

Evaluating different scenarios regarding the removal of anti-dumping duties on chicken leg quarters from the United States

A report by the Bureau for Food and Agricultural Policy (BFAP)



Compiled for
Agricultural Business Chamber

April 2015

The Bureau for Food and Agricultural Policy (BFAP)

The Bureau for Food and Agricultural Policy (www.bfap.co.za) links analysts with multi-disciplinary backgrounds to a coordinated research unit that informs decision making within the Food System. BFAP advises government, agribusinesses and farmers by providing analyses of future policy and market scenarios and measuring their impact on farm and firm profitability. BFAP acknowledges and appreciates the insight of all partnering institutions and industry specialists.

“The future is the only time that we can change. Developing future scenarios is our business.”

Disclaimer: *The views expressed in this report reflect those of BFAP and do not constitute any specific advice as to decisions or actions that should be taken. Whilst every care has been taken in preparing this document, no representation, warranty, or undertaking (expressed or implied) is given and no responsibility or liability is accepted by BFAP as to the accuracy or completeness of the information contained herein. In addition, BFAP accepts no responsibility or liability for any damages of whatsoever nature which any person may suffer as a result of any decision or action taken on the basis of the information contained herein. All opinions and estimates contained in this report may be changed after publication at any time without notice.*

Table of Contents

Table of Contents.....	3
List of Figures.....	4
List of Tables.....	4
Acronyms.....	5
1. Introduction.....	6
2. A historical perspective on South African broiler imports.....	7
3. Relative prices in different regions of origin.....	11
4. Scenario simulations.....	14
4.1. Scenario implications at sector level.....	17
4.2. Implications on producer income.....	19
5. Concluding remarks.....	21
References.....	22

List of Figures

Figure 1: Chicken production, consumption and trade in South Africa	7
Figure 2: Composition of chicken imported to South Africa between 2010 and 2014	9
Figure 3: Origin of South African chicken imports: 2010–2014.....	9
Figure 4: EU share in frozen bone-in portion (HS 02071490) imports	10
Figure 5: Disaggregation of EU frozen bone-in portion (HS 02071490) imports.....	11
Figure 6: Chicken consumption, production, trade and profitability under the baseline assumptions.....	15
Figure 7: Impact of three different scenarios on the price of domestic IQF chicken pieces relative to the baseline	17
Figure 8: Impact of three different scenarios on chicken to maize price ratios relative to the baseline	18
Figure 9: Nominal net farm income and return on investment for an independent producer..	20

List of Tables

Table 1: Classification of chicken imports into South Africa.....	8
Table 2: Unit values of total exports HS code 020714 (Frozen fowl, cuts and offal)	12
Table 3: Unit values of leg quarters.....	12
Table 4: Relative cost of production (Eurocents per kg carcass weight).....	12
Table 5: 5 year average unit values in the US as a share of EU countries.....	13
Table 6: Relative prices of bone-in portions imported into South Africa form different regions in 2015	13
Table 7: Macro economic assumptions for the baseline outlook.....	15
Table 8: Impact of 3 different scenarios on the South African broiler industry	20

Acronyms

AGOA	African Growth and Opportunity Act
BFAP	Bureau for Food and Agricultural Policy
DAFF	Department of Agriculture, Forestry and Fisheries
DPFO	Developing Poultry Farmers Organisation
EU	European Union
FCR	Feed Conversion Ratio
HS	Harmonised System
IMF	International Monetary Fund
ITC	International Trade Centre
ITAC	International Trade Administration Commission of South Africa
LEI	Landbouw Economisch Instituut at Wageningen University
NAMC	National Agricultural Marketing Council
RNFI	Real Net Farm Income
ROI	Return on Investment
SA	South Africa
SAPA	South African Poultry Association
TDCA	Trade, Development and Cooperation Agreement
USA	United States of America
USDA	United States Department of Agriculture
WTO	World Trade Organization

1. Introduction

The Department of Agriculture, Forestry and Fisheries (DAFF) reports that the broiler industry represents the largest agricultural sub-sector in South Africa. Total value of production from fowl slaughters for the 2011/12 season was R26.9 billion (DAFF, 2013:76), representing 16.4% of agriculture's contribution to the South African Gross Domestic Product (GDP). In addition to dominating production, chicken meat also represents the cheapest and most consumed source of animal protein, contributing 65.5% of domestically produced animal protein consumed in 2011 (SAPA, 2012a:7). SAPA (2013:9) further indicates that the industry employs more than 56 thousand people directly, while contributing indirectly to an additional 108 thousand jobs throughout the poultry value chain. The Animal Feed Manufacturers Association (AFMA) indicates that in 2013, the industry consumed more than 4.5 million tons of feed (including more than 2.7 million tons of maize), illustrating its relative importance and contribution to total employment within the agricultural sector.

Despite expanded production over the past decade, South Africa remains a net importer of poultry products. Particularly in the last 3 years, producer margins have been under pressure and imports of bone-in portions in particular has expanded rapidly, with limited expansion in domestic production. Differences in consumer preferences, and consequently pricing strategies, allows producers in the United States of America (USA), as well as the European Union (EU) to obtain premiums on chicken breast and in turn, bone-in portions, for which there is a strong demand in South Africa, are exported at very competitive prices. South Africa has applied successfully for anti-dumping duties on various occasions in the past and presently, an anti-dumping duty of R9.40/kg is applied to bone-in portions originating from the USA.

Within ongoing negotiations regarding the renewal of the African Growth and Opportunity Act (AGOA), concessions regarding the removal of the current anti-dumping duty have been an important item under review. Consequently, the Agricultural Business Chamber requested the Bureau for Food and Agricultural Policy (BFAP) to simulate the impact of a number of possible scenarios on the South African Poultry Industry. This report presents an historical perspective on chicken imports into South Africa, considers relative price levels in different import markets and finally presents the impact of 3 plausible scenarios on the South African poultry industry.

2. A historical perspective on South African broiler imports

As an accessible and affordable source of protein, chicken consumption has expanded rapidly over the past decade and in 2014, annual consumption exceeded 36kg per capita, almost 44% above 2004 levels. The past few years however has seen producer margins under pressure, as a result of significant increases in relatively cheaper imports, with domestic producers struggling to compete in the midst of increasing feed prices. As a net importer of chicken, the industry is integrated into international markets and prices are expected to follow global trends. Hence as feed costs increased from 2010 to 2012, chicken prices were capped by the increased flow of cheaper imports and failed to increase to the same extent (Davids, Meyer and Louw, 2013). Consumption growth of 12% from 2010 to 2014 was accompanied by production growth of only 8 %, while almost 130 thousand tons of additional imports accounted for the balance (Figure 1).

