in Zimbabwe pre and after liberalisation of chicken imports.

2.2 Empirical evidence

Over the 1990s the conviction that openness is good for economic growth was fostered by several highly visible and well-promoted cross-country studies, for instance by David Dollar (1992), Jeffrey Sachs and Andrew Warner (1995), and Sebastian Edwards (1998). Recently, however, these were subjected to searching criticism and reworking by Rodriguez and Rodrik (2001), who argue that their conclusions rest on very weak empirical foundations such as flawed measures of openness and effective openness requires predictability, transparency, and convenience of the trade regime, as well as low barriers per se.

It is widely accepted that openness is an important element of good economic policy and that trade liberalisation is a necessary step in achieving it.. Trade liberalisation is generally regarded as a necessary element in the light against poverty. Literature generalises the positive side of trade liberalisation by advocating that it tends to increase incomes, provide more resources to tackle the problem of poverty. Other opportunities opened by trade liberalisation are attraction of FDI through openness to free flow of capital which can stimulate domestic investment.

Winters et al (2004) did a survey on trade liberalisation and poverty basing on macroeconomic aspects (growth fluctuations), households and markets, wages and employment as well as government revenue spending. They found out that while from each component trade liberalisation can facilitate poverty alleviation in none of them can an unambiguous generalisation be made either in theory or empirically. They stress that the ambiguity arises because poverty is heterogenous meaning to say that there are many reasons why people are poor. Added to this within broadly defined groups there are huge differences in circumstances of individual households. They therefore conclude that any specific analysis must be to identify the different characteristics of the poor including information about their consumption, production and employment activities. They further conclude that outcomes also depend on specific trade reform measures being undertaken. The argument put across by Winters et al (2004) is also supported by Anderson (2004) in his study on agriculture, trade reform and poverty reduction, implications for Sub Saharan Africa. He argues that the impact of trade liberalisation on income distribution and thereby on poverty is not always clear even though the effects of trade policies on capital owners and workers have been studied by trade theorists for centuries. He further quotes Winters (2000) ; McCullow , Winters and Grera (2001) and Hoekman et al , (2002) who support the fact that applying the theory to the real world tends to be an empirical task.

Anderson (2004) also says that trade liberalisation is much more likely to reduce than to raise food insecurity for the vast majority of the world's poor. It also strengthens purchasing power of the poor.

Scholars also argue that overallly empirical evidence suggests that trade liberalisation has a strong influence on productivity and its rate of change and in many cases the latter will be immediately

Positive effects of trade include new business practices and other effects in domestic firms that increase the overall level of productivity and growth and also alleviates poverty levels. The government concern when it comes to opening up is loss of customs revenue.

The link between trade, growth and poverty attracted a lot of attention and has generated a lot of literature. While on one hand international trade has led to high growth in many countries, on the other despite great openness and rapid liberalisation, some countries have failed to materialize main growth rate in a consistent manner. Thus suggested a weak link between trade and poverty reduction. Linkage here has not been as strong and direct as the link between trade and growth.

A study done by CUTS on trade development-poverty linkages concluded that trades affects poverty through growth and income distribution. The study reveals that empirical evidence on the linkages is inconclusive .The linkage between trade and poverty is complex and there can not be a one size fits all lib prescription for all countries in a report by CUTS there is need for institutional reform in the form of subsidy provision and reform on distributive to ensure that benefits from trade directly accrue to the poor.

3: METHODOLOGY

3.0 Introduction

This section presents the research instruments, sampling methods and the population sample used in the study.

This section also discusses the econometric model adopted in this study. Model specification tests to be employed are discussed in the section that follows. The final section of this chapter discusses issues related to data analysis and reliability.

3.1 Model specifications

The researcher specified the regression model for the impact of imported chickens on local consumers and producers.

as follows:

$P^D = F$ (quantity of imported chickens, quantity of domestically produced chickens, dummy)

$$P^D = \alpha_0 + \alpha_1 Q^m + \alpha_2 Q^d + \alpha_3 D + \mu$$

Where P^D is the price for both the domestic and imported chickens

Q^m is the quantity of imported chickens

Q^d is the quantity of domestically produced chickens

D is a dummy variable representing the representing pre and post period of chicken imports

$D = 1$ for period of imported chickens

$= 0$ otherwise

α_0 is regression intercept

α_1 is the regression parameter for the quantity of imported chickens

α_2 is the regression parameter for the quantity of domestically produced chickens

α_3 is the regression parameter for the dummy variable representing pre and post period of chicken imports

μ is the white noise error term

Justification of the variables

The quantity of imported chickens affects their selling price on the local market and the two variables are expected to be negatively related. The level of local production also affects the selling price of chickens on the local market. The coefficient of this variable is also expected to be negative. That is the greater the quantity produced the lower the price of chickens.

The researcher used a dummy variable assigning a value of 1 to the period when chickens were being imported into the country and zero for otherwise. This is because the data collected covered two different periods altogether that is the period with imports and the other without imports. The coefficient of this variable is expected to have a negative sign.

Table 2 Expected signs for the explanatory variables

Variable	Definition	Expected sign
The price of the chickens	P^D	
The Quantity of imported chickens	Q^m	Negative
The Quantity of domestically produced chickens.	Q^d	Negative
Pre and post periods of imported chickens (dummy)	D	Negative

3.1 Research Instruments

Both primary and secondary data was gathered. Primary data collection was done through a survey and the research instruments used were questionnaires, personal interviews, telephone interviews as well as observations. Choice of the instruments depended on the nature of the selected poultry players. Questionnaires were sent to the interviewees through various means which included e mails. These interviews constituted the source of the primary data used. Secondary data was collected from various sources which includes internet, Zimbabwe Poultry Association publications, the Central Statistical Office of Zimbabwe, retail shops and communications between the Ministry and the Zimbabwe Poultry Association. Data analysis was done using, tables, graphs, figures, texts, statistical summaries and pie charts. The main source of data for this study is primary data collected from survey carried out. The use of the survey method has been necessitated by lack of data in Zimbabwe as in particular the quantities of chicken produced and imported.

The data used for the quantity of imported chickens was the recorded total imports received into the country by month from November 2008 to September 2009. The data for the locally produced chickens stretched from January 2007 to October 2008. The price was estimated to be US\$10/kg during the pre-importation period. This is because while the charges were in Zimbabwean dollars, the prices were indexed against more stable currencies. The prices in the period with imports were collected from the retailers and these are shown in Table4 below.

3.2 Sampling methods used and the population sample

This study tried to infer the impact of imported chickens on the poultry industry in Zimbabwe. To satisfy this objective the study identified a number of players in the poultry industry who include the producers, distributors, retailers, consumers, and policy makers. The selection of these players has been motivated by the need to assess the link between trade and poverty. Producers were selected on the basis of their production size and influence in the industry. Both the biggest players (Irvines and CFI) and 10 small scale players were approached and selected for interviews. The 16 key distributors and 11 retailers were selected and interviewed. Consumers were randomly selected and the study also applied the observation method by interviewing customers who were buying chicken meat from refrigerators in the retail shops and outlets. Other interviewees include Zimbabwe Poultry Association and government

departments that deal with the policy issues affecting the poultry industry. The Table 3 below shows the selected population sample that was used in this study.

