COMPETITION AND CONSUMER PROTECTION COMMISSION

REDACTED

SUBJECT: REPORT ON THE COMMERCIAL BROILER POULTRY MARKET INQUIRY

September 2025

Acknowledgement

This report is the outcome of a collaborative effort and would not have been possible without the invaluable contributions of several institutions and individuals.

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I also would like to appreciate the stakeholders who contributed their time, data, and perspectives during consultations and data collection. Your input enriched the findings and helped ensure that the report reflects the realities of Zambia's commercial poultry market.

Lastly, let me acknowledge the collaborative spirit that guided this inquiry and the shared commitment to fostering inclusive, competitive, and sustainable markets in Zambia.

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Angela Kafunda (Ms)
Board Chairperson

Acronyms

AEHL	Aviagen Europe Holdings Limited
APDL	African Poultry Development Limited
CAK	Competition Authority of Kenya
CAR	Central Africa Republic
CBH	Country Bird Holdings
CCPA	Competition and Consumer Protection Act
CCRED	Competition, Regulation and Economic Development
COGS	Cost of Goods Sold
COMESA	Common Market for Eastern and Southern Africa
DOC	Day Old Chicks
DRC	Democratic Republic of the Congo
DVS	Department of Veterinary Services
EIA	Environmental Impact Assessment
ETG	Export Trading Group
FAO	Food and Agriculture Authority
FCR	Food Conversion Ratio
FDCL	Foods and Drugs Control laboratories
GMO	Genetically Modified Organisms
GPS	Grand Parent Supply
HE	Hatching Eggs
HPF	Hybrid Poultry Farms
IQF	Individually Quick Frozen
ISO	International Standards organization
JSE	Johannesburg Stock Exchange
JV	Joint Venture
KFC Malawi	Kentucky Fried Chicken Malawi
LPG	Liquefied Petroleum Gas
MCTI	Ministry of Commerce, Trade and Industry
MFL	Ministry of Fisheries and Livestock
NMC	National Milling Corporation
PAZ	Poultry Association Zambia
RBZ	Ross breeders Zambia
RCA	Ross Central Africa
SGX-ST	Singapore Stock Exchange
TOR	Terms of Reference
UK	United Kingdom
USA	United States of America
VAT	Value Added Tax
ZABS	Zambia Bureau of Standards
ZAMRA	Zambia Medicines Regulatory Authority
ZEMA	Zambia Environmental Management Agency

EXECUTIVE SUMMARY

Introduction

The poultry and feed sectors play a dual role in the Zambian economy, that is, as a source of affordable protein and as a driver of agro-industrial linkages. Day-old chick (DoC) and parent stock production, for instance, was found to support both domestic supply and exports to neighbouring countries such as Malawi, Botswana, and Zimbabwe. Zambia exported over 70% of its parent stock production in recent years, positioning itself as a regional breeding hub. Similarly, feed production dominated by maize and soybean-based formulations contributes significantly to both poultry and other livestock sectors. This interdependence underlines the strategic importance of the poultry sector for national food security and export diversification.

Zambia's poultry sector has experienced consistent and notable growth over the past decade, with poultry meat production increasing to approximately 53,840 metric tons in 2023 almost entirely for domestic consumption. However, poultry meat consumption in Zambia remains relatively low, fluctuating over the past decade between 2.7kg and 3.5kg per capita, including a covid-19 related decline in 2021. This compares with higher per capita consumption levels in neighbouring countries of Malawi (5.42 kg), Mozambique (5.64 kg), Zimbabwe (7.33 kg), and South Africa (44.3 kg) highlighting untapped potential for growth in Zambia as incomes rise and consumer preferences evolve. Despite this potential, the domestic market remains vulnerable due to affordability challenges and uneven competitiveness in regional trade.

Scope and Legal Basis

The Market Inquiry (Inquiry) into the Commercial Poultry Production Sector was necessitated by repeated complaints from market participants, studies conducted by the Commission, and evidence from past merger reviews and investigations. Specifically, the Commission observed structural features and conduct in the poultry value chain that appeared to prevent, restrict, or distort competition, especially at the breeding, feed, and processing levels. These early indicators justified the initiation of a comprehensive inquiry to determine the extent of structural competition challenges in the sector.

The Inquiry covered the period 2019 to 2023 and was conducted pursuant to the provisions of Part V of the Competition and Consumer Protection Act No. 24 of 2010 as amended by the Competition and Consumer Protection Act No. 21 of 2023 ("the Act") and Part III of the Competition and Consumer Protection (General) Regulations of 2011. The process included desktop reviews, data gathering through formal requests for information, and stakeholder consultations via submissions and interviews. The Inquiry was announced publicly on 8th April 2024, with terms of reference published to guide its execution and encourage stakeholder participation.

Competition Assessment

A key feature of the Zambian poultry sector is high vertical integration. Major players such as Ross Breeders Zambia (RBZ), Hybrid Poultry Farm (Hybrid), and Zambeef control large segments of the value chain from breeding and feed production to processing and distribution. In the feed market, similar patterns exist. Novatek (Zambeef), Nutrifeeds (RBZ), Namfeeds (National Milling/Hybrid), and Tiger Animal Feeds collectively control over ✂✂ of national feed capacity. Their ✂✂ extends to poultry-specific feed, particularly broiler and layer feed, where collective market shares exceeded ✂✂ in some years. Newer and smaller firms such as ✂✂ struggle to gain market traction due to the entrenched market power and reach of these incumbents. The dominance of a few vertically integrated firms limits price competition and restricts input access for independent poultry producers.

Licensing conditions for ✂✂ breeding stock are central to competition issues in the sector. Two companies; ✂✂ hold licenses for the dominant ✂✂. ✂✂ previously held distribution rights for the ✂✂ breed but shifted to ✂✂ in ✂✂. These licensing arrangements, primarily with ✂✂. The ✂✂ further entrenched ✂✂, consolidating control over grandparent stock supply and restricting breed alternatives. These arrangements reinforce concentration and raise serious concerns about market foreclosure, access to inputs, and long-term breed diversity.

The ✂✂ between ✂✂ to form ✂✂ in 2021 marked a turning point in the breeding segment. The ✂✂ gave ✂✂. The venture centralized control over ✂✂ grandparent stock supply for the Zambian and regional markets. ✂✂. This consolidation reinforced the dominance of a single genetic line and reduced supply options for other breeders. Following the ✂✂, price increases for poultry products were observed particularly in DoCs and broiler chickens. The timing of these increases aligned with changes in the supply structure and reductions in competition. Notably, smaller competitors experienced greater pricing pressure and lower capacity utilization. This ✂✂ altered the competitive landscape and is associated with market outcomes that negatively affect both competitors and consumers.

Across the poultry and feed value chains, the Inquiry identified several structural and behavioural issues undermining competition. These include monopolistic control of ✂✂, vertical foreclosure by integrated firms, exclusive contracts, and market information sharing tendencies. The overlapping ownership and cross-supply agreements between competitors further complicate market dynamics. In the feed sector, dominant firms appear to engage in margin squeezing or strategic pricing to disadvantage independent feed suppliers and poultry producers. Such practices collectively diminish contestability and entrench the dominance of incumbents at the expense of innovation, efficiency, and consumer welfare. Barriers to entry across both sectors are

Findings and Observations

significant, including breed access restrictions, capital intensity, and distribution logistics. These systemic issues undermine contestability and require targeted policy and regulatory interventions to restore market balance.

The Commission noted several aspects that require action.

- First, there is a need to review licensing agreements for the breeding and distribution of parent stock in Zambia to ✂✂ and ensure equitable access to breeding stock.
- Second, regulatory oversight of vertically integrated firms must be enhanced, with mandatory disclosures on internal pricing, supply terms, and third-party access.
- Third, the Commission should strengthen merger control rules and closely monitor vertical and horizontal integration trends.
- Fourth, the restrictions on supply, including territorial restrictions, along with information flows which could affect competition, should be probed further at a regional level.

These reforms are critical to promoting competition, improving market access, and fostering sustainable growth in Zambia's poultry industry.

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1. Introduction

1. Poultry is one of the cheapest sources of protein and it has important linkages to agriculture through the demand for inputs to animal feed. It also has one of the lowest impacts on the environment. Commercial poultry production has changed considerably over the years with leading breeds having feed conversion ratios of around 1.7-1.8kg of feed per 1kg of meat live weight[1] and growing times of just 35-45 days to reach target live weights of 2-2.5kg. These breeds have rapid growth and low mortality rates and are based on breeding stock, sourced as 'day-old-chicks' (DoCs).

2. The Zambian poultry sector, particularly broiler production, has seen modest but consistent growth in recent years. Poultry meat production increased from 50,000 metric tons in 2021 to approximately 53,840 metric tons in 2023, with projections estimating a rise to 57,750 metric tons by 2028[2]. This growth, while steady, lags behind some regional counterparts such as Zimbabwe, which recorded 113,000 metric tons in 2021[3].

3. Over the period from 2013 to 2022, poultry meat consumption per capita in Zambia has shown modest fluctuations, reflecting a combination of economic, production and consumer preference factors, while remaining relatively low by international comparison. There are somewhat different estimates from alternative sources of information. According to data from the Food and Agriculture Organization (FAO, as reported in the Helgi

[1] See OECD-FAO (2022) *OECD-FAO Agricultural Outlook 2022*. Paris, OECD. For countries including Argentina, Australia, Brazil, EU. South Africa has a feed conversion ratio of 2.1. The conversion ratio is higher per kg of meat, slaughtered for sale.
[2] ReportLinker, 2024. *Zambia Poultry Meat Market – Analysis and Forecast to 2028*. ReportLinker. Available at: https://www.reportlinker.com/clp/country/1761/726321 - Accessed 7 Apr. 2025.
[3] Helgi Library, 2021. *Poultry meat production rose 15.1% to 51.7kt in Zambia in 2021*. Available at: https://www.helgilibrary.com/charts/poultry-meat-production-rose-151-to-517-kt-in-zambia-in-2021-6 - Accessed 7 Apr. 2025.

Library (2023)[4] and other sites, see Figures 2 and 3 below), Zambia's poultry meat consumption per capita ranged between approximately 2.7 kg and 3.5 kg over the ten-year period to 2021 before increasing in 2022. Data from the Poultry Association of Zambia (PAZ) and production statistics indicate somewhat higher and steadier levels.

4. Compared to neighboring countries, Zambia's poultry meat consumption per capita is relatively low. According to FAO, in 2021, Malawi[5] and Mozambique recorded per capita poultry meat consumption levels of 5.42 kg and 5.64 kg respectively, while Zimbabwe[6] reached 7.33 kg. South Africa, a regional leader in poultry production, reported a much higher figure of 44.3 kg per capita. These disparities suggest that Zambia has untapped potential for growth in poultry consumption, particularly as household incomes rise and consumer preferences evolve.

5. Small-scale producers account for a large share of broiler production[7]. These households supply mostly live birds to informal markets, while large-scale commercial operations focus on dressed chicken for formal retail and hospitality sectors. However, smallholders face persistent challenges including high feed costs, limited veterinary services, and disease outbreaks, all of which constrain productivity and sustainability.[8]

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[4] Helgi Library. (2023) *Poultry Meat Consumption Per Capita in Zambia*. Available at: https://www.helgilibrary.com/indicators/poultry-meat-consumption-per-capita/zambia/ (Accessed: 20 May 2025).

[5] Zamstats (2022) Livestock Survey Report as cited in Helgi Library (2023) *Poultry Meat Consumption Per Capita rose 1.12% to 5.42 kg in Malawi in 2021*. Available at: https://www.helgilibrary.com/charts/poultry-meat-consumption-per-capita-rose-112-to-542-kg-in-malawi-in-2021/ (Accessed: 20 May 2025). Note that the number of birds held at any one time by producers of different sizes is not the same as their contribution to production and commercial producers have much shorter rearing times and this greater turnover.

[6] Helgi Library. (2023) *Poultry Meat Consumption Per Capita rose 1.66% to 7.33 kg in Zimbabwe in 2021*. Available at: https://www.helgilibrary.com/charts/poultry-meat-consumption-per-capita-rose-166-to-733-kg-in-zimbabwe-in-2021/ (Accessed: 20 May 2025).