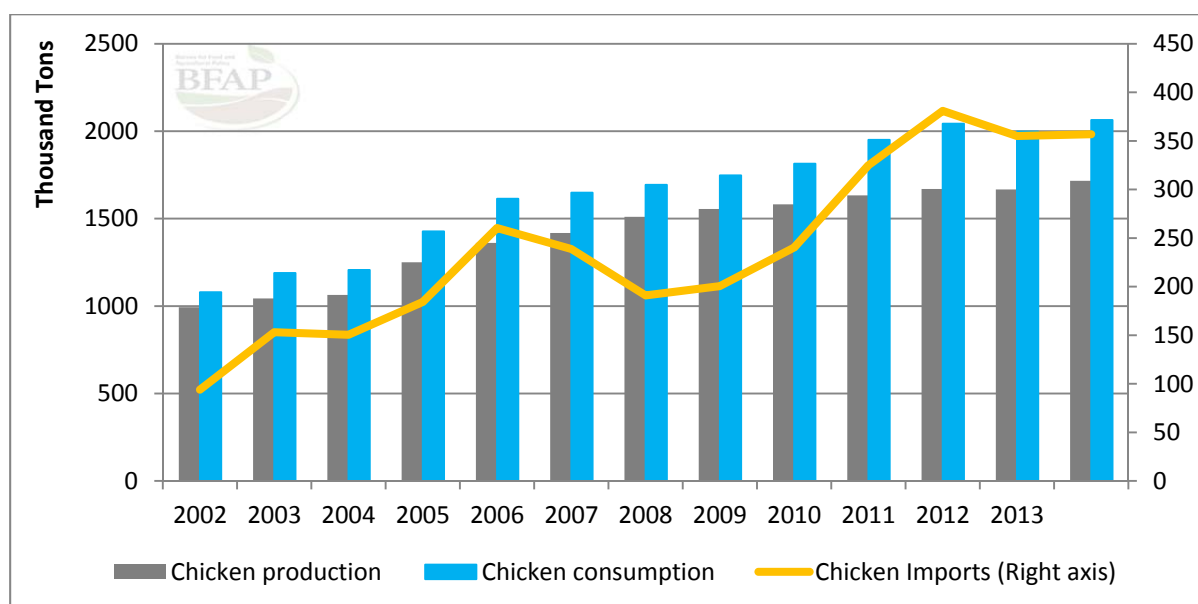


Figure 1: Chicken production, consumption and trade in South Africa

Imports into South Africa are classified under the Harmonised System (HS) classification codes and chicken imports are essentially disaggregated into 8 different classifications, as indicated in Table 1.

Table 1: Classification of chicken imports into South Africa

HS Classification Code	Description	General Tariff	EU Tariff	SADC Tariff
02071100	Fowls, not cut in pieces, fresh or chilled	0 %	0 %	0 %
02071210	Fowls, not cut in pieces, frozen, mechanically deboned	0 %	0 %	0 %
02071220	Fowls, not cut in pieces, frozen, carcass with cuts removed	31 %	0 %	0 %
02071290	Fowls, not cut in pieces, frozen, other	82 %	0 %	0 %
02071300	Fowls, cuts and offal, fresh or chilled	0 %	0 %	0 %
02071410	Fowls, cuts and offal, frozen, boneless cuts	12 %	0 %	0 %
02071420	Fowls, cuts and offal, frozen, offal	30 %	0 %	0 %
02071490	Fowls, cuts and offal, frozen, other	37 %	0 %	0 %
02071490	Fowls, cuts and offal, frozen, other originating and imported from USA	Anti-dumping tariffs on products originating from the USA: 940 c/kg		

The bulk of additional imports are classified under HS 02071490 (Fowls, cuts and offal, frozen, other), which includes frozen bone-in portions (Figure 2: Composition of chicken imported to South Africa between 2010 and 2014). In regions such as the US and the EU, demand for bone-in portions is weak relative to chicken breasts, for which producers obtain a premium. Consequently, bone-in portions can be sold at a reduced cost into markets such as South Africa, where demand for these portions is much higher. Through the South African Poultry Association, the industry successfully applied for anti-dumping tariffs to be instituted on bone-in portions originating from the US in 1999, which were subsequently renewed in 2012.

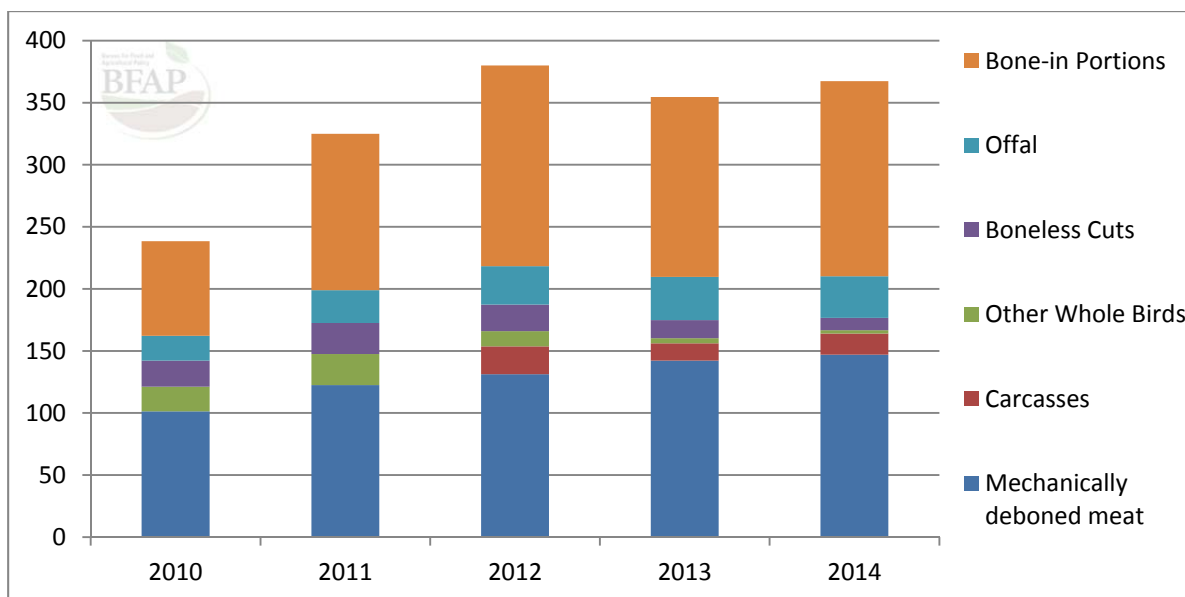


Figure 2: Composition of chicken imported to South Africa between 2010 and 2014

In addition to the expanded level of chicken imports, changes to applied tariff rates have resulted in structural shifts in the origin of imports. As duties applied to the European Union were phased out under the Trade, Development and Cooperation Agreement (TDCA), the share of total imports originating from the EU expanded rapidly and by 2014, the share of total imports originating from the EU had increased to 51%, from only 5% in 2010 (Figure 3).