Table 3 Population sample

Poultry player	Population target
Producers	12
Distributors	16
Retailers	11
Consumers	70
Government	6
Total	115

3.3 Limitations to the study

The study was limited by:

- Lack of time to carry out a thorough research concerning all the relevant stakeholders in the poultry industry as a whole.
- Limited funding
- Appointments with all relevant respondents and authorities
- Non responses by some respondents
- Inability to access all relevant and adequate literature
- Lack of cooperation as some respondents felt they would be exposed.
- Data accessibility from the producers, some government departments.
- Some players were not willing to divulge information as they expressed it could end up in the hands of their competitors and they would lose the market share.

4: RESULTS

4.0 Introduction

This chapter will present, interpret and analyse the results found from the study. It tries to present the results found from those involved in poultry industry- producers, consumers, retailers, distributors and the government.

Presentation of results from the regression

Source	SS	df	MS	Number of obs	=	32
Model	308.0382273	102.679409		F(3, 28)	=	7536.88
Residual	.381460939	28	.013623605	Prob > F	=	0.0000
				R-squared	=	0.9988
				Adj R-squared	=	0.9986
Total	308.419688	31	9.94902219	Root MSE	=	.11672

P	Coef.	Std. Err.	t	P>t	95% Conf. Interval	
Q ^D	- .0000769	.0000552	-1.39	0.174	-.00019	.0000361
Q ^M	- .0003682	.0000793	-4.64	0.000	-.0005305	-.0002058
Dummy	- 6.273467	.103034	-60.89	0.000	-6.484522	-6.062411
Cons	10.06571	0463987	216.94	0.000	-6.484522	-6.062411

From the above table, the model can be estimated as

$$P^D = 10 - 0.0003682Q^m - 0.000769Q^d - 6.273467D + \mu$$

From the results, the level of local production has been found to be negatively related to the price of chickens as expected. This means that the more the quantity of the chickens produced locally, the lower the prices and the reverse is true. The level of production is however insignificant from the researcher's results in explaining the price of chickens. This might be because of the fact that the total supply of the chickens was mainly dominated by imported chickens to the extent that the quantity of domestically produced chickens was relatively insignificant on price determination. Foreign supply was found to be two to three times larger than the amount of local production. This therefore suppresses price and some of the largest chicken producers have resorted to importing chicken products in order to protect their market shares.

The quantity of imported chickens has been found to be significant and the coefficient of this variable was found to be negative as expected. This is because increased supply of the chickens on the local market has the effect of lowering the price. From the results, a unit change in quantity supplied of imports (in kilogrammes) results in 36.82% reduction in price of chickens. The period with imports has been found to have a negative relationship with the price of chickens basically due to the increase in supply of chickens. The pre- importation period does not have any effect on the price of the chickens.

4.1 Influx of imported chickens

All the respondents indicated that the influx of imported chickens started in Mid November 2008. The reasons of such an influx were the acute shortages of stock feed in the local market as the sole grain procurer; GMB announced that it had run out of grain in June 2008 (Zimbabwe Poultry Association, 2009). The biggest breeders because of such a shortage went to the extent of killing their stock as feeds were not available on the local market. This starved the local market of locally produced chickens as production of the chickens plummeted. Responses from the Zimbabwe Poultry Association indicated that the local price of procuring maize per tonne went up to as high as US\$800/tonne as compared US\$150/tonne in South Africa. (August- December 2008) One has to bear in mind that maize constitutes 70% of the feed cost whilst feed constitutes 70% of the bird's costs. As a result, the price of chickens went up to between US\$8-10 per kilogramme towards end of year in 2008 around October. This coupled with the acute food shortages then in the country, the government relaxed the importation of basic food stuffs and the local market started receiving chicken imports. The government through the Ministry of Agriculture and the Veterinary Department commenced issuing out import permits (see annex below). Then the landing price of the imported chickens in the shops was around US\$7.60/kg but then with increases in supply the price went down gradually until it settled at US \$3.30/kg.

All the respondents confirmed that imported chickens are still coming. In this regard, the poultry producers lobbied the government to allocate a quota system to those who import these chickens and hence agreed that only 1000 tonnes of chickens shall be imported per month and the local industry shall supply the balance of the chicken meat demand.

4.2 Source of imported chicken

The producers, government, retailers and distributors provided the major source of these imported chickens. South Africa was ranked as the major source followed by Brazil, Argentina /Uruguay and lastly USA. These countries were said to be producing cheaper chickens as compared to Zimbabwe due to a number of reasons that included the use of GMO feed.

Producers contested that some of the imports come in as distressed products having spent one year in a ship before they are consumed. However, the Department of Veterinary Services disputed such statements saying they were only speculative statements. Producers are also concerned about the fact that some of the chickens find their way onto the market without permits implying that there is rampant corruption in as far as the importation of these products are concerned. The Ministry of Agriculture and the Department of Veterinary Services are both involved in the issuing of permits. However it came out from the interviews that the Veterinary Department should not be involved in the marketing of chickens but rather concentrate on sanitary and phyto sanitary issues of the imported chickens.

4.3 Effects of imported Chicken on Zimbabwe Poultry Players-

The major aim of this study is to interrogate the link between trade and poverty. The importation of chicken's effects were analysed from the major players as categorised in the methodology. This analysis infers the effect of trading in poultry products in terms of production, poverty, pricing, revenue (profit) and employment effects.

4.3.1 Poultry producers

The effects are analysed as per above subdivisions.

Pricing

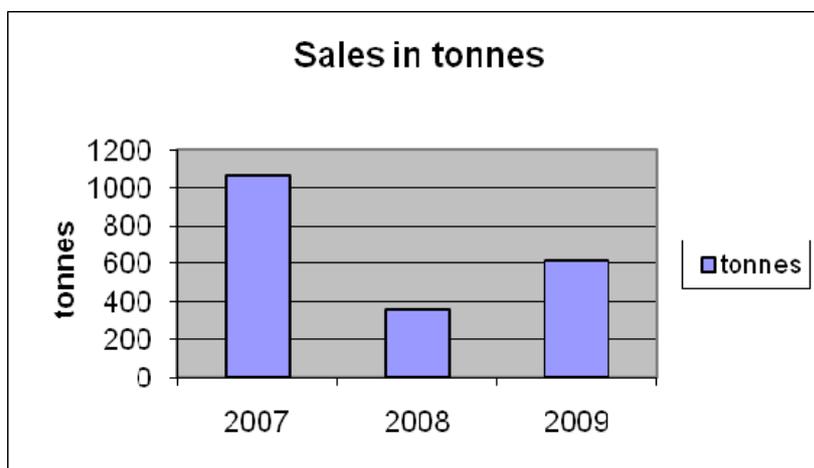
The imported chicken heavily affected the price that was charged by the local producers. All the producers indicated that they were forced to decrease their price to match the imported price of chicken. The price effect also varied depending on whether it was brown (chicken legs, necks, ribs etc) or white meat (chicken breast). The price that was charged on the imported chicken meat was even below the local production cost and this forced small and large poultry producers to close down or scale down heavily in terms of production. The price for a kilogramme of imported chicken was US1.40, while the local produced

chicken was in the range of US\$8-US\$10. Most consumers indicated that they are now devoting less income on buying chickens as compared to the period where imported chickens were not coming to Zimbabwe. However this response was depending on the pre- consumption patterns and level on income of the respondents. There were those who have completely stopped buying chickens because they were expensive and those who continued buying despite the exorbitant price increase. Those consumers who have completely stopped buying chickens started buying and those who have not stopped enjoyed a great consumer surplus. This is completely the opposite of what happened to producers. For producers they lost their market to the cheaper imported chickens.