[7] Kalimukwa, T., Phiri, C., Banda, M. and Mulenga, M., 2025. *Assessing the contribution of backyard broiler production to food security in peri-urban Zambia*. Frontiers in Sustainable Food Systems, 9, pp.1–14. Available at: https://www.frontiersin.org/journals/sustainable-food-systems/articles/10.3389/fsufs.2025.1446060/full - Accessed 7 Apr. 2025.

[8] Silungwe, A., 2023. *Constraints to smallholder poultry production in Zambia: A review of feed and health system challenges*. Revista Brasileira de Ciência Avícola, 25(1), pp.45–56. Available at: https://www.scielo.br/j/rbca/a/HmzYjMgK9wSCH5M3XjD9CVH/?lang=en - Accessed 7 Apr. 2025.

6. Feed typically constitutes the largest input cost, around 70% of costs. The main components of poultry feed are milled maize and soybean (including in meal or oilcake form), with salt, vitamins and mineral premixes, and synthetic amino acids accounting for a relatively smaller proportion of the feed mixture.[9]

1.1 Matters of Concern

7. The Commercial Poultry Market Inquiry ("Inquiry') was necessitated by the complaints made to the Commission, concerns raised in studies conducted by the Commission and other relevant bodies in the poultry industry, as well as the Commission's experience in reviewing mergers, regulating anti-competitive trade practices, and authorization of agreements in the poultry industry. Having had concerns in the industry, the Commission initiated the inquiry as it had reason to believe that there were features of the industry (including, but not limited to, the levels of concentration and vertical integration) that may have had an effect of preventing, distorting, or restricting competition within the industry, and/or had elements of unfair trading practices that hindered the achievement of the purposes of the Act.

8. Section 5 of the Act mandates the Commission to, inter alia, " *review the operations of markets in Zambia and the conditions of competition in those markets; review the trading practices pursued by enterprises doing business in Zambia; act as a primary advocate for competition and effective consumer protection in Zambia; to advise Government on laws affecting competition and consumer protection; and, do all such acts and things as*

[9] Ncube, P., S. Roberts, T. Zengeni (2017) 'The Southern African Poultry Value Chain Regional development versus National Imperatives.' UNU WIDER Worling paper https://www.wider.unu.edu/sites/default/files/wp2017-97.pdf.
Goga, S. and Bosiu, T. (2019). Governance of poultry value chains – a comparative perspective on developing capabilities in South Africa and Brazil. CCRED Working Paper Series 2019/10.

are necessary, incidental or conducive to the better carrying of its functions under this Act".

9. This market inquiry was thus a review and an analysis of the industry, including the market structure, market outcomes and relevant policies and regulations, along with any arrangements that may restrict, prevent and distort competition or result in unfair trade to the detriment of consumers rather than a narrow investigation of specific conduct by any firm.

1.2 Legal Basis for Market Inquiry

10. On 8th April 2024, the Commission published a notice of its intention to conduct an Inquiry into the Commercial Poultry ("Inquiry") in Zambia. The Inquiry was initiated in accordance with Part V of the Competition and Consumer Protection Act No. 24 of 2010 ("the Act") and Part III of the Regulations. The inquiry was in keeping with the purpose and functions of the Commission as set out in objectives of the Act and section 2 of the Act. Pursuant to Regulation 4(1) (a-e), the Commission is required to initiate a market inquiry based on a complaint(s) made to it by enterprises, consumers or representative bodies, studies conducted by any relevant bodies on a particular industry, its own research, its experience in regulating anti-competitive trade practices or representations made to it by the Government regarding a particular industry or type of agreement.

1.3 Terms of reference

11. On 8th April 2024, the Commission published the Terms of Reference ("ToR") pursuant to Regulation 5(1) and 5(2) of the Competition and Consumer Protection (General) Regulations 97 of 2011 (Regulations). Regulation 5(1) and 5(2), mandates the Commission to inform the public

about the market inquiry through the placement of the Notice on the Commission website or in a daily newspaper of general circulation in Zambia. Regulation 5(2) requires that the Notice indicate the scope of or the terms of reference for the market inquiry and request all interested parties to make submissions to the Commission.

1.4 Purpose of the Inquiry

12. The purpose of the market inquiry was to review and understand how the industry operates, in order to determine whether there existed any feature, or a combination of features that may have had an effect of preventing, restricting or distorting competition; or have had elements of unfair trading practices in connection with the supply or acquisition of any goods or services in the industry in Zambia.

13. The features, or combination of features, which may undermine competition relate to the structure of the markets in question, including whether a single firm has market power or whether there is small group of firms, and characteristics such as whether there is vertical integration and/or common ownership and/or exclusive dealing arrangements. The assessment of potential competition concerns with reference to competition literature is made after the market structures have been assessed for different segments of the industry, in sections 5 and 6 below.

1.5 Scope of the Inquiry

14. The Inquiry covered economic activities of firms and institutions operating through the value chain including the breeding stock, feed and inputs, broiler production and processing, marketing and retail activities. The Inquiry also covered activities in Zambia which had an effect in Zambia,

even though they might have related to cross-border and/or international arrangements and businesses.

15. Specifically, the inquiry covered all market participants in the commercial poultry industry including poultry producers, input suppliers, customers, among others with a focus on the period 2019 to 2023.

16. Technical aspects of the scope included (i) reviewing of the markets and supply conditions at different levels of the value chain, including breeding and supply of day-old chicks, animal feed constituents, animal feed supply, and processing of poultry, in Zambia, including in terms of market outcome and arrangements, enterprise profiling, concentration levels and ownership structures (ii), analysis of production and supply dynamics, pricing levels and structures, and associated terms and conditions of trade, on the domestic and export market as well as associated costs and margins, (iii) reviewing of local, regional and international arrangements, shareholding and ownership structure of key players in the sector as well as contractual agreements, licencing and trade arrangements and (iv) reviewing of the various existing laws, policies and regulations governing or having a bearing on the functioning of the sector including the roles, influence and power of associations.

17. Geographical aspects of the scope included an analysis covering the whole of Zambia, regional and international market dynamics with an effect on the Zambian market while operational aspects of the inquiry included (i) desktop reviews of past studies and inquiries into the sector, reviews of cases investigated and mergers undertaken relating to the sector as well as a review of publicly available information on the sector; (ii) data gathering which will involve requests for information to identified stakeholders and enterprises, and interviews.

1.6 Objectives

18. The primary objectives of this inquiry were;

- to analyze the market structures in the commercial poultry industry at different levels including production, inputs including breeding stock, animal feed and its main constituents, poultry processing and retail;
- examine the industry arrangements and relations locally, regionally and internationally that have, or may have, an effect in Zambia;
- examine the structural arrangements, shareholding structures and agreements, or lack thereof, that may have an effect in Zambia;
- examine market outcomes, pricing, supply arrangements, and related terms and conditions, for local and export markets, and as regards imports;
- assess how legal and regulatory factors affect competition in the sector and understand how Government interventions shape incentives for firms to compete and invest.

19. The outcome of the market inquiry is meant to inform and motivate taking of action on any matters covered in the ToRs, including the following: (i) in so far as the practices identified by the inquiry are capable of being addressed as matters falling within section 8, sub section 1 of Section 9, sub section 1 of Section 10 or sub section 1 of Section 16 of the Competition and Consumer Protection Act, deal with them in accordance with the provisions of the Act relating to such matters and (ii) in so far as the adverse effects of competition cannot be remedied under the Act, or are the result of other applicable laws, make recommendations through the Minister of Commerce, Trade and Industry (MCTI) for such further

action, including amendments to applicable laws as is required to provide an effective remedy even for other institutions.

1.7 Call for submissions.

20. On 8th April 2024, the Commission issued a call for submissions inviting any and all stakeholders who wished to participate in this Inquiry to make formal submissions to the Commission. The stakeholders included State and Non-State Actors who in one way or the other have an interest, influence, or concern in the industry. This included but was not limited to Consumers, Producers, Retailers, Regulators, and any other stakeholders with an interest or activity in the industry. The submissions were to be in line with the Rules of Procedure for the Inquiry published on the Commission's website https://www.ccpc.org.zm/marketinquiries.

21. Submissions were not limited to the specific issues identified. Stakeholders were given the liberty to extend their submissions to other issues relevant to the Inquiry that had a potential to impact the industry by businesses, government, and consumers in Zambia. All submissions were expected to be detailed and where possible, supported with documentary evidence.

2. Overview of Zambia's commercial poultry industry

22. The poultry industry in Zambia has grown at low rates of domestic supply to meet local demand, even while there have been technological advancements and investments in breeding stock. Poultry, specifically chicken meat production, stood at 52,000 tons in 2021 against a total of 344,000 tons total meat produced.[10] There is potential to meet much

[10] Food and agriculture organization of the United Nations – Statistical Yearbook World and Food agriculture 2023.

higher demand in future if the industry is competitive and expands. The establishment of modern poultry processing facilities and the introduction of new farming technologies have enhanced production efficiency and product quality.[11]

23. While the Zambian poultry industry holds great potential to meet local and regional demand, the industry faces challenges, particularly in being able to compete with imported poultry products, which may impact the market share of local farmers.[12] To address these concerns, the government and industry stakeholders are actively working to support local production and reduce dependency on imports. Investigations by the Commission into competitive practices within the industry further underscore the need for a balanced and fair market. Despite these challenges, the future of the poultry industry in Zambia appears promising, with ongoing investments in technology, infrastructure, and market development poised to sustain its growth trajectory.[13] It is essential that competition in markets through the supply chain plays its role.

24. The poultry industry also supports other sectors like maize, soybean, feed milling, transportation, etc.[14]. These industries are all labour absorbing and contribute favorably to solving the problem of youth unemployment as they do not require specialized skills.[15]

[11]Unlocking Africa's Potential Through Enhancing the Continent's Industrialization Sector | AUDA-NEPAD. June 2023 retrieved 21/5/2024.
[12] Indaba Agricultural Policy Research Institute (IAPRI) - Research and policy briefs on agriculture and market trends. April 2017.
[13]Ibid 2
[14]Analysis of the Animal Feed to Poultry Value Chain in Zambia Paul C. Samboko, Antony Chapoto, & Olipa N. Zulu-Mbata 2015
[15]Addressing youth unemployment through industries without smokestacks: A Zambia case study, April 2022. Anand Rajaram, Dennis Chiwele, and Mwanda Phiri

25. The small-scale poultry farmers purchase day old chicks and feed from the larger breeders and feed manufacturers[16]. They grow the broilers for their own consumption, or they sell the broilers live, typically on an informal basis. With the country's favorable climatic conditions for maize and soybean growing and poultry breeding, the potential for the development of the poultry industry and its contribution to poverty reduction is huge and remains largely untapped.[17]

2.1 Zambia's potential as a Regional Poultry Production Hub

26. Zambia possesses the potential to emerge as a center for poultry production within the region, owing to several key factors[18]. Firstly, the country demonstrates significant capabilities in the cultivation and processing of soybeans as one of the main inputs into feed production, bolstered by its robust infrastructure and breeding facilities[19]. Zambia boasts an annual soybean production of approximately 450,000 metric tonnes, with an estimated growth rate of 14% per annum[20]. Recent data indicates a surge in soybean production, reaching 750,000 metric tonnes in 2023,[21] although production was much lower in 2024.