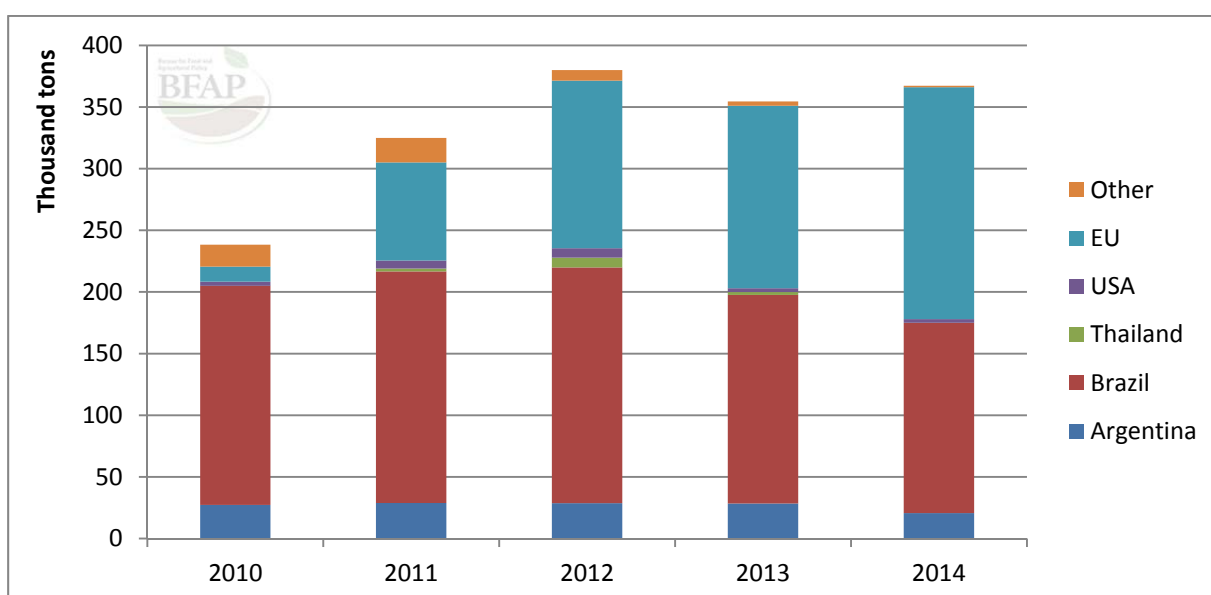


Figure 3: Origin of South African chicken imports: 2010–2014

Source: ITC Trademap, 2015

Considering only imports under tariff classification HS 02071490, which comprises mainly bone-in portions, the share of total imports originating from the EU is even greater (Figure 4). Having accounted for only 5% of total bone-in portion imports in 2010, the EU accounted for more than 90% of imports of the same tariff line by 2014.

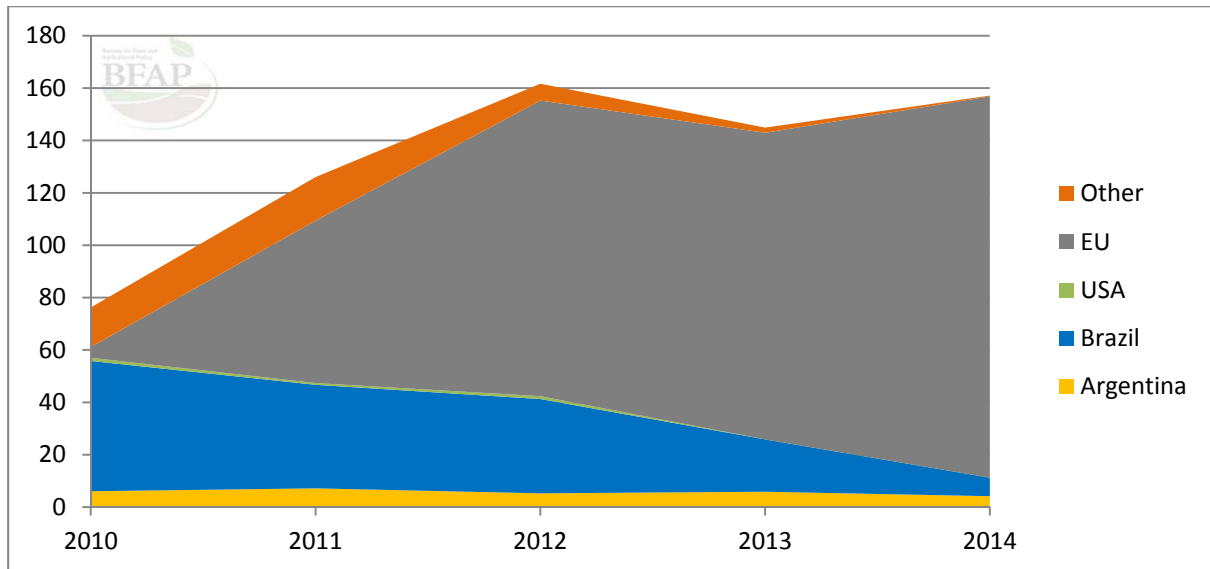


Figure 4: EU share in frozen bone-in portion (HS 02071490) imports

Source: ITC Trademap, 2014

Figure 5 indicates that imports of bone-in portions from the EU concentrated in three countries, namely the Netherlands, Germany and the UK. In 2015, the International Trade Administration Commission of South Africa (ITAC) instituted anti-dumping duties on these three countries; however evidence of the extent to which these anti-dumping duties will impact on trade volumes remains limited, as the period coincided with an outbreak of bird flu, which resulted in temporary disruptions of trade flow.