Production

In terms of production, the imported chickens have led to the closure of some poultry producers companies. Ninety five percent of producers interviewed indicated that the imported chickens destroyed their production. The 95% indicated that the influx of imported chicken led to the closure of their production units. While the 5% indicated that though they did not close they had to scale down their operations in defence of their market share. This response was mainly from the big poultry producers. The smaller are the ones who could not sustain their operations hence they were forced to close down their operations. The graph below depicts the general decline in sales that occurred and illustrates that local chicken production was lowest in 2008 as compared to 2007 and 2009. The graph was plotted using annual averages. The 2009 however, shows the annual averages from January to September 2009. This generally reflects that sales and production are picking up.

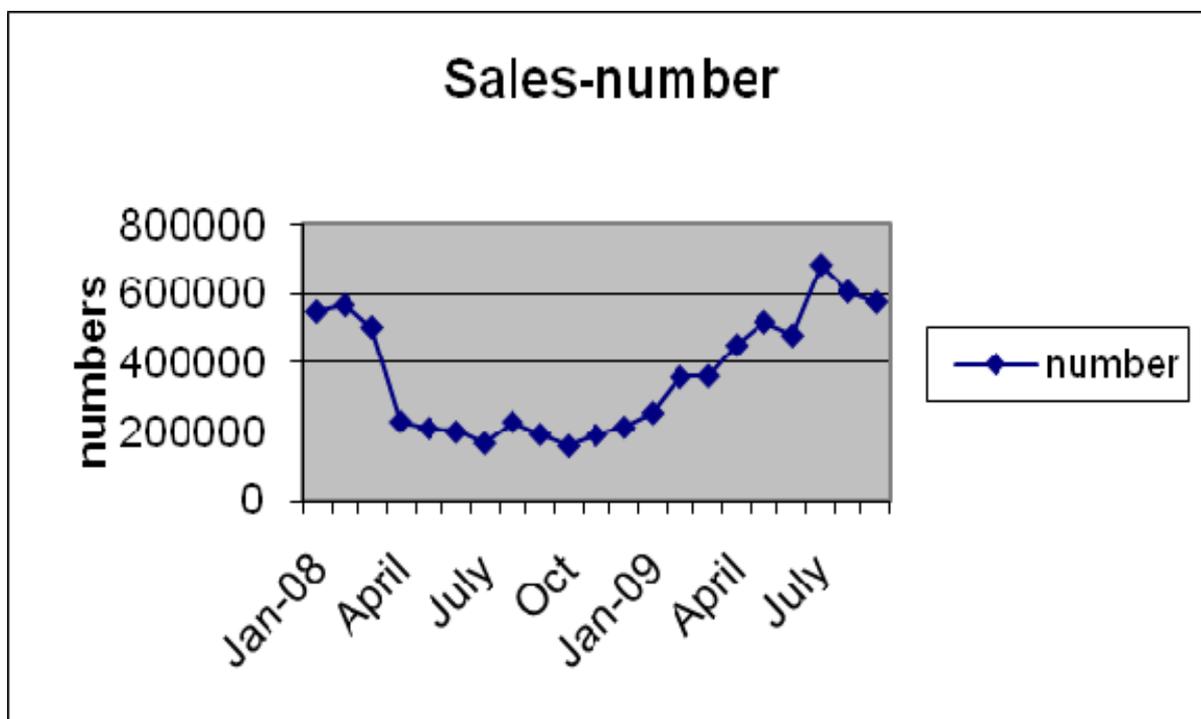
Figure 4: Chickens sales in tonnes



Source: Zimbabwe Poultry Association

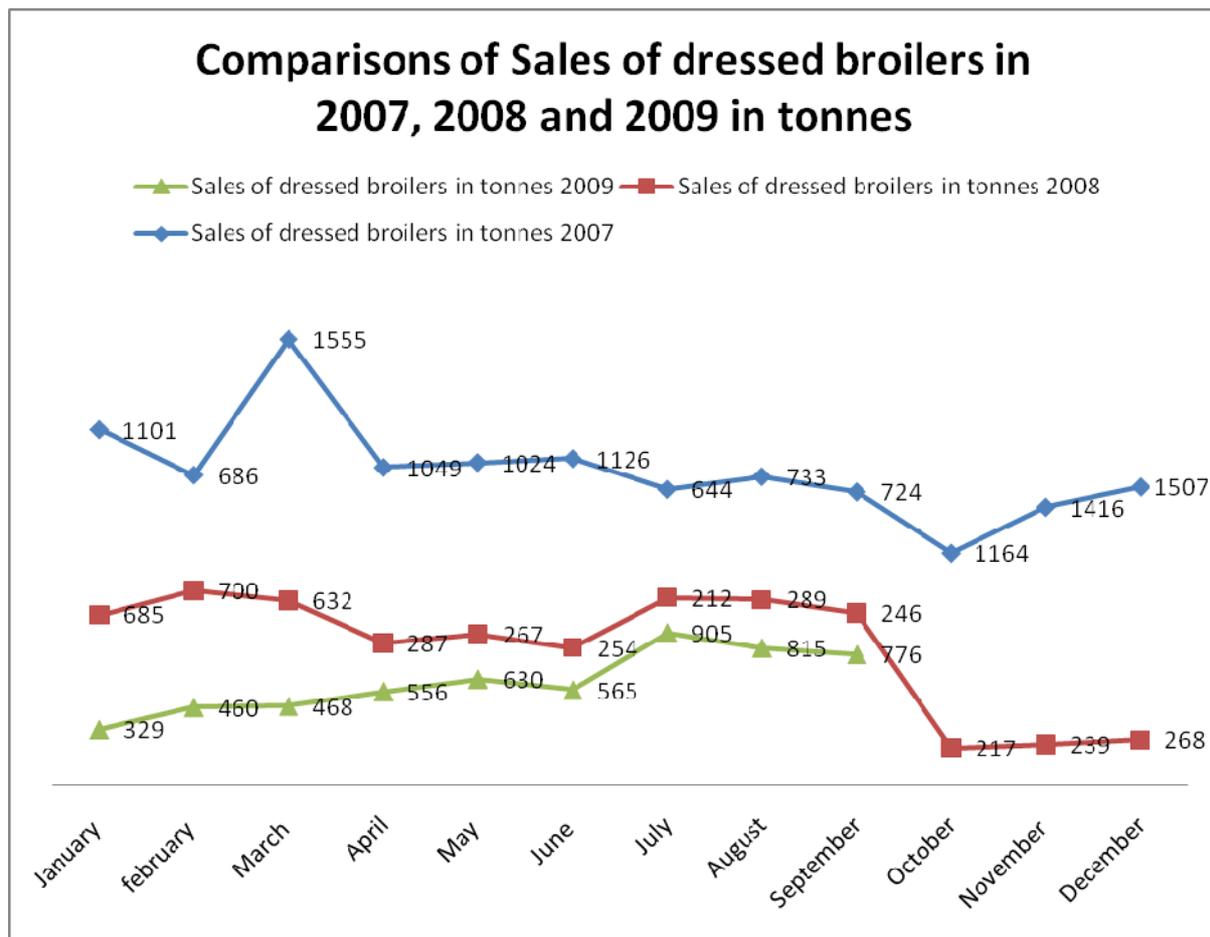
The figure below shows the general trend of all poultry producers in terms of their monthly sales of chickens from January 2008 up to September 2009. This is the number of locally produced chickens sold. The graph generally shows a major decline in sales from January up to October 2008. As from January 2009, the sector started showing signs of recovery as stock feeds could be found on the local market but in small quantities with more grain after harvests, production kept on increasing. The dollarisation of the economy in that month also saw the availability of relatively cheaper feeds and this as well explains the increase in sales in 2009. The increase is also attributed to the fact that the local consumers consider locally produced chickens to be of higher quality than imported chickens. The government also accepted quotas to be allocated to private importers as a way to try to limit the importation of these chickens. The impositions of these quotas were a response by government to the outcry of local producers. These quotas are still in place and government reveals them on a monthly basis. According to the Livestock and Meat Advisory Council in Zimbabwe, the government approved a quota of 230 tonnes in the month of June 2009. This was increased to 799 tonnes in August and eventually to 1010 tonnes in October, 2009.