27. Moreover, Zambia not only excels as a major soybean producer but also plays a substantial role in soybean and soymeal/cake trade. Soybean is a critical component in poultry feed due to its high protein content[22]. The extensive cultivation of soybeans in Zambia ensures a potentially cheaper

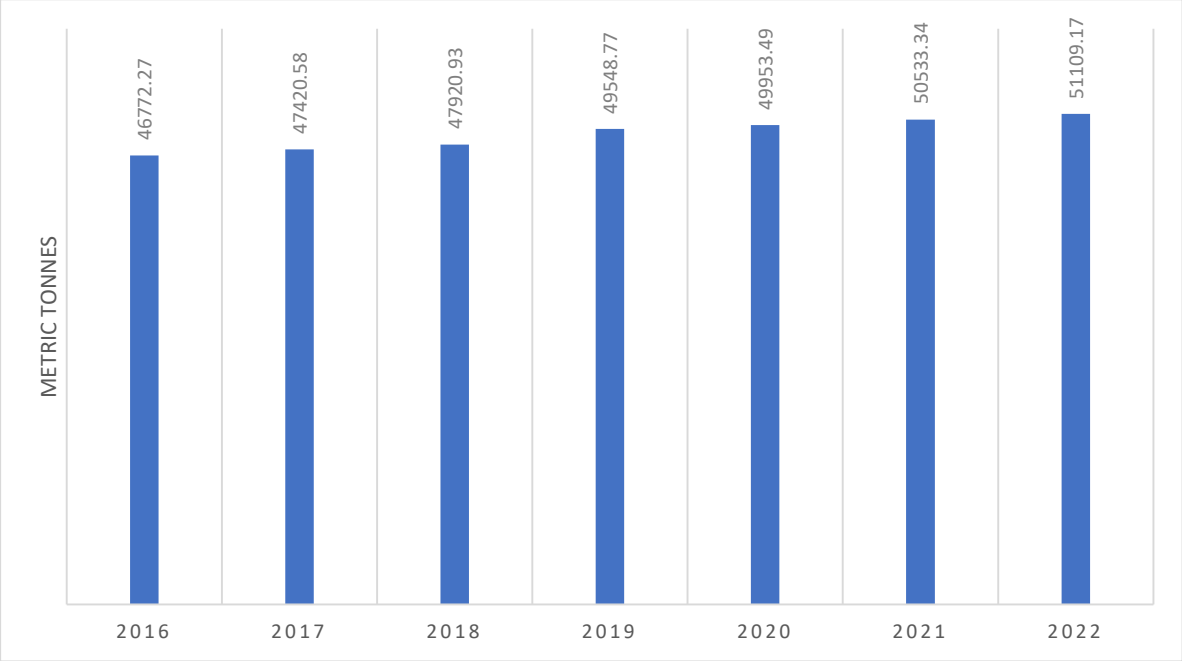
[16]Small Scale Poultry Production: FAO ANIMAL PRODUCTION AND HEALTH. https://www.fao.org/4/i3531e/i3531e.pdf Retrieved 17th May 2024
[17]POULTRY DEVELOPMENT REVIEW. Poultry Development Review (fao.org)
[18]Nsomba, G., Mhone, A.K., Mulozi, I., Oiro, R. and Roberts, S. (2022). Competition issues and regional integration in soybean and animal feed to poultry markets, within and across Kenya, Malawi and Zambia. CCRED Working Paper 2022/09
[19] Ibid 15
[20]Zambia Agriculture Status Report 2021. Publisher: Indaba Agricultural Policy Research Institute, Brian P. Mulenga, Mulako Kabisa, Antony Chapoto. December 2021
[21]Setimela, 2024; Nsomba and Roberts, 2023; Kaonga et al., 2023
[22]Nutritional Value of Soybeans in Poultry Feed, 25 Oct 2023.Author: EDGAR OVIEDO. https://nutrinews.com/en/nutritional-value-of-soybeans-in-poultry-feed/

local supply of this essential feed ingredient[23]. Reduced feed costs directly translate to lower overall production costs for poultry farmers[24].

28. This competitive cost base should mean Zambian poultry products are more price-competitive both domestically and in export markets. By fostering a competitive cost base through extensive soybean cultivation, Zambia can not only enhance the profitability and sustainability of its poultry industry but also position itself as a significant player in the regional and global poultry markets[25]. The strategic advantage gained from local soybean production thus becomes a cornerstone of the country's agricultural economy[26]. By mid-2022, poultry production in Zambia was estimated at around 1.6 million chicks per week (according to the Poultry Association of Zambia), adequately meeting domestic demand and facilitating exports. Commercial chicken meat production has increased from below 47 000 metric tonnes in 2016 to over 51 000 metric tonnes in 2022 (Figure 1).[27]

[23] Analysis of the soybean value chain in Zambia's Eastern Province. May 2013. Authors: Mary Lubungu (IAPRI), William J. Burke (Michigan State University), Nicholas Sitko (Food and Agriculture Organization of the United Nations)
[24] Ibid 20
[25] https://www.theigc.org/sites/default/files/202311/Nsomba%20and%20Roberts%20Final%20report%20November%202023.pdf/. Building competitive agricultural markets for Zambia: Unlocking export potential Grace Nsomba and Simon Roberts (CCRED, University of Johannesburg) November 2023
[26] Ibid 22
[27] https://www.statista.com/statistics/237632/production-of-meat-worldwide-since-1990/

Figure 1: Zambia Chicken Meat Production

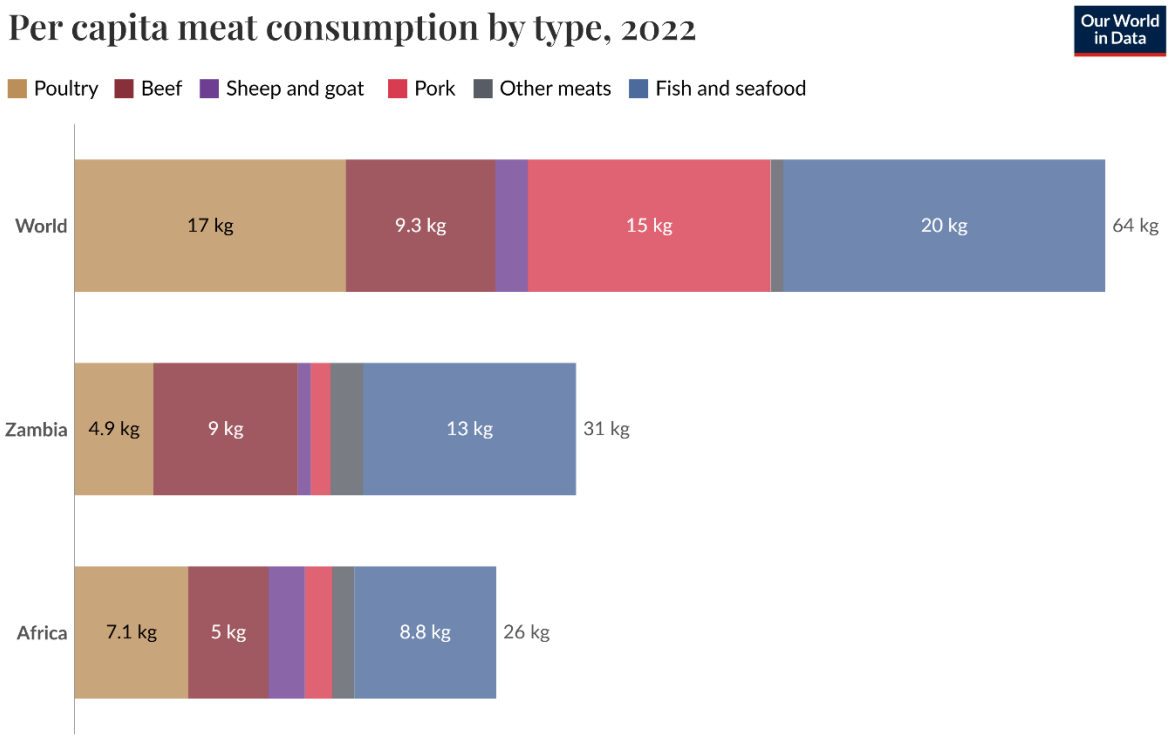


Source: FAO Statistics

29. While chicken is one of the most consumed meats in Zambia and the region due to affordability and availability,[28] consumption was still only around 4.9kg per capita considering Zambia's population of 19.6 million[29] as of 2022. This compares with a world average of 17kg per capita or almost three times that in Zambia, and an average for Africa of 7.1kg (Figure 2). The comparison points to rapid growth potential to meet the demand from the growing urban population in Zambia, and across southern Africa, as poultry is one of the lowest cost sources of protein. Compared to other meat types of meat, chicken national average per kg prices as of February 2024 standing at chicken K49.4, beef K80 (average of steak, T-bone and mixed cut) and Fish K72.4.[30]

[28]Nsomba et al, 2022
[29] https://www.zamstats.gov.zm/wp-content/uploads/2023/12/2022-Census-of-Population-and-Housing-Preliminary.pdf
[30] https://www.mfl.gov.zm/wp-content/uploads/2024/10/NATIONAL-MARKET-BULLETIN-FEBRUARY-2024.pdf

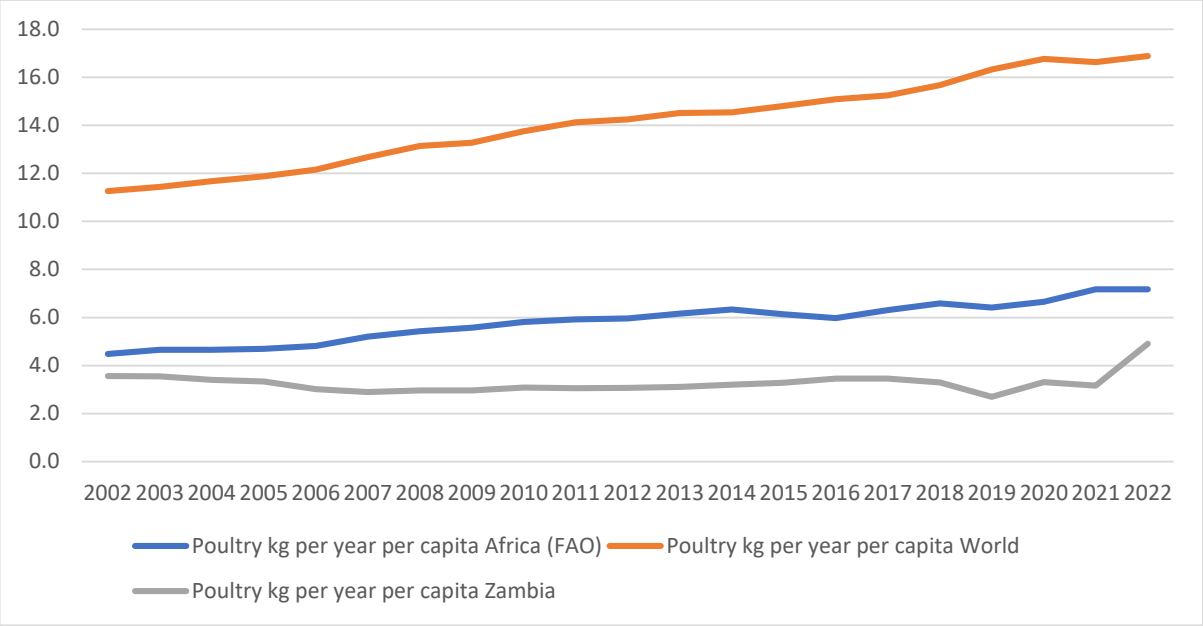
Figure 2: Zambia poultry and other meat consumption in international comparison, 2022



30. Over the last 20 years, Zambia's per capita poultry consumption has remained somewhat subdued compared to Africa and World averages. Fluctuations have included recovery post-covid with data from commercial producers indicating an increase from 2021 to 2023 of 14% (to around 6.2kg of production per capita in Zambia), while FAO data (Figure 3) records per capita consumption at 4.9kg in 2022. This compared to the African average of 7.2kg in 2022 (from 4.5kg in 2002) and world average of 16.9kg in 2022 (from 11.3kg in 2002). Poultry, although cheaper than red meat, remains a luxury for many Zambians. Poverty Incidence: As of 2020, over 54% of Zambia's population lived below the national poverty

line[31]. Low Purchasing Power: Many households prioritize staple foods such as maize meal (nshima) over protein-rich foods like meat due to affordability. We note that the consumption per capita data in Figure 3 reflect lower values in 2018 to 2021 which are inconsistent with the production data reflected in Figure 1 above (given that there are not significant volumes of trade in poultry meat occurring) and that the PAZ data reflect substantially higher values.