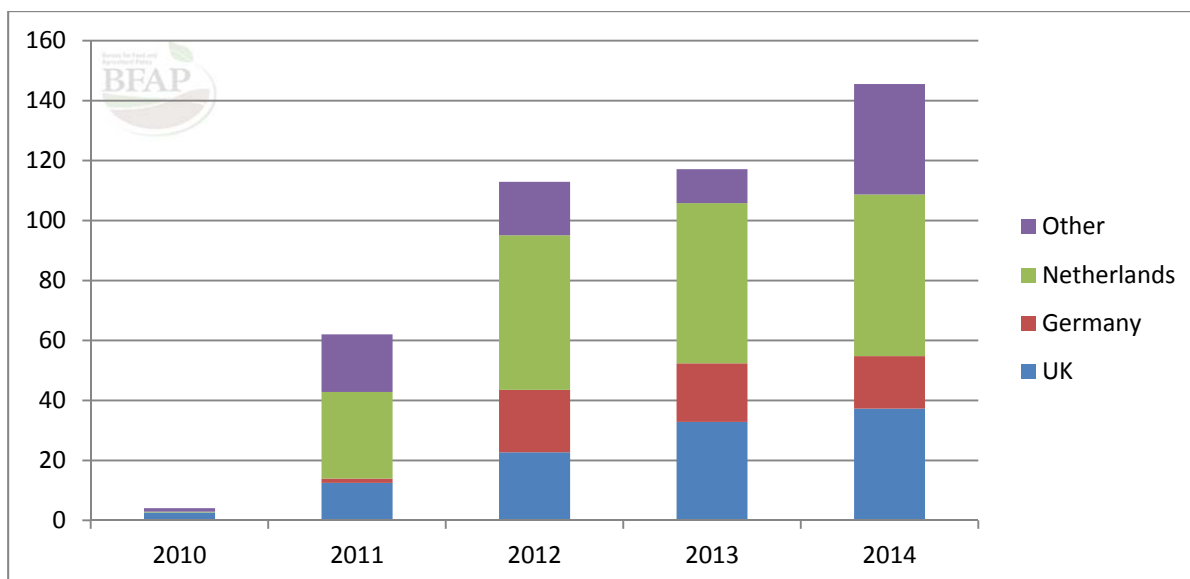


Figure 5: Disaggregation of EU frozen bone-in portion (HS 02071490) imports

Source: ITC Trademap, 2014

3. Relative prices in different regions of origin

Changes to the anti-dumping duties applied to bone-in portions originating from the US would potentially impact on the import mix illustrated by Figure 3 to Figure 5. The magnitude of this impact would depend on the extent to which possible additional imports from the US will substitute existing imports. The substitutability of current imports for additional US imports would differ greatly across different simulated scenarios; however relative prices between different regions remains a key driver of both the magnitude of impact on import parity prices, as well as the substitutability of current imports.

As a high level comparison of relative price levels in the EU, which represents the greatest share of current bone-in portion imports, as well as the US and Brazil is presented in Table 2. As a proxy for relative import prices, the table presents unit values of tariff code HS 020714 in the different regions between 2010 and 2014. For comparability, all unit values are reflected in USD per ton, at HS 6 digit level. Though tariff code HS 020714, at six digit level includes other products in addition to bone in portions, this is the most disaggregated level of classification that remains the same across different countries, motivating its use.

Table 2: Unit values of total exports HS code 020714 (Frozen fowl, cuts and offal)

Exporting country	Unit	2010	2011	2012	2013	2014
USA	USD / ton	1008	1136	1190	1186	1185
Brazil	USD / ton	1792	2155	1994	2031	2010
EU-28	USD / ton	1575	1689	1823	1852	
Netherlands	USD / ton	1680	1774	2128	2174	1965
UK	USD / ton	1511	1555	1599	1707	1690
Germany	USD / ton	1238	1385	1420	1415	1369

Source: Trademap, 2015

In order to present a more accurate proxy for bone-in portion prices across regions, Table 3 illustrates unit values from the ITC database at HS 8 digit level. While these HS codes are no longer the same across regions, the unit values in the table refer to the different classification codes used for bone-in portions in the various regions.

Table 3: Unit values of leg quarters

Exporting country	Unit	2010	2011	2012	2013	2014
USA	USD / ton	840	1000	1130	1110	1050
Brazil*	USD / ton	1790	2150	1990	2030	2010
Netherlands	USD / ton	1680	1774	2128	2174	1965
UK	USD / ton	1432	1565	1677	1725	1625
Germany	USD / ton	1 238	1 385	1 420	1 415	1 369

* At HS 8 digit level, Brazilian exports are not disaggregated in the same way as the other regions, hence the reported price includes boneless cuts, which typically trade at a premium to bone-in portions, resulting in a higher price in Brazil relative to other regions

In addition to the domestic supply and demand of different cuts in the various regions, relative price differences are a reflection of differences in the cost of producing chicken. Table 4 indicates that the cost of production in both the USA and Brazil is substantially lower than in the three EU countries, which allows producers to remain profitable at lower relative prices.

Table 4: Relative cost of production (Eurocents per kg carcass weight)

	USA	Brazil	Netherlands	UK	Germany
Primary Production Costs	110	100	140	150	143
Slaughter Costs	25	17	33	28	28
TOTAL PRODUCTION COSTS	135	117	173	178	171

Source: Van Horne & Bondt (2014)

As a basic comparison of relative price levels, Table 5 reflects a five year average of the unit values for US exports, as a share of other regions. Imports originating from Brazil and the US are subject to a duty of 37%, while EU imports are duty free under the TDCA, hence Table 5 also reflects relative unit values when the duty is imposed on US imports. Even after the duty is imposed, US imports remain relatively cheaper than imports originating from Brazil and the EU and hence in a situation where anti-dumping duties on US imports are removed, current imports from the EU would likely be displaced by imports originating from the US. This is no different from the trend that evolved over the past few years, when the phasing out of duties on chicken from the EU improved its relative competitiveness against Brazil, allowing the EU to capture almost the entire current market share of bone-in portion imports.

Table 5: 5 year average unit values in the US as a share of EU countries

Exporting country	No tariffs applied		MFN duty of 37% applied to US and Brazil	
	Cuts and Offal (HS 020714)	Bone in Portions	Cuts and Offal (HS 020714)	Bone in Portions
Netherlands	58.69%	52.77%	80.40%	72.30%
UK	70.76%	63.93%	96.95%	87.59%
Germany	83.57%	75.14%	114.48%	102.95%

Unit values illustrated in Table 2 to Table 5 provide an indication of relative prices in the global market, however differences in product mix within the HS 8 digit classification remain unaccounted for and at the same time, the unit values are not specific to exports destined for South Africa. The lack of trade between South Africa and the US since the imposition of the original anti-dumping duties limits the availability of data for products destined to South Africa; however Table 6 presents quotations from various regions obtained from South African importers. These landed costs are comparable to the price of individually quick frozen (IQF) chicken portions, which, at the same time period, were trading at R19.84 per kg.

Table 6: Relative prices of bone-in portions imported into South Africa from different regions in 2015

Origin	CFR Price / ton	Freight costs (incl. in CFR)	Duty Rate (%)	Exchange Rate	Landed cost - Durban	Transport, warehousing, admin, margin	Parity Price
USA	US\$ 980	0.180	37	R12.00/\$	16.59	2.50	19.09
Brazil	US\$ 1100	0.100	37	R12.00/\$	18.59	2.50	21.09
Argentina	US\$ 1110	0.100	37	R12.00/\$	18.76	2.50	21.26
Europe	Eu 1380	0.850	0	R12.72/Eu	18.50	2.50	21.00

Source: AMIE & Merlog Foods, 2015

Despite the additional duty compared to the EU, imports of US bone-in portions will be significantly cheaper than current imports originating from the EU. Hence the extent to which US imports will displace current imports originating in the EU will be largely dependent on quota allocations. In a situation where no quotas are imposed, relative prices suggest that potential US imports could displace all EU imports, implying that the import parity price of bone-in portions would decline by the same relative percentage of US prices compared to EU prices. In a situation where quotas are imposed, the extent to which US imports would substitute EU imports will be impacted by decisions on whether quotas are allocable to existing importers or only to new importers who would have to gain additional market share.