Figure 5: Sales of Local produced Chickens



Source: Zimbabwe Poultry Association

Figure 6: Comparison of Dressed broilers in over years

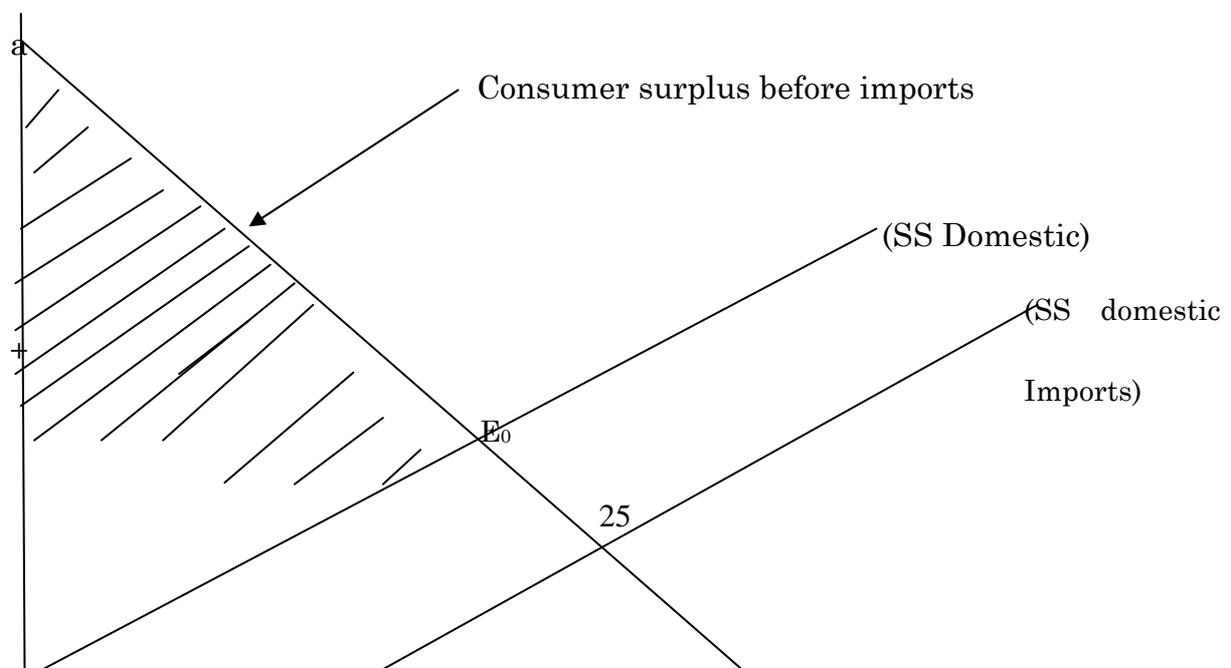


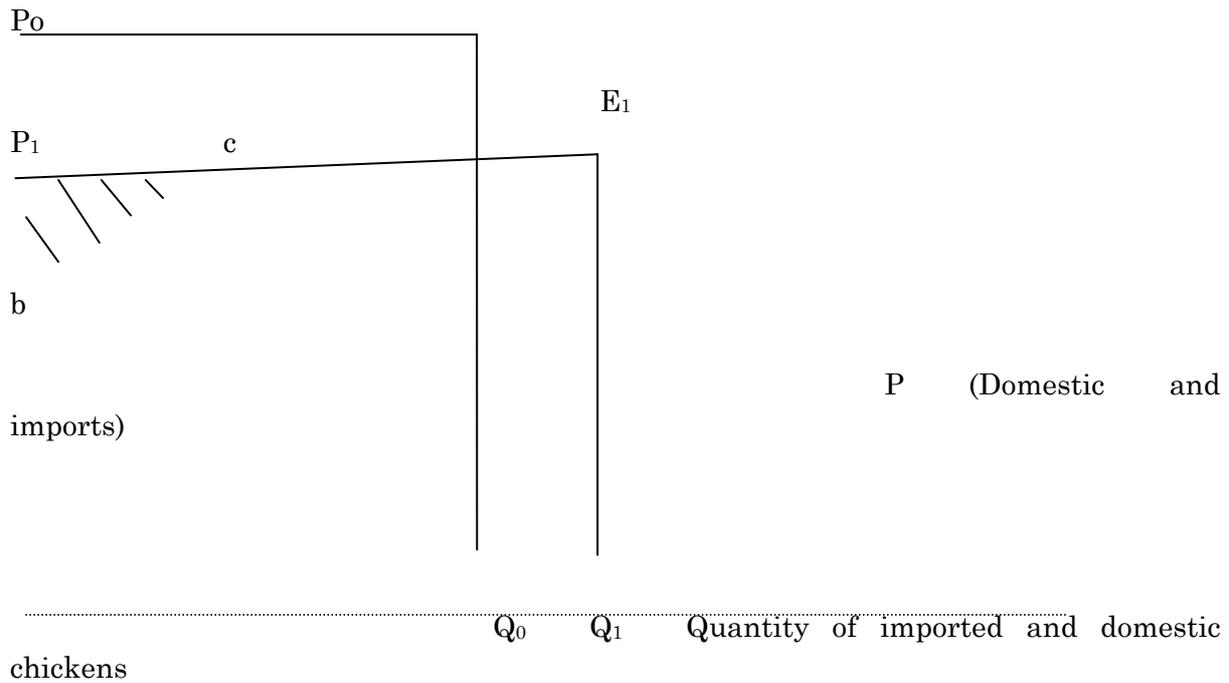
Source: compiled from data provided by Zimbabwe Poultry Association

Consumer and producer surplus

In terms of the impact on the consumers and producers,

Price of chickens





The diagram above shows the supply and demand for chickens on the local market. The supply is represented by the supply curve SS (Domestic) while the demand curve is represented by P (Domestic and imports). The equilibrium price is denoted by P_0 where the quantity demanded is Q_0 . The effect of the imported chickens is to shift the supply curve to the right and this is represented by SS (domestic + imports). This results in a new equilibrium E_1 , where the new price becomes P_1 and the new quantity is Q_1 .