Figure 3: Poultry meat consumption per capita per kg 2002-2022



Source: *Food and Agriculture Organization of the United Nations (2024)*
Note: *Data refers to meat 'available for consumption'. Actual consumption may be lower after correction for food wastage.*

31. In terms of poultry breeding, industries in smaller economies are characterized by high economies of scale which tend to exhibit concentrated levels of operation[32]. The poultry sector exemplifies this with significant concentration observed at the breeder (grandparent) and

[31] World Bank (2022), *Zambia Economic Outlook*https://www.worldbank.org/en/country/zambia/overview
[32] Gal, M, (2003) Competition Policy for Small Market Economies. Available at SSRN: https://ssrn.com/abstract=456560

abattoir levels[33]. The substantial capital investments required for operations result in a limited number of producers dominating the industry landscape. Across the Eastern and Southern African region, the poultry industry is primarily governed by a handful of key players. Notably, producers of breeding stock operate under licenses granted by global breeding conglomerates, as elucidated below.[34]

32. In this context, Zambia has emerged as a central hub, serving as a principal supplier of day-old chicks (parent) to both Eastern and Southern Africa, excluding South Africa.[35] Entities such as Ross Breeders Zambia and Hybrid Poultry Farm have held prominent grandparent breeding licenses within the region. Over the past few years, Zambia has witnessed a notable upsurge in the production and export of day-old chicks (parent) and fertilized eggs, signaling its growing stature as a key player in the regional poultry market.[36]

33. Data on poultry meat consumption per capita in Zambia varies significantly depending on the source. According to the Food and Agriculture Organization (FAO) statistics which can be compared across countries (Figure 3), per capita poultry meat consumption stood at 4.9 kilograms in 2022. In contrast, data from the PAZ indicates that in 2021, per capita consumption of broiler poultry was approximately 9.8[37] kilograms per capita, however, this appears to be based on the live weight

[33] Motter, A. and G. Tempio (2019) Global poultry production: current state and future outlook and challenges. World's Poultry Science Journal, 73 Pages 245-256.
[34] Goga, s. and S. Roberts (2023) Multinationals and competition in poultry value chains in South Africa, Zambia, and Malawi. CCRED Working Paper Series 2023/11
[35]https://www.wider.unu.edu/sites/default/files/wp2017-97.pdf. The Southern African Poultry Value Chain Regional development versus National Imperatives. P. Ncube, S. Roberts, and T. Zengeni
[36]Building competitive agricultural markets for Zambia: Unlocking export potential Grace Nsomba and Simon Roberts (CCRED, University of Johannesburg) 2022
[37] The Meat Consumption per Capita metric generally refers to the amount of poultry meat available for consumption per person, usually expressed in kilograms per year. It is derived from national supply data production plus imports, minus exports and changes in stock and then divided by the population. This corresponds to FAO's "carcass mass availability" method, which may not match actual consumption because it doesn't account for in-house waste (bones, losses, spoilage, etc.). The PAZ metric as reported in the stakeholder meeting of 7th August 2025 of 9.8 appear to be based on the live undressed chicken of an average weight of 2.3kg with an average population of 20 million which gives an average of 85 million chicks that progress to live chicken (approximately 1.6 million chicks per week cited in the other sections of the report.

of the broiler chickens[38]. The discrepancies may also be attributed to differences in data collection methodologies and the specific categories of poultry meat considered (e.g., whether only broiler meat or all poultry types are included). It also highlights the need for harmonized and consistent data reporting to better inform policy decisions and nutritional assessments within the poultry value chain. Understanding the true levels of poultry consumption is crucial, given the sector's growing importance in Zambia's food security and economic development.

3. Regulatory Framework

34. Zambia's commercial poultry sector operates within a comprehensive regulatory framework designed to ensure industry compliance, enhance market competitiveness, and support economic growth. As a vital component of the agricultural economy, the sector contributes significantly to employment, food security, and export development.

35. The regulatory framework comprises national policies, legislative provisions, and oversight by key regulatory institutions. It establishes strict standards for poultry production, ensuring adherence to quality, safety, and biosecurity requirements essential for sustainable industry growth and consumer protection.

3.1 Key regulatory institutions

36. Several government institutions oversee different aspects of poultry production in Zambia:

[38] Zambian Report; SADC liaison forum country report

Table 1: Institutions overseeing poultry production

Institution	Role in poultry regulation
Ministry of Fisheries and Livestock (MFL)	Oversees animal health and production policies.
Ministry of Commerce, Trade, and Industry (MCTI)	Regulates trade policies affecting poultry production and market access.
Zambia Bureau of Standards (ZABS)	Develops quality and safety standards for poultry products.
Competition and Consumer Protection Commission (Commission)	Safeguard and promote economic welfare by prohibiting anti-competitive and unfair business practices in Zambia
Zambia Environmental Management Agency (ZEMA)	Regulates environmental impacts of poultry farming and processing.
Food and Drugs Control Laboratory (FDCL)	Monitors compliance with food safety regulations.
ZAMRA	The Zambia Medicines Regulatory Authority (ZAMRA) is responsible for licensing and regulating both human and animal pharmaceuticals in Zambia. ZAMRA ensures that veterinary medicines meet acceptable standards of quality, safety, and efficacy before they are marketed in Zambia.

3.1.1 Zambia Medicines Regulatory Authority (ZAMRA)

37. The Zambia Medicines Regulatory Authority (ZAMRA), under the Medicines and Allied Substances Act No. 3 of 2013, regulates the

manufacture, importation, distribution, and use of medicines and allied substances, including veterinary products. Any dealing in such products without the appropriate license or Marketing Authorization from ZAMRA is unlawful. Recently, concerns have been raised regarding feed additives and vitamins, where allegations of unfair pricing have surfaced. This stems from a situation in which licensed importers operate as sole or exclusive distributors, potentially leading to profiteering.

3.1.2 National Livestock Development Policy

38. The Ministry of Fisheries and Livestock (MFL) oversees the implementation of the National Livestock Development Policy, ensuring the sustainable growth and regulation of the livestock sector[39]. The National Livestock Development Policy provides a strategic framework for the sustainable growth and regulation of the commercial poultry production sector. It aims to enhance productivity, biosecurity, and disease control while promoting best practices in poultry farming. The policy supports research, innovation, and capacity building to improve poultry breeds, feed quality, and farm management[40]. Additionally, it outlines measures for infrastructure development, market access, and value chain enhancement to boost competitiveness in both local and international markets. By fostering regulatory compliance and sectoral growth, the policy contributes to food security, employment creation, and economic development[41].

3.1.3 Ministry of Fisheries and Livestock (MFL)

39. Licensing of the commercial poultry production sector is primarily handled by the Ministry of Fisheries and Livestock. This Ministry is responsible for

[39] Ministry of Fisheries and Livestock
[40] National Livestock Development Policy| Ministry of Fisheries and Livestock
[41] National Livestock Development Policy| Ministry of Fisheries and Livestock

regulating agricultural and livestock activities, including poultry farming, under the broader framework of the Agricultural (Amendment) Act and other related regulations[42].

40. The ministry's role involves issuing licenses for:

- Poultry Farms: Commercial poultry farms must be registered and licensed to ensure compliance with animal health and welfare standards.
- Poultry Processing Plants: Plants involved in processing poultry meat and related products must also be licensed by the ministry to ensure food safety and hygiene.

41. Additionally, local authorities (such as municipal councils) may also be involved in licensing poultry businesses, particularly with respect to zoning, health, and environmental regulations.

42. For activities related to food safety, the Zambia Bureau of Standards (ZABS) and the Food and Drugs Control Laboratory (FDCL) may also play a role in setting standards for poultry products.

3.1.4 Ministry of Commerce and Trade Industry

43. The Ministry of Commerce and Trade Industry plays a pivotal role in the commercial poultry production sector by facilitating trade, investment, and market access. The Ministry is responsible for developing and implementing policies that promote a favorable business environment for poultry producers, ensuring that local products meet both domestic and international market standards. It supports the sector through export promotion, market linkages, and the establishment of trade agreements,

[42] www.mfl.gov.zm

aiming to expand Zambia's poultry exports. Additionally, the Ministry works closely with other regulatory bodies to streamline processes, enhance competitiveness, and foster sustainable growth within the poultry industry[43].

3.2 Relevant Acts and Statutes

44. Zambia's poultry industry is regulated under several key laws and statutory instruments:

Table 2: Laws regulating the poultry industry

Legislation	**Key provisions**
Animal Health Act No. 27 of 2010	Regulates disease control, biosecurity, vaccination programs, and disease surveillance to prevent outbreaks such as Newcastle Disease and Avian Influenza (Republic of Zambia, 2010).
Food Safety Act No. 7 of 2019	Ensures hygiene and safety in poultry production, processing, handling, and distribution to prevent public health risks (Republic of Zambia, 2019).
Standards Act No. 4 of 2017	Establishes product quality and safety standards for poultry products, ensuring compliance with national and international benchmarks (Republic of Zambia, 2017).

[43] Ministry of Commerce, Trade and Industry

Competition and Consumer Protection Act No. 24 of 2010	Regulates the Zambian economy to avoid restrictive business practices, abuse of dominant position of market power, anti-competitive mergers and acquisitions and cartels as these erode consumer welfare (Republic of Zambia, 2010).
Environmental Management Act No. 12 of 2011	Requires poultry farms and processors to comply with environmental regulations, including waste management, pollution control, and sustainable farming practices (Republic of Zambia, 2011).
Animal Welfare Act No. 13 of 2013	Establishes humane treatment and handling standards for poultry, including transportation and slaughter (Republic of Zambia, 2013).

Commission Compilation

3.3 Key regulatory areas

3.3.1 Competition and Market Regulation

45. The Competition and Consumer Protection Commission as a statutory body under the Ministry of Commerce, Trade and Industry (MCTI) monitors markets to prevent anti-competitive practices and ensure a fair

and efficient marketplace. This oversight helps maintain consumer confidence and promotes industry growth[44].

3.3.2 Disease Control and Veterinary Services

46. The Department of Veterinary Services (DVS) under the Ministry of Fisheries and Livestock (MFL) plays a crucial role in regulating and safeguarding animal health in the commercial poultry production sector[45]. Its mandate includes disease prevention, control, and eradication through vaccination programs, surveillance, and enforcement of biosecurity measures. DVS sets health standards for poultry farms, monitors the use of veterinary drugs, and ensures compliance with national and international animal health regulations. The department also conducts inspections, issues health certifications for poultry and poultry products, and provides technical support to farmers to enhance productivity and disease resilience[46]. Through these efforts, DVS helps maintain a sustainable and competitive poultry industry while protecting public health.

3.3.3 Feed and Input Quality Standards

47. The Zambia Bureau of Standards (ZABS) plays a critical role in the commercial poultry production sector by developing the national quality and safety standards[47]. Its mandate includes setting regulations for poultry feed, production processes, and final products to ensure consistency, safety, and competitiveness in both local and international markets[48]. ZABS conducts inspections, laboratory testing, and certification of poultry products, ensuring they meet health and safety

[44]Republic of Zambia (2010). Competition and Consumer Protection Act No. 24 of 2010.
[45]Republic of Zambia (2010). Animal Health Act No. 27 of 2010.
[46]Republic of Zambia (2013). Animal Welfare Act No. 13 of 2013.
[47]Republic of Zambia (2017). Standards Act No. 4 of 2017.
[48]Ibid 4

requirements[49]. Additionally, the bureau collaborates with regulatory agencies to enhance consumer protection, promote best practices in poultry farming, and support industry growth through standardization and technical guidance[50].

3.3.4 Environmental and Biosecurity Compliance

48. The Zambia Environmental Management Authority (ZEMA) is responsible for regulating and overseeing environmental compliance in the commercial poultry production sector. Its mandate includes enforcing environmental impact assessment (EIA) requirements for poultry farms, ensuring waste management practices adhere to national environmental standards, and mitigating pollution risks associated with large-scale poultry operations[51]. ZEMA monitors water and air quality, regulates the disposal of poultry waste, and enforces biosecurity measures to prevent environmental contamination[52]. Through inspections, compliance audits, and policy implementation, ZEMA promotes sustainable poultry farming practices while balancing industry growth with environmental conservation[53].