4. Scenario simulations

Being integrated into the global market, South African prices tend to follow global trends, particularly for chicken prices where more than 15% of domestic consumption is imported (Davids, 2013). In light of the differences in relative price levels, a scenario where the anti-dumping duties currently applied to bone-in portions originating from the EU are removed will effectively reduce the import parity price of bone-in portions, as imports currently originating from the EU would likely be replaced by imports from the US at a lower relative price. The magnitude of the price effect will however be dependent on the volumes of chicken allowed into South Africa free of the anti-dumping duty.

In order to illustrate the possible impact on the South African industry, three different scenarios were simulated through the BFAP sector model. The model is a dynamic, recursive, partial equilibrium model of the South African agricultural sector, wherein equilibrium is established in each individual subsector through balance sheet principles where total supply equals total demand. The model links grains and livestock through feed, hence a shock in the poultry sector will also be transmitted to grains and oilseeds. Prior to scenario simulations however, a baseline is generated, based on plausible assumptions for exogenous macro-economic and world price variables. The macro-economic assumptions associated with the baseline are illustrated in Table 7.

Table 7: Macro economic assumptions for the baseline outlook

	2013	2014	2015	2016	2017	2018	2019	2020
Brent Crude: Fob Gulf [\$/barrel]	104.6	64.0	68.0	71.7	74.4	77.5	80.9	84.6
Population [Millions]	51.1	51.4	51.7	52.0	52.3	52.6	53.0	53.3
Exchange Rate[SA R/US\$]	9.65	10.90	12.00	12.40	12.79	13.44	13.84	14.2
SA GDP [%]	2.55	1.5	2.10	2.80	3.10	3.30	3.57	3.51

Source: World Bank and IMF, 2015

Under the assumptions associated with the baseline, chicken consumption in South Africa is projected to expand by 34% over the next decade, implying that more than 600 thousand additional tons of chicken will be consumed by 2024. Whilst not increasing to the levels registered in 2005, the chicken to maize price ratio, as an indicator of profitability, improves significantly relative to the past 3 years, inducing a production expansion of 25%, which equates to 400 thousand tons of additional chicken production by 2024. The balance of domestic consumption growth will be imported, with imports surpassing 550 thousand tons by 2014 (Figure 6).

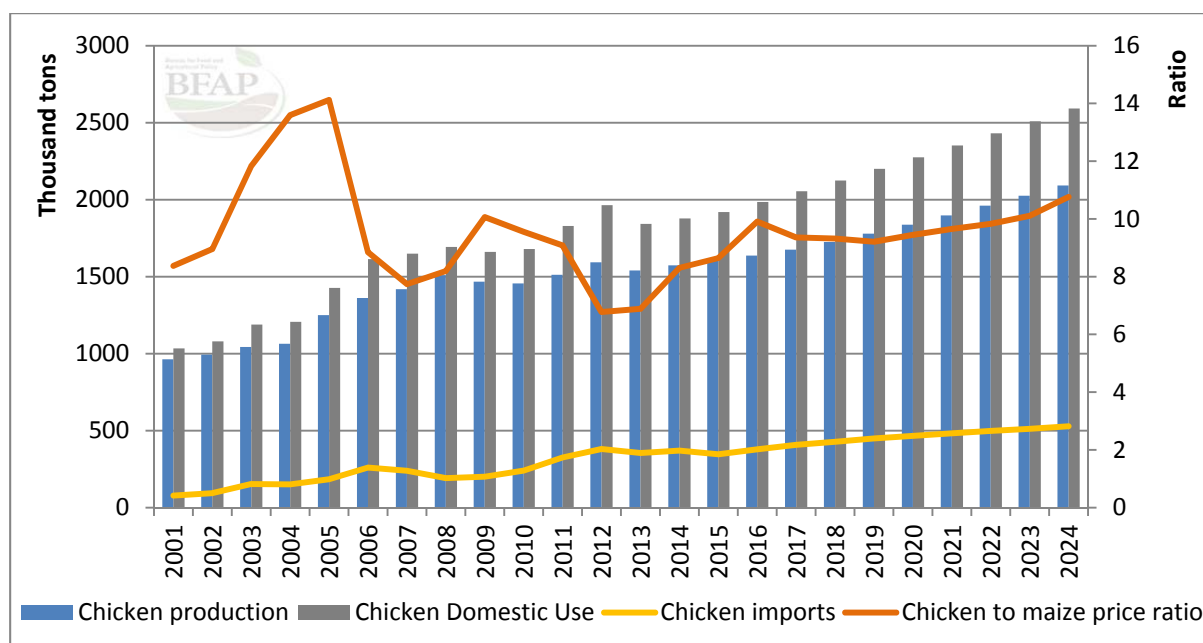


Figure 6: Chicken consumption, production, trade and profitability under the baseline assumptions

In establishing the baseline outlook, current policies are assumed to remain in place. Consequently, three different policy scenarios can be simulated, measuring the impact of these specific changes against the baseline. A brief description of the various scenarios and the specific assumption associated with each scenario follows:

Scenario 1:

The current anti-dumping duty of R9.40/kg applied to bone-in portions originating from the USA is removed, implying that the only duty applied to products originating from the USA is the general duty of 37%. The exogenous world price is therefore adjusted downwards in line with relative price levels provided by AMIE, shifting the world price to USA price levels, as opposed to the EU price, which represents the current origin of most imported products. Imports originating from the EU remain duty free under the TDCA, however relative prices suggest that imports currently originating from the EU will be displaced by bone-in portions from the USA and consequently the 37% duty is applied to all bone-in portions.

Scenario 2:

The current anti-dumping duty of R9.40/kg applied to bone-in portions originating from the USA is removed, however a quota of 50 thousand tons is adopted, implying that 50 thousand tons of bone-in portions can be imported free of the anti-dumping duties, after which the current anti-dumping of R9.40/kg will become effective on additional imports. The extent to which imports under the quota will add to, or alternatively substitute existing imports will be dependent on quota allocations. If the bulk of the quota is allocated to new, emerging importers, a greater share of imports under the quota will be additive, as these new importers do not have existing market share to supply. In simulating the scenario, the exogenous world price was calculated as a weighted average, allowing for 50 thousand tons of in quota imports at the lower, US price level, while the price for remaining imports remains at the baseline level.