At the initial equilibrium price E_0 , the consumer surplus is shown by the shaded area aP_0E_0 (consumer surplus before imports). Shifting the supply curve to the right results in the increase in consumer surplus. This is represented by aP_1E_1 (consumer surplus with imports). The gain in consumer surplus due to imports is represented by the area $P_0P_1E_0E_1$. The influx of cheaper imported chickens lower the equilibrium price at which the chickens are bought. Producers end up producing at higher costs.

In the diagram above the producer surplus before the imports is area P_0E_0b . However, after the imports, the new producer surplus becomes P_1cb , hence the area $P_0E_0cP_1$ represents the loss in producer surplus. It is important to note that the gain in consumer surplus is matched by corresponding loss in producer surplus.

Table 3: Consumer surplus gain

<i>Supply of chickens before imports(in tonnes)(December 2007- October 2008)</i>	<i>Price (US\$)</i>	<i>P*Q</i>	<i>Total supply of chickens including imports (tonnes)- (November 2008- September 2009)</i>	<i>Price(US\$)</i>	<i>P*Q</i>
5 314	10	53 140	23 477	3.30	77 474

Source: Zimbabwe Poultry Association

Total production during the period (December 2007 to October 2008) was 5 314 tonnes and the average price of chicken per kilogramme was US\$10. The revenue collected during this period (price * quantity) was US\$53 140. Comparing this with the period of the influx of imported chickens (November 2008 to September 2009), where total supply (local production and imports) was 23 477 tonnes and a price of US\$3.30/kg, the revenue was \$77 474. Therefore the consumer surplus gain of US\$ 24 334 was calculated as the difference between the revenue gained between the two periods

From the interviews with the poultry producers it came out that distributors and other small players started importing chickens with 3000 tonnes of permits being issued. In January – February 2009 big orders started coming in at US\$4-5/kg. The locals could only produce 400 tonnes of chicken meat. Another surge of imports was experienced in March – May 2009 and price of imports started going down. This information corresponds with data provided by one of the retail outlets at branch level in Harare. Sale of imported chickens by this retailer began in December 2008. It can be noticed that imported chickens increased in January- February but there was another surge in March and April 2009.

Table 4: Sales of imported chicken by one of the retailer outlets

Months	Imports of chicken(2 kilogrammes packets)	Sales	Price of 2kilogramme packet (US\$)	Profit (US\$)
January-				

2008				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November	nil	nil	nil	Nil
December	900	6300	7.00	540
January	2000	14000	7.00	1200
2009				
February	2400	16800	7.00	1440
March	3600	25020	6.95	10080
April	3600	25020	6.95	10080
May	2000	13900	6.95	5600
June	1800	12510	6.95	5040
July	1500	8700	5.80	2475
August	1200	6960	5.80	1560
September	1200	6960	5.80	1320

The observation from this diagram is that opening up of the market to the imports increased the sales volumes of the retailers and hence their profits.

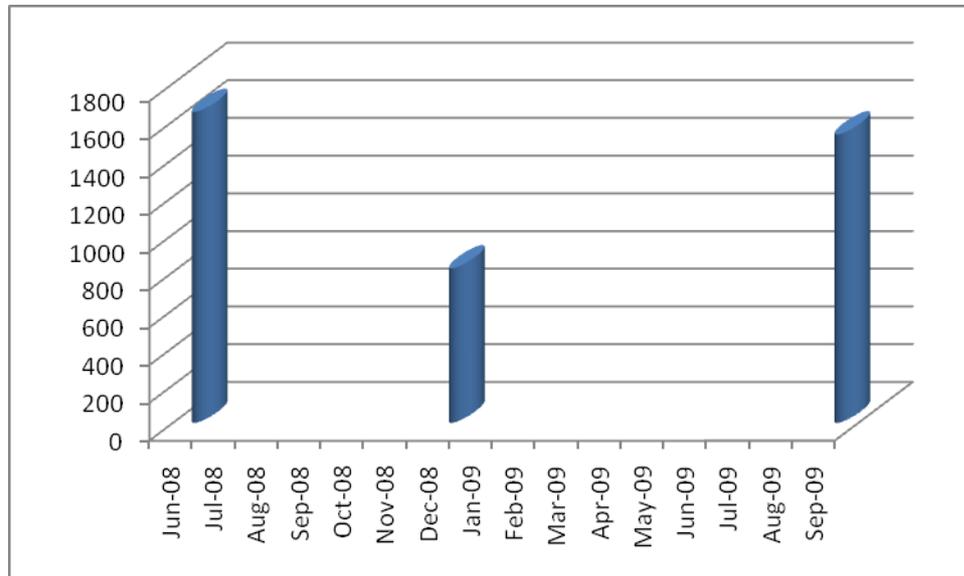
Since the big poultry breeders killed their parent breeds, the small scale producers were forced out of business as they could not get the day old chickens for growing and therefore were made worse off.

Employment

The respondents indicated that poultry producers were affected in terms of their employment capacity. In general the influx of imported chickens led to the increase in unemployment in Zimbabwe. The chairman of the Association of poultry industry said that it had not only affected employment in the poultry sector but even downstream and upstream sectors. He indicated that the underperformance of poultry producers also indicated that those involved in feed making were affected also. Industry which produce plastics and farms which produced maize and soya beans were affected. This might indicate that in general opening up increased poverty. All the producers indicated that they were either forced to close down or send people on unpaid leave. Some of the producers suspended their contract workers. Irvines Day Old Chicks (Pvt) Ltd indicated that they had to force employees to go on unpaid leave. The General Manager said that in June 2008 the company had 1 650 people employed, but by December that year less than 1000 people were employed. During the time of the interview (October, 2009) the manager said that employment was now

picking, with 1 530 people employed in September 2009. In general it can be said that these imports increased poverty in Zimbabwe. The graph below tries to show the trend in employment at one of the poultry producers