3.3.5 Regulatory Compliance and Enforcement

49. The Zambia Food Safety Act provides the legal framework for ensuring food safety and quality in the commercial poultry production sector. It mandates strict hygiene standards, proper handling, and processing of poultry products to protect consumer health. The Act regulates the use of additives, antibiotics, and preservatives in poultry feed and meat products while enforcing labeling requirements for transparency[54]. Inspections,

[49]Ibid 4
[50] Paul C. Samboko, Olipa Zulu-Mbata & Antony Chapoto (2018) Analysis of the animal feed to poultry value chain in Zambia. Development Southern Africa, Pages 351-368
[51]Republic of Zambia (2011). Environmental Management Act No. 12 of 2011.
[52]Ibid 8
[53]Baseline Study of the Main Egg Laying Facilities at Goldenlay Limited, Baluba, Zambia Phatisa Department: Social and Environmental Management. April 2015
[54]Republic of Zambia (2019). Food Safety Act No. 7 of 2019.

testing, and certification are conducted to ensure compliance with microbiological and chemical safety standards. By setting guidelines for food handling, transportation, and storage, the Act promotes the production of safe and high-quality poultry products for local and international markets[55].

4. Industry structure and performance

50. After an overview of the value chain and main companies, we then examine industry structures at the main levels of the value chain, of breeding stock, feed, and broiler meat production, and then consider the overall industry performance.

4.1 Value chain overview and industry structure

51. This inquiry analyses the market structure and conducts in detail at the levels of breeding stock to the day-old chicks reared by broiler chicken producers, animal feed including the supply of key constituents, broiler chicken rearing, and the processing and supply of chicken meat. The poultry industry brings together genetics in the form of breeding stock, sourced ultimately from global multinational corporations, and animal feed in which maize and soybeans are the two main constituents along with other sources of energy and protein together with vitamins and minerals (Figure 3). While feed is the larger cost, the performance of the broiler chicken operation in converting feed into meat, the growing time and the mortality rate, all depend on the breed.

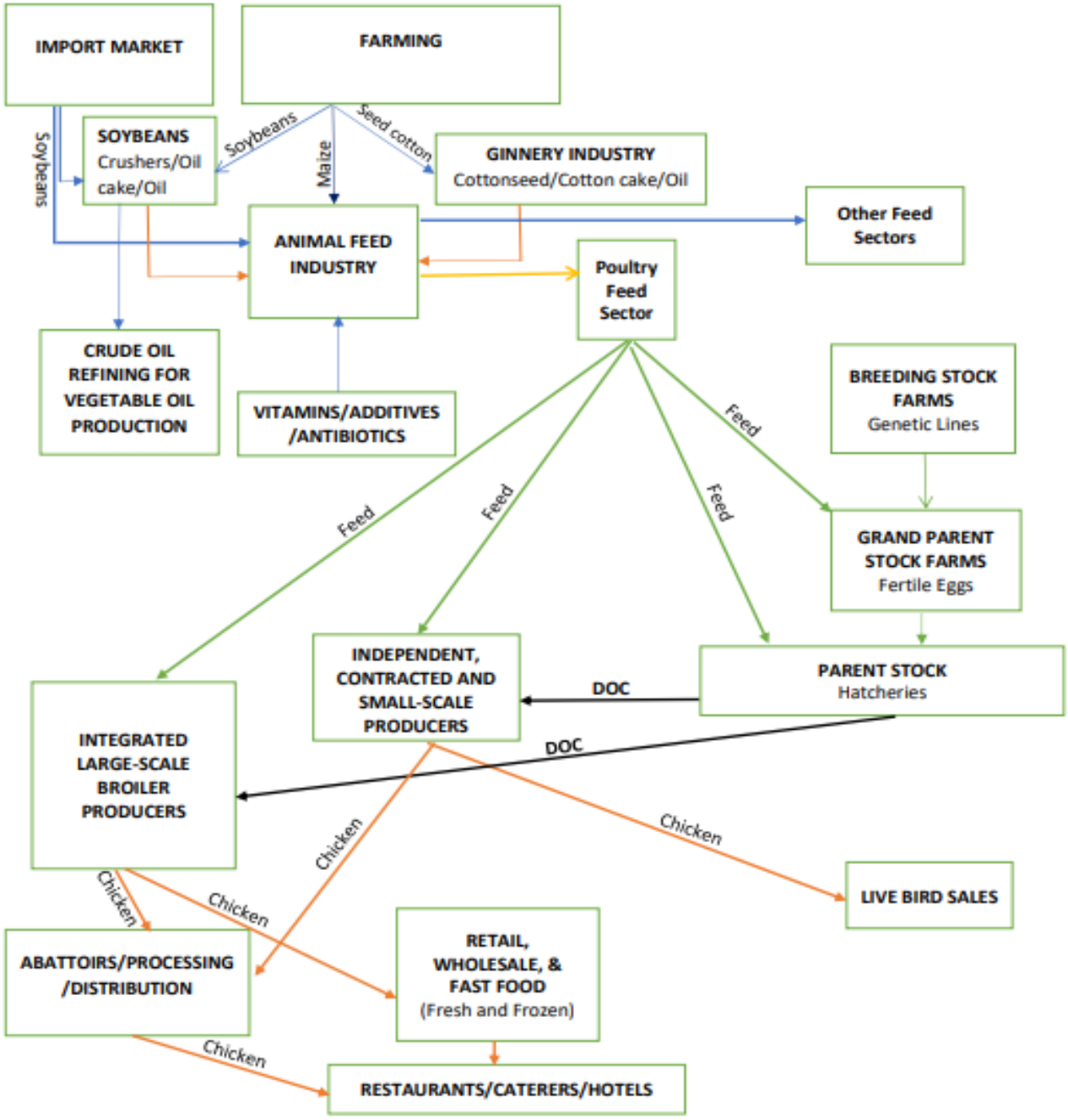
52. The breeds are typically sourced as grand-parent stock under license from multinational poultry companies. Breeding operations in Zambia then

[55]Republic of Zambia (2019). Food Safety Act No. 7 of 2019.

produce parents for their own use and for supply to other operations, which then produce day-old chicks (DOCs) (Figure 4).

53. The DOCs are reared for sale live or slaughtered for sale in fresh or frozen form.

Figure 4: Commercial Broiler Poultry Value Chain



Poultry Value Chain: CCPC Compilation

4.1.1 Animal feed to poultry value chain

54. The poultry animal feed industry is characterized by a mix of a very few large, vertically integrated feed manufacturers along with smaller independent feed producers in a relatively concentrated market structure. Poultry feed in Zambia relies heavily on key raw materials, primarily maize and soybeans. These components are essential for formulating balanced diets that ensure optimal poultry growth and productivity. Other agriculture products include sunflower and cottonseed as well as other by-products.[56] These crops are processed by different processors, which include millers, and edible oil producers, resulting in some products which are used as raw materials in the animal feed industry.

55. The oilseeds (soya beans, cottonseed and sunflower) are crushed to produce cake or meal, which is then used as a raw material in the production of feed[57]. Animal feed is a diverse range of feed items including feed ingredients, feed additives[58]. Thus, the feed value chain can be influenced by the nature of demand, which in turn responds to the manner in which livestock production industries are structured and how they have evolved over time. On the other hand, the availability of feed is also influenced by the supply side. The ability to meet demand is largely influenced by the availability of raw materials, which also makes the raw material supply industry important to the value chain players.

56. Maize serves as the primary energy source in poultry feed formulations. Zambia's favorable climate and soil conditions have facilitated substantial maize production, making it a staple not only in human diets but also in livestock feed. The country's maize yields have experienced fluctuations

[56] Commission (2019). Animal Feed Value Chain Study in Zambia. Available at: ANIMAL-FEED-FINAL.pdf
[57] https://www.britannica.com/topic/feed-agriculture
[58] http://cowsoko.com/publications/1453820122BLGG_Report_III_Feed_Sector_Policy_Issues.pdf

over the years due to factors such as weather variability and agricultural practices. According to data from the Central Statistical Office, maize production has seen both increases and declines, reflecting the challenges and successes within the agricultural sector[59].

57. Soybeans are a crucial protein source in poultry diets. Zambia's soybean production has been on an upward trajectory, driven by growing domestic demand from the feed industry and opportunities in regional markets. The expansion of soybean cultivation aligns with the increasing needs of the poultry sector, ensuring a steady supply of this vital ingredient[60].

58. The supply of these raw materials is influenced by various factors, including domestic agricultural policies, climatic conditions, and market demand. In years of favorable weather and supportive policies, both maize and soybean productions have met the demands of the poultry feed industry. However, challenges such as droughts or pest infestations can disrupt supply chains, leading to fluctuations in availability and prices[61].

59. The demand for animal feed in Zambia is closely tied to the growth of the poultry industry. As consumer preferences shift towards poultry due to its affordability and nutritional value, the need for quality feed has escalated. This surge in demand necessitates a robust supply of maize and soybeans to sustain the industry's growth. The animal feed industry in Zambia is predominantly geared towards poultry, with approximately 80% of the feeds produced being destined for the poultry market[62].

[59]https://www.researchgate.net/figure/Trends-in-maize-and-soya-bean-yields-and-production-Source-Central-Statistical-Office
[60] https://www.researchgate.net/figure/Trends-in-maize-and-soya-bean-yields-and-production-Source-Central-Statistical-Office
[61] Southern Africa Regional Supply and Market Outlook – FEWS NET (September 2024)
[62] https://www.ccpc.org.zm/media/research/ANIMAL-FEED-FINAL.pdf

60. Zambia's strategic location positions it as a potential supplier of animal feed and poultry products to neighboring countries. Zambia has had a trade surplus of feed and the main constituents over 2019 to 2024 although there have been shortfalls at the regional level in some years to meet the growing regional demand[63]. Enhancing production efficiency and scaling up output are essential to capitalize on these regional market opportunities.

61. There is a strong interdependency for raw materials between the feed producers and the edible oil producers as processing soybeans yields both oil and soymeal as co-products. Edible oil producers would need to sell the cake to feed animals as a by-product while feed producers would also need to sell crude oil to edible oil producers as a by-product.[64] The animal feed production is generally shaped by upstream and downstream operations which govern the inputs and the demand for feed.

4.1.2 Profile of vertically integrated companies

62. The main poultry companies in Zambia are integrated across breeding operations, animal feed and processing (abattoirs) although these include a range of agreements and are not necessarily through controlling equity stakes. They are also part of international corporate groupings. There are three major groups which can be identified on this basis in Zambia;

- Ross Breeders Zambia, Ross Central Africa, Nutrifeeds (and owner CBH).
- Zambeef and Novatek.
- Hybrid and National Milling (and owners APDL and Seaboard Corporation).

[63] ✂✂

[64] CCPC (2019). Animal Feed Value Chain Study in Zambia. Available at: ANIMAL-FEED-FINAL.pdf

63. A fourth group, Progressive Poultry (including Tiger Chicks, Tiger Animal Feed) is involved in breeding DOC (from parent stock) and feed but does not have a large-scale abattoir. Quantum is a smaller company which also produces DOCs from parent stock and has a feed business but does not have an abattoir.

64. We briefly describe the main companies involved in more than one level of the value chain. Descriptions of the companies that are only involved in one part of the value chain are contained in the sections that follow.

Ross Breeders Zambia Limited, Nutrifeeds, Ross Central Africa

65. Ross Breeders Zambia Limited (RBZ) is an integrated poultry producer supplying broiler DoC, broiler hatching eggs, stock feed and processed chicken products to various customers across Zambia. RBZ is a subsidiary of Ross Africa Limited ✂✂ of the RBZ issued shares. Ross Africa Limited is in ✂✂ subsidiary of Country Bird Holdings (Pty) Limited (CBH) incorporated in South Africa.[65] CBH was established in 2003 and is one of the largest poultry and animal feed producers in South Africa and in Africa as a whole.[66] It has operations in Botswana, the Democratic Republic of Congo, Nigeria, Mozambique, Swaziland, Zambia and Zimbabwe.[67]

66. RBZ operates a parent stock breeder farm in Chainda which receives the Ross 308 parent stock supplied by Ross Central Africa (described below) from its grandparent operations and rears these to produce broiler eggs. The broiler eggs are supplied to its broiler hatchery and some volumes are sold to external customers within Zambia and in other countries. RBZ also operates a broiler hatchery in Chainda which receives broiler eggs from its

[65] ✂✂
[66] https://www.cbh.africa/our-story/
[67] See Our Story - CBH- https://www.cbh.africa/our-story/

parent operations and hatches these for its downstream operations as well as supplying them externally into the Zambian market as broiler DoC.[68]

67. RBZ also owns two feed mills which are operated under the Nutrifeeds brand. The feed mills are in Lusaka and Kitwe, respectively. Feed is supplied to customers across Zambia either via RBZ's own internal outlets or its appointed resellers. RBZ also uses the feed it produces in internal operations and out grower projects and supplied to RCA[69].