Scenario 3:

The current anti-dumping duty of R9.40/kg applied to bone-in portions originating from the USA is removed, however a quota of 120 thousand tons is adopted, implying that 120 thousand tons of bone-in portions can be imported free of the anti-dumping duties, after which the current anti-dumping of R9.40/kg will become effective on additional imports. The extent to which imports under the quota will add to, or alternatively substitute existing

imports will be dependent on quota allocations. If the bulk of the quota is allocated to new, emerging importers, a greater share of imports under the quota will be additive, as these new importers do not have existing market share to supply. In simulating the scenario, the exogenous world price was calculated as a weighted average, allowing for 120 thousand tons of in quota imports at the lower, US price level, while the price for remaining imports remains at the baseline level.

4.1. Scenario implications at sector level

The impacts of the three different scenarios, measured against the baseline, are summarized in Figure 7. Whereas the line indicate the total sales realisation price of whole frozen chicken, the bars illustrate the percentage change in price for each individual scenario relative to the baseline. Over the 10 year projection period, complete removal of anti-dumping duties reduces the domestic chicken producer price by an average of 8.6% per year, while a quota of 50 thousand tons (Scenario 2) reduces the price by an average of 3.6% per annum.

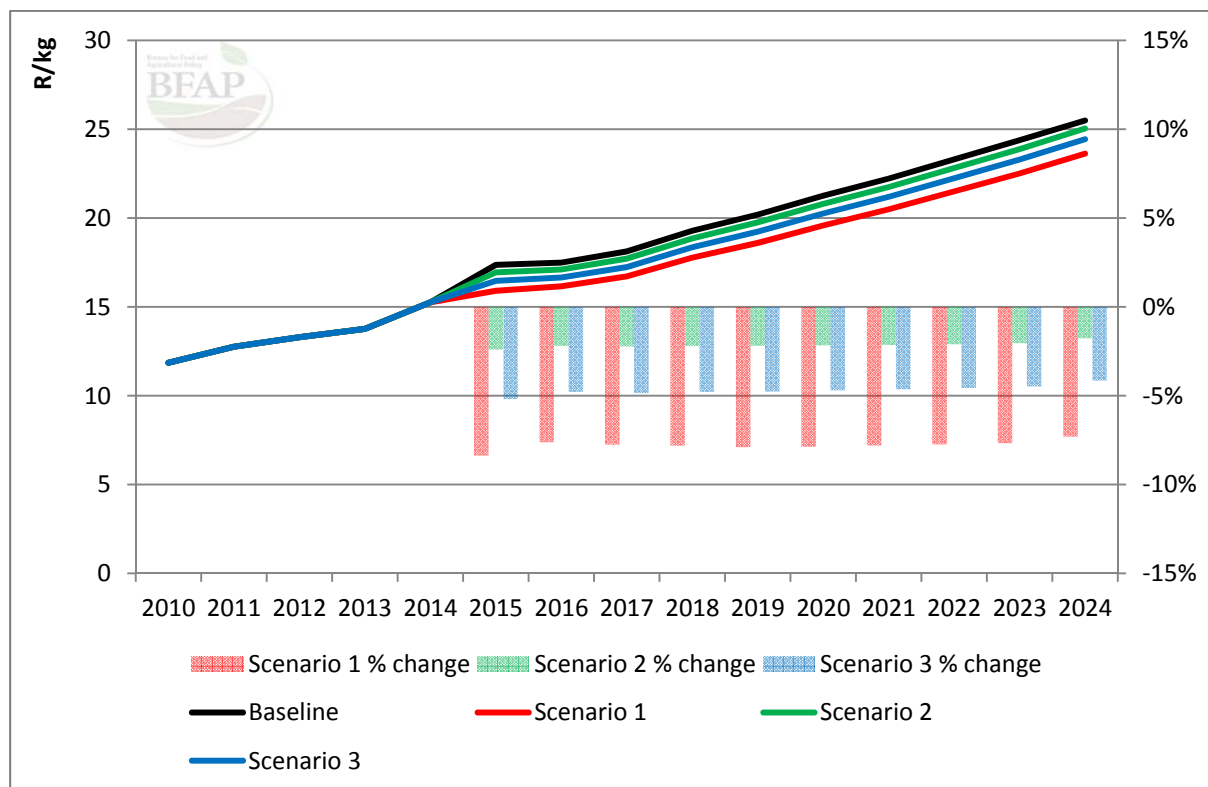


Figure 7: Impact of three different scenarios on the price of domestic IQF chicken pieces relative to the baseline

In order to provide an indication of relative profitability impacts resulting from the different scenarios, Figure 8 illustrates the chicken to maize price ratios of the 3 scenarios, compared

to the baseline. Maize represents the greatest share of a typical broiler feed ration and hence the ration of chicken to maize prices is considered a strong indicator for profitability in the industry. Under the assumption of normal weather conditions in the baseline projections, meat to maize price ratios do not fall to the same levels registered in 2012 and 2013 since South Africa is projected to produce a surplus of maize every year and the local maize price will be trading at export parity levels. However the drought experienced in South Africa in the early parts of 2015 illustrated the impact of adverse weather conditions on maize prices and therefore also the profitability of producing chicken meat. When figure 6 is carefully analysed, the chicken to maize price ratio almost serves as an “investment indicator” where there is a 2 to 3 year lag between chicken production levels and the chicken to maize price ratio.