Figure 7: Employment Trends in one producer



Source: Author's compilation from data provided by Irvines Pvt Ltd

4.3.2 Consumers

In general the consumers gained in terms of reduction in price. In terms of their consumption habits all the respondents indicated that their frequency of eating chicken increased. All the consumers indicated that the influx of chicken reduced their poverty. This was mainly explained in terms of price reduction effect and their frequency of eating chickens. In addition they indicated that they were eating chicken more frequently than beef meat. While the producers are proud of their product because of its quality and taste of which the consumers are aware, the latter cannot do much because of lack of disposable income and hence being rational they go for the cheap chickens. Seventy eight percent of the respondents said there was improvement in their welfare because of these imports. They were quick to cite a fall of price of chicken from a high price of US\$10 to US\$3.00. Thus imports pushed the prices down which really benefited the consumer. Most of these consumers noted that the effects on their consumption pattern were high since it made the product available and affordable. Buying patterns are determined by household income otherwise chicken meat is one of the common sources of proteins in their diet. Given that the majority of the population are not working and that most of the sectors are down, those that are formally employed earn very little income hence welcome imports. This is illustrated in the diagramme below

Figure 8: Price of imported chicken

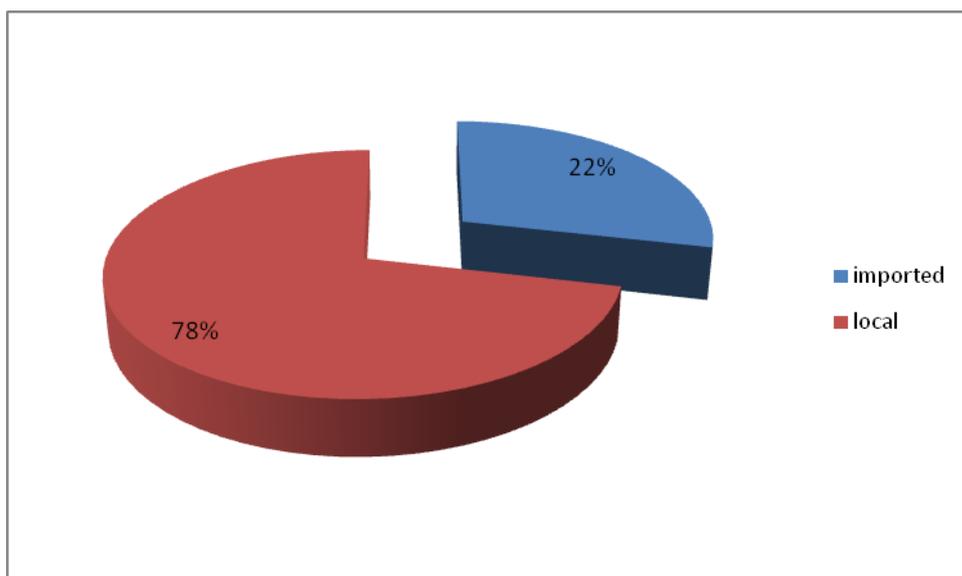


Sources: Interviewees

However the other 22% claimed that they overall did not benefit from the imports in real terms. They said the imports were of an inferior quality hence they are prepared to remain loyal to the locally produced chickens even if they are a bit more expensive than the imported ones. So brand loyalty was guiding their buying preference.

This is illustrated in the pie chart below.

Figure 9: Consumers benefits perception on imported chickens



Source: data collected from interviewees

In US, consumers prioritise the breast meat which they consider a premier on health grounds. In Zimbabwe what is preferred is brown meat which consumers enjoy on the basis of taste. This brown meat is therefore imported to Zimbabwe at US\$0, 70/kg but is placed a significantly high price mark up. Thus these chicken products are so rampant in shops sold at higher prices by these traders Chickens outside SADC although it faces a duty of 40%, still lands into the supermarkets a lot cheaper because of the low cost structure in the countries of origin. The consumers benefited from the price fall.

Also highlighted by producers was that sometimes distressed chickens would be dumped on to the local market. They pointed out that a certain brand of chicken imports from one of these countries contained a lot of water about 35% (after brining a process that is done for preservation), while the locally produced chickens contain only 10%. To this effect they highlighted that an imported 2 kg bird when cooked would shrink to 1.3 kg bird while on the other hand a 2 kg bird produced in Zimbabwe would shrink to 1.6kg when cooked. These sentiments were also raised by all the consumers interviewed. This implies that consumers are being indirectly reaped as 35% of the imported product is water.

The consumer's welfare can then be said to have improved when the price was initially forced down. However there are mixed results in terms of the benefit.

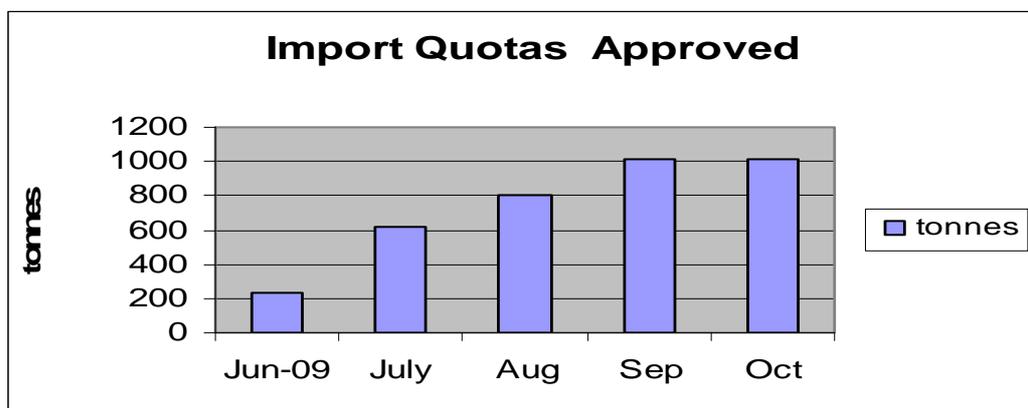
4.3.3 Retailers and Distributors

Distributors and retailers gained because these are the traders who were and are still importing chickens. They benefited because they were making profit through their pricing. In terms of sales they all indicated that they witnessed increased business as these chickens were largely bought.

Because of the stiff competition brought in by the distributors and retailers' imported chickens, the poultry producers through the Livestock and Meat Advisory Council designed a meat import application form that must be filled in by the potential importers. The LMAC then would recommend the applications that meet their conditions for the government to grant the import permit. This application form is as attached in the appendix.

Responses from the Livestock and Meat Advisory Council (LMAC) indicated that these distributors and retailers are claiming for more chicken import quotas. The graph below shows a general increase in the quantities which the LMAC recommended to be imported by the distributors and retailers. The graph further reveals increased pressure by these players to the government to be allowed to import more chickens. These requests come from big distributors like Seedex group which includes Zenith, Skinglay, seedex and Ebbtide, Innscor, Jolly Jongwe and butcheries and retailers. The import quota granted by government through request/recommendations of the Livestock and Meat Advisory Council stood at 1010 tonnes chickens in October 2009. They are now pressuring government to reduce it to 600 tonnes for the coming months (November, 2009)

Figure10: Import quotas approved



Source: Compiled from data provided by LMAC

Competitiveness of Zimbabwe Poultry Industry

Results indicated that Zimbabwe poultry industry's competitiveness has been eroded. This stemmed from the challenges that the poultry industry was facing. In terms of the pricing the respondents indicated that they are not competitive. Irvines indicated that they cannot sustain price cuts anymore since they are operating at breakeven point. Because of the challenges it resorted to importing chickens as from September, 2009 so as to defend its market share. Local producers fail to compete with imports whose costs of production are so low that even if the 40% tariff is imposed on chickens from outside SADC, they still have a cost advantage over the local ones. The local margin is small. Retailer's margin is high on imports than on local products. If they order the local chickens, they have to ensure that they move the volumes to get as much revenue. The local producers acknowledge that the consumers deserve to have choice on chickens meat provided the meat is inspected and is not distressed.