68. RBZ is also involved in broiler rearing and processing. The broiler DoC produced are supplied by RBZ's broiler hatchery to third party contract growers who rears them to mature broilers which are then supplied to RBZ's abattoir called Supreme and to RBZ's own broiler farm, located at Mimosa which provides ✂✂ of the broilers that are slaughtered at the RBZ abattoir.[70]

69. RBZ's abattoir (Supreme) supplies fresh and frozen chicken products to the retail, wholesale and Quick Service Restaurant channels, and export market. RBZ supply the retail market via its own small retail outlets located at its depots or its appointed resellers. Small volumes of processed products from the RBZ's abattoir are sold ✂✂.[71] RBZ and Aviagen European Holdings Limited (AEHL) established Ross Central Africa Limited (RCA) through a joint venture which was approved by the Commission in 2021. ✂✂✂✂✂✂✂✂✂.

70. RCA owns grandparent operations comprising of grandparent breeder farm and hatchery based in Mazabuka (RBZ previously owned RCA grandparent operations prior to the joint venture). RCA rears Ross 308

[68] ✂✂
[69] ✂✂
[70] ✂✂
[71] ✂✂

grandparent stock supplied by Aviagen generally from the United Kingdom, to produce parent stock. ✂✂.[72]

Figure 5: ✂✂✂✂✂✂✂

Source: Authors compilation based on submissions

Zambeef Products Plc, Zamhatch, ZamChick and Novatek

71. Zambeef Products Plc ("Zambeef") is a public limited company which owns 100% of its subsidiaries, which are all private limited companies, namely, ZamChick Limited, Zamhatch Limited and Zamleather Limited. Further, Zambeef owns two subsidiaries overseas, namely, Master Meats (Nigeria) Ltd and Master Meats (Ghana) Ltd.[73] The operations of Zamhatch, ZamChick and Novatek Animal feeds are relevant for this inquiry and are briefly described below.

72. Zamhatch Limited is involved in the production of DoC sold in Zambia.[74] ✂✂✂✂✂✂✂✂✂. More than half of Zamhatch's day old chicks are sold to small-scale farmers.[75] Zamchick Limited is involved in the processing and distribution of poultry products,[76] which entails the management of broiler houses, chicken abattoir and processing plant. The poultry

[72] ✂✂
[73] ✂✂✂✂✂✂✂✂✂
[74] ✂✂✂✂✂✂✂✂✂
[75] See Our Brands - Zambeef Products PLC [Accessed 11 February 2025]
[76] ✂✂✂✂✂✂✂✂✂

products are sold in formal and informal markets supplying hotels, restaurants and catering channels.[77]

73. Novatek Animal feeds is a division/brand of Zambeef Products Plc and is involved in the production, inputs, processing, distribution and wholesaling of animal feed.[78] Novatek Animal Feeds Zambia is the largest animal feed producer in Zambia, it exports feed ✂✂✂✂✂✂✂✂, plus three outlets in Zambeef Macro Outlets.

74. Novatek is the only feed company in Zambia which is ISO 22000 certified among animal feed firms, which is an advantage for penetrating the export market as its feed standards are internationally recognized. Novatek is also certified with ISO 9001:2008, which covers quality management systems.[79]

Hybrid Poultry Farm and National Milling

75. Hybrid Poultry Farm Zambia Limited (Hybrid) is a diversified company involved in breeding, growing and processing. It is a wholly owned subsidiary of Hybrid Holding Limited Zambia which in turn is owned by African Poultry Development Limited/Group (APDL).[80] ✂✂✂✂✂✂✂✂✂.[81] Seaboard Corporation is a major shareholder of APDL.[82] It is unclear what additional ownership relationships there are on the part of Ferreira Ltd. Verino Agro Industries Limited is also a wholly owned subsidiary of Hybrid Holding Limited Zambia. ✂✂✂✂✂ has been a competitor to ✂✂✂, however, ✂✂✂ became a JV partner with ✂✂✂

[77] See Our Brands - Zambeef Products PLC [Accessed 11 February 2025]
[78] ✂✂✂✂✂✂✂✂✂
[79] See Novatek | Animal Feeds [Accessed 11 February 2025]
[80] https://apd.africa/ [Accessed 11 February 2025].
[81] ✂✂✂✂✂✂✂✂✂
[82] Seaboard identified APDL as part of its group (https://www.seaboardcorp.com/investors/seaboard-portfolio/) [Accessed 18 March 2025]

(the parent of ✂✂) and ✂✂✂ to create the Aviagen East Africa Joint Venture in Tanzania around 2021.[83]

76. APDL is a holding company incorporated in Mauritius with operating subsidiaries in the COMESA Common Market and in addition to Zambia operations highlighted, it also has presence in Kenya (Kenchic) and Uganda (Kenchic Uganda). APDL is also active in Tanzania through Tanbreed Limited, the parent company of Interchick Limited.[84] APDL is reported to be a co-owner with ✂✂✂ and ✂✂ in the ✂✂✂✂✂ ✂✂✂ joint venture which includes Tanbreed.[85]

77. Over ✂✂ of APDL's shares are ultimately owned by Seaboard Corporation, an entity whose shares are traded on the New York Stock Exchange and has several shareholders/beneficial owners.[86] Seaboard Corporation also owns ✂✂✂✂✂✂✂✂ Zambia, as well as listing Unga Holdings in Kenya and Uganda under 'our companies'.[87] ✂✂✂✂✂✂✂✂✂.[88] Namfeeds, is the feed brand of National Milling Corporation.[89]

78. Hybrid reared Cobb 500 grandparent and parent stock ✂✂✂✂✂✂✂✂✂.[90]

79. Hybrid also owns an abattoir processing chickens to produce poultry meat. The processed chicken is sold via formal and informal routes to

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[83] ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂https://www.thepoultrysite.com/news/2021/03/aviagen-secures-local-supply-through-a-greenfield-investment-in-east-africa-with-the-establishment-of-aviagen-east-africa-limited [accessed 9 April 2025]

[84] ✂✂✂✂✂✂✂✂✂

[85] https://www.thepoultrysite.com/news/2021/03/aviagen-secures-local-supply-through-a-greenfield-investment-in-east-africa-with-the-establishment-of-aviagen-east-africa-limited [accessed 18 March 2025]

[86] APDL Kenya, Tanzania and Zambia is identified as in the Seaboard group. https://www.seaboardcorp.com/investors/seaboard-portfolio/

[87] https://www.seaboardcorp.com/investors/seaboard-portfolio/

[88] ✂✂✂✂✂✂✂✂✂

[89] https://nmc.co.zm/about-us-namfeeds/

[90] ✂✂✂✂✂✂✂✂✂

markets including through retailers, supply to hotels, restaurants and catering markets, quick service restaurants and direct to customers and consumers.[91]

80. National Milling Corporation is involved in the production of wheat flour, animal feed, maize meal, soybean processing, rice polishing and packaging of assorted traded goods.[92] National Milling Corporation has over ✂✂✂✂✂✂✂✂. The sales outlets stock all National Milling Corporation products, as well as day old chicks provided by Hybrid.[93]

Figure 6: ✂✂✂✂✂✂✂

Source: Authors compilation based on submissions

Progressive Poultry (Tiger Chicks), Africa Feeds Limited (Tiger Animal Feeds), Astral Foods Ltd

81. Africa Feeds Limited (Zambia) trading as Tiger Animal Feeds is involved in the production and sale of animal feed stock including poultry feed. Astral Foods Limited (a South African based company) is Africa Feeds Limited (Zambia)'s parent company.[94] Tiger Animal Feeds uses various routes to the market including ✂✂✂✂✂✂✂✂.[95]

[91] ✂✂✂✂✂✂✂✂✂
[92] ✂✂✂✂✂✂✂✂✂
[93] ✂✂✂✂✂✂✂✂✂
[94] ✂✂✂✂✂✂✂✂✂
[95] ✂✂✂✂✂✂✂✂✂

82. Progressive Poultry Limited trading as Tiger Chicks is involved in the production and sale of DoC and hatching eggs. ✂✂✂✂✂✂✂✂.[96] Progressive Poultry operates a breeder parent stock farm and hatchery from which it supplies broiler DoC and fertilized hatching eggs. ✂✂✂✂✂✂✂✂.[97]

83. We understand that Progressive Poultry focuses on supplying DoC, hatching eggs and feed, and is not involved in large-scale broiler production and does not have a large-scale abattoir.

Quantum Foods Zambia Limited, Nova Feeds

84. Quantum Foods Zambia Limited (Quantum Foods) is a fully integrated, diversified feed, poultry and egg business with the following segments: animal feed, broiler farming, layer farming and eggs. Quantum Foods was established as a carve out of Pioneer Foods' agribusiness and is a subsidiary of Quantum Foods Holdings Limited (South Africa).[98]

85. Quantum Foods Proprietary Limited is a 100% subsidiary of Quantum Foods Holdings Limited (South Africa) and holds ✂✂✂✂✂✂✂✂ in Quantum Foods Zambia Limited. Quantum Foods Zambia Limited has no subsidiaries.[99]

86. Quantum Foods Holding Limited is listed on the Johannesburg Stock Exchange (JSE) with Quantum Foods Zambia Limited, Quantum Foods Uganda, Quantum Foods Mozambique, and Klipvlei Broilers (Pty) Limited as its wholly owned subsidiaries.[100]

[96] ✂✂✂✂✂✂✂✂
[97] ✂✂
[98] Submission by Quantum Foods dated 20 June 2024
[99] Submission by Quantum Foods dated 20 June 2024
[100] Submission by Quantum Foods dated 20 June 2024

87. Quantum Foods owns a farm in ✂✂✂✂✂✂✂✂, Lusaka and the farm was developed to produce day-old broiler and layer chicks for the Zambia market. ✂✂✂✂✂✂✂✂. [101]

88. Nova feeds is part of Quantum Foods Limited. We understand that it has two feed mills, one in Lusaka and one in the Copper Belt. Both sell feed to the external market.[102] Nova Feeds sells broiler and layer feed directly to customers [103], either from the feed mills themselves or via their 30 retail shops.[104]

4.1.3 Vertical integration and its impact on competition

89. The detailed mapping below underscores the interconnectedness of feed production, breeding, production, and distribution entities across multiple companies in Zambia. The blue lines show ownership while the red lines indicate supply and licensing arrangements.

Figure 7: ✂✂✂✂✂

Source: Compilation based on submission by breeders
✂✂✂✂✂✂✂✂✂.

[101] ✂✂✂✂✂✂✂✂✂
[102] Quantum Foods website, available at: https://quantumfoods.co.za/african-operations/ [Accessed 24 March 2025].
[103] ✂✂✂✂✂✂✂✂✂
[104] Quantum Foods website, available at: https://quantumfoods.co.za/african-operations/ [Accessed 24 March 2025].

90. RBZ, Zambeef Products Plc and Hybrid are vertically integrated by owning or controlling companies involved in different stages of the value chain. Vertically integrated firms can lead to efficiency gains, as they are able to achieve cost efficiency, quality control, market stability and broad distribution reach. The cost efficiencies will result in costs reductions which could potentially be passed to consumers. ✂✂✂✂✂✂✂✂.

91. While vertical integration can improve operational efficiency and benefit consumers, it can also stifle competition. For instance, companies may limit supplies to downstream competitors or use preferential sourcing arrangements that undermine rivals' ability to compete.

92. Smaller firms and new entrants may find it difficult to compete with vertically integrated players who have greater control over costs and inputs, ultimately reinforcing their market position. There are also concerns that those that are vertically integrated may leverage on other lucrative segments of the value chain to engage in predatory behaviour at the feed production stage.[105]

4.2 Poultry Breeding

93. This section contains the poultry structure analysis by looking at the licensing arrangements for the breeds currently supplied in Zambia, impact of the agreements on competition, concentration analysis, barriers to entry and the impact of mergers on market competition.