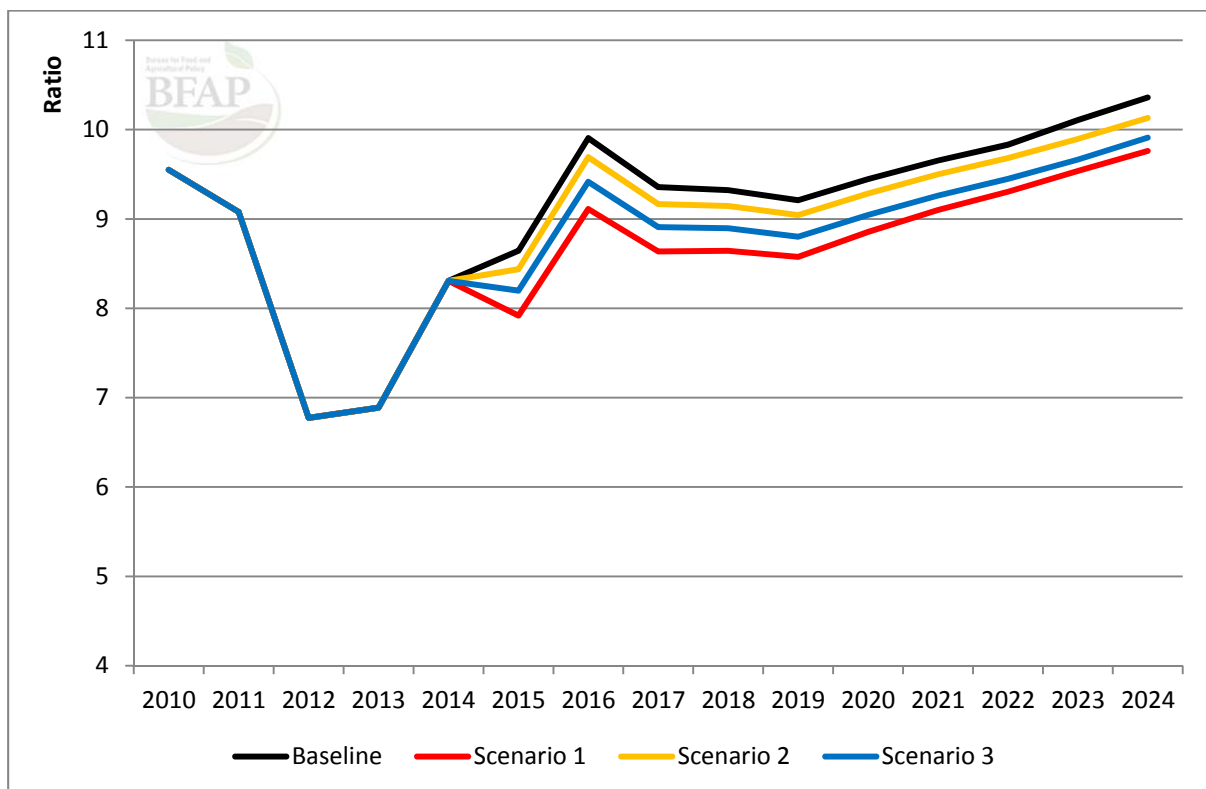


Figure 8: Impact of three different scenarios on chicken to maize price ratios relative to the baseline

Over the past 2 years, considerable depreciation of the exchange rate has supported domestic chicken prices by raising the cost of imported products. While domestic feed grain prices did not fall to the same extent as global prices, due to the weakened exchange rate, as well as the drought in early 2015, profitability has improved compared to 2012 and 2013 levels. The current depreciation in the exchange rate came at a good time for the South African chicken

industry, although prolonged depreciation will increase the cost of imported inputs, as well as housing and equipment, expanding already significant barriers to entry and expansion. As the share of domestically produced soya oilcake is increasing rapidly, the relative competitiveness of South African producers should improve over the 10 year projection period.

4.2. Implications on producer income

The implications of different price levels on producer margins is an important consideration, as production decisions remain grounded in profitability implications. Given the nature of the broiler value chain in South Africa, where production remains dominated by a few large, integrated companies, producer level implications are not easily measured. Companies are large and diversified and in many instances, contract producers are involved in the broiler grow-out process.

Within the BFAP decision modelling framework, the price implications of the various scenarios are linked into a Financial Simulation (FinSim) model, which projects financial indicators such as net farm income and return on investment for a network of typical farms. In the absence of data regarding large integrated companies, the producer level implications of the different price scenarios were introduced into a hypothetical, independent producer, based on a survey of production costs. The simulated producer raises approximately 300 thousand broilers per cycle, with a feed conversion ratio of 1.7, which represents the national average obtained in South Africa in 2013. In contrast to a typical contract producer, which sells live broilers to the integrated company for slaughter, the independent producer modelled in Figure 9 also accounts for slaughter costs, as would be the case for large, integrated companies. The model is based on the assumption that broiler houses are financed at a prime interest rate of 9.25%, over a 10 year period. Figure 9 indicates that under scenario 1, producer margins remain negative until 2018, turning positive for the first time in 2019.

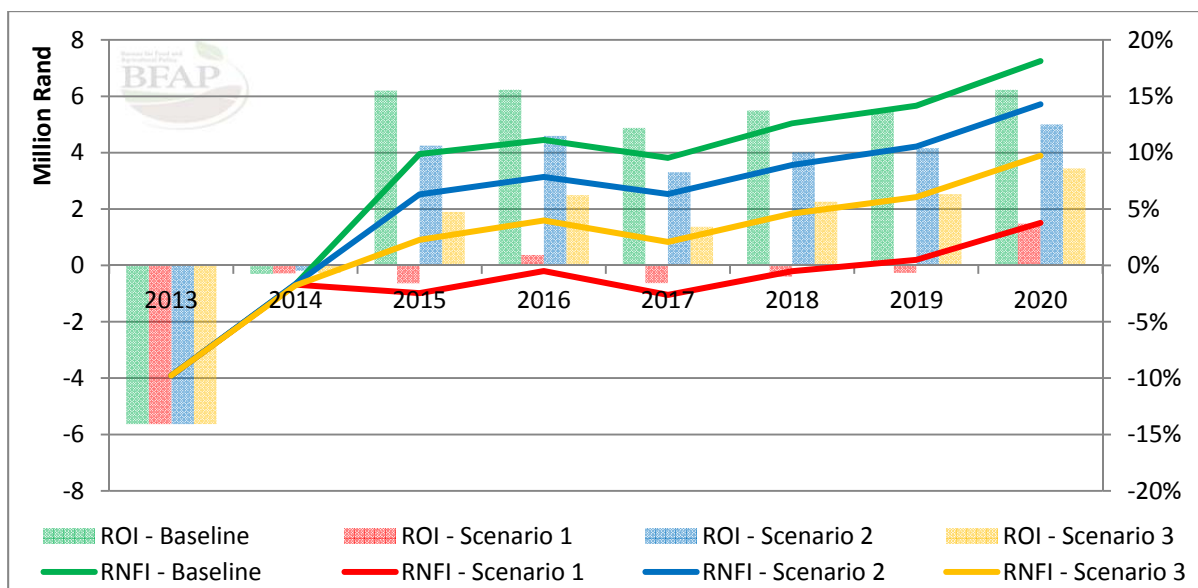


Figure 9: Nominal net farm income and return on investment for an independent producer

In a scenario where financing costs are no longer applicable, producer margins would improve, however this scenario is not sustainable at average efficiency levels and some producers will exit. Producers that have a more favourable debt structure, as well as those producing more efficiently will probably be able to continue producing. Mitigation strategies will include further concentration and vertical and horizontal integration in the industry. It is unlikely that there will be any expansion in domestic production under scenario 1. Furthermore, smaller, emerging producers with a less favourable cost structure and scale benefits will be unable to produce sustainably under this scenario.

The sector wide impact of the 3 simulated scenarios are summarised in Table 8. Under scenario 1, domestic production remains stable for 2 years, before starting to decline in 2017. Despite a marginal recovery in the outlying years as prices find support from reduced production levels and continuous depreciation in the exchange rate, domestic chicken production in South Africa remains largely stagnant over the 10 year projection period. Consequently, more than 1 million tons of additional chicken will be imported by 2024, almost 500 thousand tons more than in the baseline scenario. Scenarios 2 and 3 present a more favourable picture, however by 2024, production will still be reduced by 5% and 7% respectively relative to the baseline projection, resulting in substantial increases in import levels.