Irvines is importing 100 tonnes per month from South Africa. One of the local producers' competitors in South Africa produces about 650 tonnes per month. In terms of technology they indicated that there is need to invest in new technology but the problem is that they cannot borrow now, since they are operating on cash basis.

In terms of quality the producers indicated that they are very competitive. They stressed that despite the challenges they are still adhering to standards. Irvines indicated that they stand for quality assurance that is why they are able to sell at a slightly higher price than that of the imported chickens. Brand loyalty is still guiding their sales. This is because the competing products that is imported chickens are said to be of a substandard grade as indicated above. Because of low capacity utilisation (20%) faced in last months of 2008 infrastructure has dilapidated and it needs revamp and replacement. Costs of production are still high as compared to the region.

Producers appreciate that imports create competition but reduce their ability to recapitalise and be able to bring chickens to the market.

4.4 Downstream effects of chicken imports

The Local Day Old Chick Producer: Planning to place birds on the ground happens at least 3 to 4 weeks prior to the birds arriving on the farm. The hatchery cannot place fertile eggs in the incubator on the hope that he will sell the chicks: placements are made against orders from production units. As

producers reduce their orders of what day old chicks they are going to require, so the fertile egg producer and the hatchery has to start dumping eggs. These eggs have to be dumped as they are not table eggs produced by layers: they are fertile eggs produced by parent birds and the overheads of the hatchery, however, have to be met if day old chicks are going to be available in the future. If the fertile egg producer and the hatchery cannot meet these costs the operation has to be closed down. In this scenario it can take up to 18 months to get production cycle of day old chicks back into full swing, not to mention the job losses and local industry shrinkage that will also ensure.

The Local Feed Mill: The reduced placement of birds on production units has a direct impact on the demand for feed and once again, capital assets are underutilized. As with the production unit this means more job losses and industry shrinkage.

The Local Soya Bean Producer: Zimbabwe has been on a big drive to increase production levels in Agriculture. The main users of Soya bean meal in Zimbabwe are the chicken and pig industries. Soya beans are grown to crush for the production of cooking oil. A by-product of this process is soya bean meal. The crushing plant, for example Olivine Industries, needs to sell the soya bean meal in order to remain competitive in its pricing of cooking oil. The chicken industry historically was the biggest user of soya bean meal. If the chicken industry is allowed to shrink and potentially close down, the cooking oil producer will only realize the export price of soya bean meal and will struggle to remain competitive on its oil. This will result in a lower price offered to the soya bean farmer: a negative stimulus to increase production.

The Local Maize Producer: The maize producer is less affected than the soya bean producer; however, the poultry industry is a big user of maize and contributes to the demand on maize, thereby contributing to a healthy maize industry.

4.5 Major Challenges faced by the local producers

The respondents cited a number of challenges that they faced during the period under study. These included power cuts. They then resorted to installing generators for which one of the major producers indicated that they will need to use about 90 litres of fuel an hour for any time the power utility could not supply electricity to their farms.

The industry was not spared from the acute economic challenges that haunted the economy of Zimbabwe in the last decade with the hyperinflationary environment with official statistics at 231 million % in August 2008. This eroded the producers' capital and hence seriously constrained their operations. The government gave the GMB the monopoly over procurement, distribution and marketing of grain which is the main input in the production of chickens. This parastatal because of acute shortages of foreign currency could not procure enough grain for the farmers. Moreso, it pegged prices that were not lucrative to the grain farmers and thus could not gather enough grain reserve for both the human and livestock consumption. GMB would import the maize which the producers were left to transport from the border post as the state procurement Board did not have funds to bring it to the respective depots. As a result poultry producers ran out of inputs. Some of the inputs challenges and the trickle down effects were discussed above. The government also dictated the price at which these producers were to sell their chickens on the local market. For example in October 2008, when the market price of the locally produced chickens was between US\$8-10, the official price for the same was US\$1,50 which was just bizarre.

Credit facilities dried up as investors and donors fled the country due to the political instability in the country. This meant that the poultry producers had to rely on their cash for operations. However this would put them at a disadvantage as compared to their competitors who would easily access credit at reasonable rates. Thus lack of capital crippled their ability to grow. Producers said that in order to be as competitive, they need to know how to grow chickens as their competitors. They need a conducive, environment to be able to get loans to buy the necessary equipment that spur them to enjoy large economies of scale.

Irvines one of the biggest players became an importer of chickens in order to defend its market share. It began importing chickens from Rainbow of South Africa in 100tonnes per month. Irvines also argues that it is cheaper to import than to produce.

The other challenge they face is that they cannot establish the actual quantities of imports and hence the magnitude of the competition they are facing. Producers argue that there is a lot of corruption going on when it comes to the importation of chickens. The borders are porous, and the customs officers are corrupt. They also claim that the permit office discovered that 56 permit books were missing and each permit would cost US\$20 thus a correct record of the actual imports could not be established.

They still have to import vaccines and vitamins which add up to their costs of production.

The poultry industry suffers from high cost variations from its competitors. Their competitors enjoy very high economies of scale, very high productivity levels, different economic environment and even more sophisticated infrastructure. The playing field is not even for the local ones. Due to extremely favourable growing conditions the South Americans can produce maize and Soya beans at levels lower than we are able to produce the same in Africa. Their enormous poultry industry benefits from economies of scale with the ability to produce a chicken and land it on the African Continent at below the cost of production in Zimbabwe. The South African are also able to produce chickens and land them onto our market at levels that are below local cost of production (landed cost: US\$2.15/kg.) There are two reasons for that; first, the cost of their maize (US\$ 170/MT) is well below the cost of imported maize (US\$ 350/mt) that is going into the feed ration from local producers; and second the South African product is heavily brined with levels of up to 35%. This gives them the ability to reduce their price per kg as they are adding 35% to the weight of their product at very little cost. Brine inclusion in Zimbabwe is limited to levels less than 15%.

The other challenge is that, the complementary source of protein for human consumption, beef was seriously affected by the collapse of the agriculture sector, thus leaving the Zimbabwean consumers with little or no source of protein. This scenario thus necessitated the imports of chickens from other countries in order to satisfy the local demand.

The future of the industry is threatened on the basis of the issues outlined above. The industry and its ancillary industry urgently seek the assistance of government that ensures positive production signals.