[105] Animal Feed Value Chain Study in Zambia

4.2.1 Licensing Arrangements

94. This section summarizes the licensing agreements for the breeds currently supplied in Zambia. Of the 6 main breeders operating in Zambia, only two (RBZ and Hybrid) hold parent stock distribution rights ✂✂✂✂✂✂✂✂. Both Zamhatch and Quantum had been using ✂✂✂✂✂✂✂✂ as parent stock from ✂✂✂✂✂✂✂✂.[106]

95. Tiger Chicks purchases Indian River parent stock from Aviagen on commercial basis and does not hold any distribution rights. A summary of the breeds used by different breeders is contained in the Table 3 below.

Table 3: ✂✂✂✂✂✂✂

Source: Compilation based on submission by breeders

✂✂✂✂✂✂✂✂ *distribution rights for* ✂✂✂✂✂✂✂✂*parent stock*

96. Although we were only provided ✂✂✂✂✂✂✂✂, ✂✂✂✂✂✂✂✂.[107] Following the creation of RCA, ✂✂✂✂✂✂✂✂.[108] ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂[109]

97. ✂✂✂✂✂✂✂✂.

[106] ✂✂✂✂✂✂✂✂
[107] ✂✂✂✂✂✂✂✂
[108] ✂✂✂✂✂✂✂✂
[109] ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂.

98. ✂✂✂✂✂✂✂✂.[110]

✂✂✂✂✂✂✂✂ *distribution rights for* ✂✂✂✂✂✂✂✂*parent stock*

99. ✂✂✂✂✂✂✂✂ has a standing ✂✂✂✂✂✂✂✂ for the supply of ✂✂✂✂✂✂✂✂grandparent stock. ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂.

100. ✂✂✂✂✂✂✂✂.[111] ✂✂✂✂✂✂✂✂.

101. The Cobb 500 and Ross 308 broiler strains remain the dominant commercial breeds in Southern Africa due to their high performance in intensive poultry systems. While both breeds are designed for rapid growth and efficient feed conversion, they demonstrate distinct differences in key performance indicators. Several studies have established that Cobb 500 broilers exhibit higher growth rates and heavier final body weights compared to Ross 308 under controlled conditions. In a comparative study conducted in a tropical climate, Cobb 500 birds attained a body weight of 3,520 grams and a weight gain of 3,217.5 grams over 56 days, outperforming Ross 308 which had slightly lower metrics[112].

102. In terms of meat quality, Cobb 500 has a higher breast meat yield, which is commercially favourable due to consumer preference for white meat[113]. However, Ross 308 tends to produce more uniform carcasses with better

[110] ibid
[111] Competition and Consumer Protection Commission- Zambia Staff Paper on the Merger Involving Aviagen European Holdings Limited and Ross Breeders Zambia Limited.
[112] Adesina, A. and Chimuka, M., 2023. Growth and economic performance of Cobb 500 and Ross 308 broiler chickens in tropical environments. *African Research Initiative Journal*, 8(2), pp.45–53. Available at: https://www.ajol.info/index.php/ari/article/view/239731 - Accessed 7 Apr. 2025.
[113] Saithanoo, S., Yimlamai, P., and Poompramun, C., 2021. Comparison of meat yield and quality characteristics between Cobb 500 and Ross 308 strains. *Khon Kaen Veterinary Journal*, 31(2), pp.67–74. Available at: https://he01.tci-thaijo.org/index.php/kkuvetj/article/view/245025-Accessed 7 Apr. 2025.

fat distribution, an attribute preferred by certain processors[114]. Feed efficiency is a critical performance metric. Cobb 500 is often associated with a slightly better Feed Conversion Ratio (FCR)[115], averaging 1.48, compared to Ross 308's 1.50–1.55, depending on management systems[116]. This makes Cobb 500 more feed-efficient in some Southern African contexts, especially where feed costs are high. However, under optimized housing and nutrition, Ross 308 can match Cobb 500 in FCR, offering flexibility[117].

103. When comparing reproductive traits, Ross 308 breeders outperform Cobb 500 in fertility and hatchability. Ross 308 shows a 4.3% higher laying capacity and produces six more hatching eggs per hen, with a fertilization rate of 90.5%, compared to Cobb 500's 88.3%.[118] Additionally, hatchability for Ross 308 is reported to be around 85%, slightly higher than Cobb 500 at 82%, making it preferable for breeding operations[119]. Both breeds are extensively used in Southern Africa, but Ross 308 has seen wider adoption due to its adaptability to varied environmental conditions, particularly in open-sided housing systems common in Zambia, Zimbabwe, and South

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[114] GreenAfrik, 2022. Ross 308 vs Cobb 500: A comparative overview for African poultry farmers. *GreenAfrik Poultry Insights*. Available at: https://greenafrik.com/ross-308-broiler-and-cobb-500-broiler-a-comparative-overview - Accessed 7 Apr. 2025

[115] Feed Conversion Ratio (FCR) is the amount of feed (in kilograms) required to produce one kilogram of body weight gain in an animal. A lower FCR means better feed efficiency (less feed is needed for more growth) while a higher FCR means poorer efficiency (more feed is needed for the same growth)

[116] Adesina, A. and Chimuka, M., 2023. Growth and economic performance of Cobb 500 and Ross 308 broiler chickens in tropical environments. *African Research Initiative Journal*, 8(2), pp.45–53. Available at: https://www.ajol.info/index.php/ari/article/view/239731 - Accessed 7 Apr. 2025. See also Cobb-Vantress, 2021. *Cobb 500 Broiler Performance and Nutrition Supplement*. Available at: https://www.cobb-vantress.com/assets/Cobb-Files/Guides/Performance/Cobb500-BroilerPerformanceSupplement.pdf - Accessed 7 Apr. 2025.

[117] Ahiagbe, K.M., Mensah, E., and Boadu, V.A., 2021. Comparative performance analysis of Cobb 500 and Ross 308 broilers under Ghanaian conditions. *International Journal of Poultry Science*, 20(1), pp.22–29.

[118] Nistor, E., Grosu, H. and Panaite, T., 2023. Evaluation of fertility and hatchability traits of commercial broiler breeders. *Agriculture*, 13(9), p.1848. Available at: https://www.mdpi.com/2077-0472/13/9/1848 Accessed 7 Apr. 2025.

[119] GreenAfrik, 2022. Ross 308 vs Cobb 500: A comparative overview for African poultry farmers. *GreenAfrik Poultry Insights*. Available at: https://greenafrik.com/ross-308-broiler-and-cobb-500-broiler-a-comparative-overview - Accessed 7 Apr. 2025.

Africa[120]. Its robustness and consistent performance make it a favorite among medium- and small-scale producers, whereas Cobb 500 is more commonly found in intensive, large-scale operations.[121]

4.2.2 Concentration analysis

104. Considering the value chain and the licensing agreements highlighted above, this section looks at the concentration levels at the various stages of the breeding stock operations.

Grandparent and parent stock concentration

105. As highlighted, ✂✂✂✂✂✂✂✂[122] has significant direct ownership in Zambia and has been the monopoly supplier of ✂✂✂✂✂✂✂✂ in Zambia since ✂✂✂✂✂✂✂✂around 2020. With the flocks it had, ✂✂✂✂✂✂✂✂while supplementing with ✂✂✂✂✂✂✂✂ before switching completely to ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂ supplies Zambia with ✂✂✂✂✂✂✂✂.

106. The ✂✂✂✂✂✂✂✂level of the value chain is highly concentrated with only three suppliers. Only two suppliers have grandparent operations, ✂✂✂✂✂✂✂✂), although not physically present in Zambia, supplies the Indian River parent stock to ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂ therefore controls breeding stock supplies in Zambia as a ✂✂✂✂✂✂✂✂ and as the supplier of the ✂✂✂✂✂✂✂✂.

[120] African Farming, 2023. Ross 308: The broiler of choice in sub-Saharan Africa. [online] Available at: https://africanfarming.net/livestock/poultry/ross-308-the-broiler-of-choice-in-sub-saharan-africa - Accessed 7 Apr. 2025.
[121] GreenAfrik, 2022. Ross 308 vs Cobb 500: A comparative overview for African poultry farmers. *GreenAfrik Poultry Insights*. Available at: https://greenafrik.com/ross-308-broiler-and-cobb-500-broiler-a-comparative-overview - Accessed 7 Apr. 2025.
[122] Aviagen is an international company supplying broiler day-old grandparent, parent stock chicks to customers in 130 countries worldwide under the Arbor Acres, Indian River and Ross brand names.

107. Both ✂✂✂✂✂✂✂ sell ✂✂✂✂✂✂✂✂locally and to customers in other countries. The sales volumes for both were aggregated but using the percentage split between local and exported sales, we were able to calculate local and exported sales separately. While ✂✂✂✂✂✂✂✂provided individual transactional data over time, we relied on the provided sales ratio[123] at a point in time and we used that ratio for the whole period of analysis. ✂✂✂✂✂✂✂ aggregated sales data between local sales and exported sales were provided over time.

108. The sales data provided by ✂✂✂✂✂✂✂ also do not include ✂✂✂✂✂✂✂✂ data used by it internally in the production of DoCs while the data provided by ✂✂✂✂✂✂✂✂appears to include all sales including internal sales. Although ✂✂✂✂✂✂✂✂provided us with their transaction data, we relied on the data contained in their financial reporting documents as those also contained costs which we have used below in the analysis of ✂✂✂✂✂✂✂✂margins.

Table 4: ✂✂✂✂✂✂✂

109. Below we analyse the parent stock market shares split between local sales and exported sales.

110. This section analyses the ✂✂✂✂✂✂✂✂market shares in terms of local sales. As highlighted, ✂✂✂✂✂✂✂ data does not include ✂✂✂✂✂✂✂✂used internally by ✂✂✂✂✂ in the production of DoC, this means that ✂✂✂✂✂✂✂✂ market share is underestimated

[123] ✂✂✂✂✂✂✂✂

and this is a significant limitation of this analysis. We have also combined ✂✂✂✂✂✂✂✂data as ✂✂✂✂✂✂✂✂ has ✂✂✂✂✂✂✂✂shareholding in ✂✂✂✂✂✂✂✂.

111. Prior to the joint venture, ✂✂✂✂✂✂✂✂were suppling external customers with ✂✂✂✂✂✂✂✂in Zambia and ✂✂✂✂✂✂✂✂importing parent stock from ✂✂✂✂✂✂✂✂. When ✂✂✂✂✂✂✂✂, it became the main supplier and by 2023 it accounted for almost all the ✂✂✂✂✂✂✂✂sold in the open market in Zambia.

112. Between April 2019 and March 2023, ✂✂✂✂✂✂✂✂ locally and its local sales were reducing each year. Between April 2023 and March 2024, ✂✂✂✂✂✂✂✂ did not sell any parent stock in the open market in Zambia and it only sold parent stock to ✂✂✂✂✂✂✂✂. This is in line with its ✂✂✂✂✂✂✂✂.[124]

113. ✂✂✂✂✂✂✂✂. In addition, and in line with its ✂✂✂✂✂✂✂✂, it has also ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂.

114. ✂✂✂✂✂✂✂✂.

115. So over time, the ✂✂✂✂✂✂✂✂level of the value chain has become a duopoly, with ✂✂✂✂✂✂✂✂ only supplying ✂✂✂✂✂✂✂✂ and ✂✂✂✂✂✂✂✂ suppling the other breeders. The two main suppliers are unlikely to compete as this would mean offering lower prices (and per unit profits) to attract greater sales volumes from rivals. Because ✂✂✂✂✂✂✂✂, it cares about the profits of ✂✂✂✂✂✂✂✂ and as such it has no incentive to compete with ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂.

[124] ✂✂✂✂✂✂✂✂

Parent stock sales analysis - export sales

116. Only ✂✂✂✂✂✂✂✂ before ✂✂✂✂✂✂✂✂ and ✂✂✂✂✂✂✂✂ exported ✂✂✂✂✂✂✂✂ from Zambia to other countries with ✂✂✂✂✂✂✂✂ accounting for most of the exported ✂✂✂✂✂✂✂✂. Both ✂✂✂✂✂✂✂✂ exported volumes have increased over time (Figure 8). As explained, ✂✂✂✂✂✂✂✂'s volumes have increased because of a shift from ✂✂✂✂✂✂✂✂'s exports have increased due to an overall increase in ✂✂✂✂✂✂✂✂sales. The decrease in volumes in the third period is because ✂✂✂✂✂✂✂✂ is missing for five months between July 2021 and November and as a result, the data is presented for the period December 2021 to June 2022. As indicated, ✂✂✂✂✂✂✂✂to produce ✂✂✂✂✂✂✂✂. So, ✂✂✂✂✂✂✂✂volume includes the period prior to ✂✂✂✂✂✂✂✂.