Table 8: Impact of 3 different scenarios on the South African broiler industry

	2014	2015				2016			
	Current	Baseline	Scenario 1	Scenario 2	Scenario 3	Baseline	Scenario 1	Scenario 2	Scenario 3
Production (1000 tons)	1573.17	1603.91	1586.74	1598.97	1593.28	1636.81	1585.43	1605.34	1595.96
Absolute change from baseline			-17.17	-4.94	-10.63		-51.39	-31.48	-40.86
% change from baseline			-1.07%	-0.31%	-0.66%		-3.14%	-1.92%	-2.50%
Domestic Use (1000 tons)	1877.50	1919.06	1935.44	1923.77	1929.21	1985.29	2000.57	1989.68	1994.85
Absolute change from baseline			16.39	4.72	10.15		15.28	4.40	9.57
% change from baseline			0.85%	0.25%	0.53%		0.77%	0.22%	0.48%
Imports (1000 tons)	370.18	345.90	376.29	355.09	365.69	378.13	442.51	412.38	426.27
Absolute change from baseline			30.39	9.18	19.79		64.39	34.25	48.15
% change from baseline			8.78%	2.66%	5.72%		17.03%	9.06%	12.73%
	2014	2020				2024			
	Current	Baseline	Scenario 1	Scenario 2	Scenario 3	Baseline	Scenario 1	Scenario 2	Scenario 3
Production (1000 tons)	1573.17	1837.17	1527.18	1749.30	1722.28	2092.09	1620.04	1984.22	1938.20
Absolute change from baseline			-309.99	-87.88	-114.89		-472.05	-107.87	-153.90
% change from baseline			-14.82%	-4.20%	-5.49%		-22.56%	-5.16%	-7.36%
Domestic Use (1000 tons)	1877.50	2275.15	2290.80	2279.47	2284.56	2592.29	2607.32	2596.44	2601.19
Absolute change from baseline			15.66	4.33	9.41		15.03	4.14	8.90
% change from baseline			0.69%	0.19%	0.41%		0.58%	0.16%	0.34%
Imports (1000 tons)	370.18	466.12	790.99	557.55	589.65	528.02	1014.66	639.59	690.37
Absolute change from baseline			324.87	91.43	123.53		486.64	111.57	162.35
% change from baseline			61.53%	17.32%	23.40%		92.16%	21.13%	30.75%

5. Concluding remarks

The broiler industry is important in South African agriculture, not only because it represents the largest agricultural subsector, but also because it is integrated into a number of value chains. While the implications highlighted in this report are concentrated in the broiler industry, the wider implications should also be considered. More than 40% of national feed consumption is attributed to the poultry industry and hence growth, or the lack thereof, in the poultry industry has far reaching implications for the agricultural sector, as well as the South African economy. Significant investment has occurred in the soybean processing industry over the past few years and continued sustainability of these crushing plants are dependent on feed demand from the poultry sector. Although poultry production is not a labour intensive industry per se, more than 150 thousand people are employed in the poultry value chain and when up and downstream linkages within other related industries such as maize production and processing, soya production and processing, as well as transport and logistics are considered, this number increases substantially.

Whilst the report has been focused on large-scale, commercial production, as these producers compete most directly with international counterparts, the illustrated impact will be even more severe for small scale, emerging producers that are unable to benefit from economies of scale advantages in order to reduce costs. Furthermore, in a scenario where production stagnates, additional market space for small scale emerging producers becomes increasingly limited.

References

Bureau for Food and Agricultural Policy (BFAP). 2014. Unpublished raw data.

Bureau for Food and Agricultural Policy. 2013. *The South African agricultural baseline 2013*. Pretoria: University of Pretoria.

Davids, T. 2013. *Playing chicken: The players, rules and future of South African broiler production*. MSc (Agric) dissertation. University of Pretoria. . [Online] Available from UPeTD: <http://repository.up.ac.za/handle/2263/41069>. [Accessed: 2014-09-01].

Davids, T., Meyer, F.H. & Louw, M. 2013. Evaluating the effect of proposed tariff protection for the South African broiler industry. Paper prepared for presentation at the *Agricultural Economics Association of South Africa* Conference, Bele Bela, South Africa, 30 September – 3 October, 2013.

De Beer, J. 2009, *A partial equilibrium model for the South African broiler industry*. MSc(Agric) dissertation. University of Pretoria. [Online] Available from UPeTD: <http://upetd.up.ac.za/thesis/available/etd-02222010-114800>. [Accessed: 2012-03-01].

International Monetary Fund. 2014. *World Economic Outlook*. [Online] Available from: <http://www.imf.org/external/pubs/ft/weo/2014/02/>. [Accessed: 2014-11-04].

Louw, A., Schoeman, J.J. & Geysers, J.M. 2011. *Pork and broiler industry supply chain study with emphasis on feed and feed-related issues*. National Agricultural Marketing Council, South Africa. Available from: <http://www.name.co.za/dnn/PublishedReports/CommodityProductStudies/PerCategory.aspx> [Accessed 10 October 2012].

Lovell, K. 2012. *The South African broiler industry and its outlook going forward*. [Online] Available from: <http://www.afma.co.za/imgs/Mr%20Kevin%20Lovell%20-%20SA%20Poultry%20Industry%20and%20its%20outlook%20going%20forward%20-%20AFMA%20AGM%207%20September%202012.pdf>. [Downloaded 2014-02-13].

Lovell, K. 2015. *Personal Communication*.

Southern African Poultry Association (SAPA). 2014. *SAPA Quarterly DPFO stats report for the Third Quarter of 2014*. Unpublished.

Southern African Poultry Association (SAPA). 2013. *The South African poultry industry profile for 2012*. [Online] Available from:
<http://www.sapoultry.co.za/pdf%20permanent/2012%20sapa%20industry%20profile%20v5.pdf> [Downloaded: 2014-04-20].

Strauss, P. G. 2005. *Decision making in agriculture: A farm level modelling approach*. MSc dissertation. University of Pretoria. [Online] Available from UPeTD:
<http://upetd.up.ac.za/thesis/available/etd-06022005-131248/> [Accessed: 2012-03-24].

Trademap. 2014. *Imports of Meat and edible offal of poultry meat by South Africa*. [Online] Available from: http://www.trademap.org/Country_SelProduct_TS.aspx [Accessed: 2014-10-25].

Van Horne. P. L. M. 2014. *Competitiveness of the European Poultry Meat Sector*. LEI Wageningen UR. Report 2013-068. Den Haag.