As a result of the factors above, government issued permits to various players to import chicken. These permits were issued dating back to November 2008. These imported chickens have come out cheaper and alleviated the shortage in the market.

5: CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Conclusions

The aim of this study was to investigate the link between trade and poverty. The study tried to show this links through the effects of imported chickens on the poultry industry of Zimbabwe. Primary data was collected and used to analyse the effects of imported chicken on producers, consumers, retailers and on employment.

The results found indicate that the producers did not benefit from the influx of the imported chickens. Rather these imported chickens depressed the price prevailing in the local market resulting in producer loss being incurred. From the results, it was found that the consumers benefited through price fall. This benefit was however, compromised by the quality and the levels of brine in the imported chickens. There was an increased level of unemployment associated with the coming of these chickens. The retailers and distributors benefited the most by enjoying brisk business in the sale of imported chickens. The government benefited from the revenue collected although the amount was compromised by corruption at the borders. The overall effect of the imported chickens on poverty was difficult to quantify. However from the results obtained it can be said that the benefits of trade outweighed the costs brought about thereof. The benefits included consumer surplus gain, improved food security on the general population that was facing acute shortages of chickens on the local market. The retailers have also gained in terms of profits that may have contributed to even lower prices further benefiting the consumers.

5.2 Policy recommendations

Given the strategic link of the poultry industry to poverty reduction it becomes key to support the sector through the following proposed recommendations:

1. The government needs to address land tenure issue since producers do not have bankable documents for them to be able to access loans from the local financial institutions.
2. There is competition between human beings and animals for maize the staple food in the country. This is however a major ingredient in stock feed production. There is therefore need to come up with other complementary ingredients to substitute for maize.
3. There is need for more breeding companies in the poultry industry to ensure more production of chickens to supply the local market. Currently there are only four breeders namely; Irvines Day Old Chicks (Pvt) Ltd,

Charles Stewart, Hubbard Zimbabwe and Crest Breeders International. All these companies operate using franchises and therefore no one else can trade their products without permission. Moreover, the Ministry of Agriculture has minimum requirements for breeders which most locals can not meet in terms of affordability.

4. The Grain Marketing Board must stop distorting the price. It publishes that the official price available for suppliers of maize is US\$265 but it is not able to pay that price. The effect is therefore to create an expectation from the farmers who then supply the grain to chicken producers at a higher price and hence pushes up the production costs of the poultry producers.
5. The Zimbabwe Revenue Authority (ZIMRA) to correctly apply tax regime in place at the border posts. Duty should be consistently applied at the border post. Some consignments of chickens enter into the country without being charged duty due to corrupt activities at the border posts. This therefore robs the country of the much needed foreign currency.
6. Veterinary services have to be extended to the border posts to ensure that standards on importation of poultry meat are adhered to.
7. Since the poultry industry is heavily dependent on the agriculture sector, it becomes key for the government to address agriculture sector in order to boost and support the poultry industry in Zimbabwe. In this regard, the country needs to invest in R& D and strengthen public-private partnership in agriculture development. It also needs to adopt modern technologies particularly in rural areas and desist from use of traditional methods. There is need to link expatriate scientists from Zimbabwe with the local institutions to exchange information on how developed countries are producing their poultry and learn from that. The country needs to strengthen production and post harvest capacity through reinforcement of infrastructure and food storage facilities. There is great need to help landowners to be farmers in terms of education/knowhow and timely provision of farm inputs. Thus the govt needs to ensure availability of inputs to restore productivity and increase productivity of both the agriculture sector that supplies inputs to the poultry sector as well as the poultry industry itself.
8. The government needs to improve extension service delivery to smallholder poultry producers throughout the country as access to

information on the latest technologies can be a challenge that can only be met by big poultry producers.

9. The country needs to strengthen food procurement system and mechanisms including those related to importing food and financing purchases from abroad. The country also needs to ensure that food aid is provided in a way that positively solves food crisis without undermining local food production.
10. The government needs to empower people with the ability to produce chickens for themselves for them to be food sovereign. As reliance on imports reduces employment opportunities
11. Zimbabwe needs to join hands with other regional countries to build food security in the form of early warning systems on food shortages and possible sources of food supplies, regional marketing and trading of food between food surplus and food deficit neighbouring countries, exchanging best practices, technologies and human resources on agriculture production.
12. The government can link up the local poultry industry to technical expertise offered by international organisations
13. Poultry is a livelihood issue and therefore for the farmers get value out of their chickens, proper marketing structures should be put in place

Some of the officials talked to:

Ms Rosemary Siyachitema- Director, Consumer Council of Zimbabwe

Dr S. K. Hargreaves – Principal Director, Department of Veterinary Services

Mr S Zawe- Chairman, Zimbabwe Poultry Association

Mr Hasluck- General Manager of Irvines Day Old Chicks (Pvt) Ltd

Zimbabwe Revenue Authority Customs House

REFERENCE

Anderson K (2004) **Agriculture, Trade Reform And Poverty Reduction: Implications For Sub-Saharan Africa** , UN, New York And Geneva, 2004

Bhagwati, J, (1965) “ **On the equivalence of tariffs and Qoutas**” in Baldwin, R (1965), **Trade , Growth and the balance of payment**, Amsterdam, North Holland

Church, J and R Ware (2000), **Industrial Organisation: A strategic Approach**, McGraw-Hill

CUTS (2008) **Report of the CUTS Event onTrade-Development-Poverty Linkages**
atUNCTAD XII Civil Society Forum, 19 April 2008

FAO Global Information and Early Warning System on Food and Agriculture World Food Programme (2009) **Special Report FAO/WFP Crop And Food Supply Assessment Mission To Zimbabwe, 22 June 2009**

Joaquim Bento de Souza Ferreira Filho et al (2006) : **Trade Liberalization, Income Distribution And Poverty: The Poultry Production Case Study In Brazil**, Final Report, August 2006

McMillan et al (): **My Policies or Yours: Does OECD Support for Agriculture Increase Poverty in Developing Countries?**

McMillan et al (2003): **When economic reform goes wrong: cashews in Mozambique**

Ministry of Agriculture (2007) **Agriculture Statistical Bulletin**

Perderson et al (2000): **Possibilities for smallholder poultry projects in eastern and southern Africa**, proceedings of a workshop, Morogoro, Tanzania, 22-25 May 2000, Network for Smallholder Poultry Development, The Royal Veterinary and Agricultural University Copenhagen

The Herald: Zimbabwe: GM Chickens Hit Poultry Industry, **1 April 2009**
Zimbabwe Poultry Association (2009): **Current Position of the Zimbabwean Broiler Industry**

Winter et al (2004) Trade Liberalization and Poverty: The Evidence So Far,
Journal of Economic Literature, Vol. XLII (March 2004) pp. 72–115

Zimbabwe Poultry Breeders Returns , 2007

Zimbabwe Poultry Breeders Returns , 2008

http://en.wikipedia.org/wiki/Economy_of_Zimbabwe

www.ipsnews.net/africa/nota.asp?idnews=32293: Trade-Ghana: The Chilling
Effect of Frozen **Poultry** Imports