Figure 8: Parent stock, Zambia exports volumes, 2019/20 to 2022/23

Source: ✂✂✂✂✂✂✂✂

Local DoC sales analysis

117. There are six broiler DoC suppliers in Zambia: RBZ, Tiger Chicks, Hybrid, Quantum, Zambeef and Heartland's Best[125]. Breeders have indicated that they only sell DoC in Zambia but it is unclear if DoC were ever exported.

[125] ✂✂✂✂✂✂✂✂did not provide any submission

Some breeders such as ✂✂✂✂✂✂✂. It is also not clear if the sales also include internal sales but it appears to be the case.

118. The DoC level of the value chain is also highly concentrated with the three biggest producers, RBZ, Zambeef and Hybrid, accounting for more than ✂✂✂✂✂✂✂. The top three producers market shares have ✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂. While Tiger Chicks DoC capacity is ✂✂✂✂✂✂✂per week, its capacity utilization ✂✂✂✂✂✂✂. We do not have ✂✂✂✂✂✂✂for parent stock and the ✂✂✂✂✂✂✂. The Tiger Chick parent stock pricing is analysed below.

Figure 9: Broiler DoC sold in Zambia, shares 2021/2022 to 2022/23

Note: Figures may not add to 100 due to rounding
Source: ✂✂✂✂✂✂✂.[126]

119. As highlighted above, while there has been a change in terms of the breeds supplied in Zambia, the RCA joint venture also ensured that only ✂✂✂✂✂✂✂and the ✂✂✂✂✂✂✂breeds are supplied in Zambia.

[126] ✂✂✂✂✂✂✂

120. ✂✂✂✂✂✂✂✂[127]). ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂[128] territories.[129] ✂✂✂✂✂✂✂✂.[130]

121. ✂✂✂✂✂✂✂✂.

122. ✂✂✂✂✂✂✂✂.

123. In summary, at the grandparent level, ✂✂✂✂✂✂✂✂ has become a monopoly with the change in ✂✂✂✂✂✂✂✂, and the grandparent stock used in Zambia all being imported. At the parent stock level, in Zambia, ✂✂✂✂✂✂✂✂ is the main supplier with ✂✂✂✂✂✂✂✂. As alluded, we do not have ✂✂✂✂✂✂✂✂'s data on parent stock used internally. At the DoC level, ✂✂✂✂✂ and ✂✂✂✂✂ are the two main suppliers accounting for ✂✂✂✂✂✂✂✂of the market.

4.2.3 Barriers to entry and being an effective competitor

124. The barriers to effectively compete are the barriers to cost-effectively accessing grandparent stock, parent stock, inputs, having facilities such as breeder parent stock farm, hatchery and the logistics required for distribution.

125. For a new entrant to effectively compete, they need the capabilities of the incumbents. This means being able to source breeds and inputs cost-effectively, building or buying facilities such as a hatchery farm and having the distribution logistics required. The barriers to effectively compete or to expand can be grouped into five.

127 ✂✂✂✂✂✂✂✂✂
128 ✂✂✂✂✂✂✂✂✂✂✂✂✂✂
129 ✂✂✂✂✂✂✂✂✂
130 ✂✂✂✂✂✂✂✂✂

126. First, unrestricted access to breeding stock is crucial for any entrant or existing breeder to be an effective competitor. As highlighted, ✂✂✂✂✂✂✂✂, is a monopoly supplier of grandparent stock supplying both ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂ is thus a supplier of grandparent stock needed to supply parent stock and through ✂✂✂✂✂✂✂✂, it is also a competitor in the supply of parent stock.

127. As a result, ✂✂✂✂✂✂✂✂ has an incentive to ensure that its shareholding in ✂✂✂✂✂✂✂✂ remains profitable and as such it will restrict the supply of grandparent stock to protect ✂✂✂✂✂✂✂✂. It is precisely for this reason that ✂✂✂✂✂✂✂✂. In addition, because ✂✂✂✂✂✂✂✂competitors through the supply of parent stock.

128. The second broad category is the cost of capital. Some of the incumbents started with smaller breeder operations, made upgrades, and increased installed capacity over time. The incumbents have also over time invested in distribution logistics throughout the country and upgraded them over time. For a new entrant to effectively compete, they need breeding operations and distribution logistics similar to those of the incumbents. This will require significant initial capital investment as they must set up breeding operations and distribution logistics similar to those that the incumbents improved over time.

129. The third category is market access. The incumbents have existing strong relationships with customers and suppliers and this makes it difficult for a new entrant to establish new relationships. Building a customer base as well as establishing a supply chain for a new entrant can be challenging and will also require significant capital investment.[131]

[131] ✂✂✂✂✂✂✂✂.

130. The fourth broad category is economies of scale. The incumbents have over time attained significant economies of scale and this allows them to produce breeding stock more efficiently and at a lower cost. A new entrant or a smaller competitor looking to expand will not have the economies of scale the incumbents have attained over time. This means that they are likely to have higher costs compared to the incumbents and this will make it difficult for them to effectively compete on price.[132]

131. The last category is specialized knowledge and skills. Effective and successful poultry breeding requires specialized knowledge and skills in areas such as genetics, nutrition, and animal health. Attracting individuals with such skills and knowledge can be challenging and time consuming for new entrants and individuals with such skills are not readily available.[133]

132. The lack of competition across the various levels of the value chains shows that barriers to being an effective competitor are high. The current licensing agreements, in the main restricted access to breeding stock is a key barrier needing regulatory intervention.

4.3 Feed

133. Feed is the main cost and is estimated to cost around 70% of the total cost of producing a live chicken. The main components of poultry feed are milled maize and soybean (including in meal or oilcake form), with salt, vitamins and mineral premixes, and synthetic amino acids accounting for a relatively smaller proportion of the feed mixture. The maize is sourced by feed manufacturers from farmers through supply agreements or bought from the farmers during the harvest season. Soybean is mainly sourced in

[132] ✂✂✂✂✂✂✂✂✂.
[133] ✂✂✂✂✂✂✂✂✂.

meal or cake form and needs to have been processed to remove some of the oil meaning that feed manufacturers source from a processor or have capacity in-house.

134. This section assesses the market structure in poultry feed and in the main inputs by examining the main processing and feed companies, analyzing concentration, barriers to entry and the impact of mergers.

135. The main feed companies which are integrated into the main poultry companies have been described in section 4.1.2 above, including Nutrifeeds (RBZ), Tiger Animal Feeds, Novatek Animal Feeds (Zambeef), Namfeeds (National Milling and Hybrid), Nova Feeds (Quantum). Here we briefly set out the operations of other commercial feed companies including Pembe Feeds, Heartland Best, Emman Farming Enterprise, Agrovet, and Yielding Tree.

Pembe Feed

136. Pembe Feed is a private company owned by six individual shareholders, which manufactures feed for broilers, layers and village chickens.[134]

Zam Harvest One Limited

137. Zam Harvest One Limited, which ✂✂✂✂✂✂✂✂owned by Zamharvest One, and trades as Heartland Best Zambia is a poultry animal feed manufacturer and seller. It began operations in 2020 albeit with small, limited volumes of feed and once its feed mill was completed in 2021 it scaled up its sales.[135]

[134] Submission by Pembe Feed dated 08 August 2024
[135] Submission by Zam Harvest One

Emman Farming Enterprises

138. Emman Framing Enterprises is a private company which commenced operation in 2011. It is a manufacturer and seller of animal feed.[136]

Farmfeed

139. Farmfeed, which was established in 1998, produces and sells poultry feed into the domestic market. It is a privately owned company.

Agrovet

140. Agrovet Market Industrial Limited is a privately owned company that was established in January 2020 and commenced operations in December 2022. It sells broiler, layer and pig feed into Zambia. It also provides consultation and technical advice to poultry farms.

Yielding Tree

141. Yielding Tree is a private company that was relaunched in 1996 (it has previously operated between 1977-1987). Yieldingtree Pullet Rearers rears pullets to ✂✂✂✂✂✂✂✂old and sells them to the domestic market at point-of-lay. ✂✂✂✂✂✂✂✂. It is vertically integrated into egg production.

4.3.1 Concentration Analysis

142. Commercial animal feed is quite concentrated the top four feed producers, led by Novatek and followed by Tiger, Nutrifeeds and Namfeeds, collectively accounting for over ✂✂✂✂✂✂✂✂(Table 5). By poultry feed supply (as opposed to feed milling capacities) the top four account for accounted ✂✂✂✂✂✂✂✂. There are also high levels of concentration

[136] Submission by Emman Farming Enterprises dated 11 June 2024

in some important feed inputs. The oligopolistic structure can impact on competitive setting of prices, as we analyse in section 6 below.

Table 5: ✂✂✂✂✂✂✂

Source: ✂✂✂✂✂✂✂✂.
Notes: ✂✂✂✂✂✂✂✂.

143. We have data for 2022 for all eleven identified poultry feed producers, which provided information on feed sales (internal and external) or production.

- Novatek (Zambeef) was the largest with ✂✂✂✂✂✂✂✂of poultry feed sales (internal and external), and ✂✂✂✂✂✂✂✂ if only broiler feed is considered
- Namfeeds (Hybrid) was the second largest producer of poultry feeds.
- Nutrifeeds (RBZ) and Tiger are in third and fourth positions respectively
- The next two largest feed producers are Pembe Feeds and Heartlands Best.

Figure 10: Poultry (broiler & layer) **Broiler feed sales**

Source: ✂✂✂✂✂✂✂✂
Notes: ✂✂✂✂✂✂✂✂.

144. There have been some changes in shares over time, although there are some queries with the consistency of the data provided. ✂✂✂✂✂✂✂✂'s shares appear to have all been growing, which may suggest that they have been better able to compete with ✂✂✂✂✂✂✂✂ than in the past.[137] There has also been growth of smaller feed producers, pointing to the possibility of increasing competition in the future.

145. Over a longer time period, we do not have poultry sales (internal and external) or production data for all of the smaller companies. For the four major feed producers, poultry feed sales data is available over the period July 2019-September 2023, as is shown in the figure below[138] These shares indicate some changes, ✂✂✂✂✂✂✂✂ are annual and were converted into monthly shares). ✂✂✂✂✂✂✂✂s share experienced a decline in around November 2020 but showed recovery in 2023.

Figure 11: Monthly Poultry Feed Market Share, within the largest four suppliers (June 2019- September 2023)

Source: ✂✂✂✂✂✂✂✂
Note: ✂✂✂✂✂✂✂✂.

[137] Note that the shares take into account both internal and external sales and so share changes may in fact relate to internal transfers and so too changes in downstream markets.
[138] This is the period over which data was provided for all four of these feed producers.

4.3.2 Barriers to entry and effective competitor

146. Several barriers restrict new firms from entering the poultry feed market or hinder existing firms from effectively competing. Key barriers include high capital requirements and access to distribution channels.

147. High Capital Requirements: The poultry feed industry requires substantial investment in machinery, technology, and distribution channels. For new entrants or smaller firms, raising sufficient capital to match the scale of established firms like ✂✂✂✂✂✂✂✂is challenging.

148. Access to Distribution Channels: Large players like ✂✂✂✂✂✂✂✂ have established distribution networks that cover extensive geographical areas, providing them with a competitive edge[139]. New entrants may face difficulties securing similar access to these networks, limiting their ability to compete effectively[140].

4.3.3 Impact of mergers and strategic alliances on structure

149. The impact of mergers, acquisitions, and strategic alliances in concentrated markets is another critical concern. The market dominance of ✂✂✂✂✂✂✂✂, combined with its strategic positioning, indicates the potential for further consolidation, which could exacerbate existing competitive concerns. Studies indicate that in markets with high concentration ratios, mergers and acquisitions typically reduce the number of competing firms and allow remaining players to increase prices without fear of losing market share.[141]

[139] ✂✂✂✂✂✂✂✂✂
[140] https://www.competition.co.zw/understanding-vertical-mergers/
[141] Federal Trade Commission. (2021). Merger Guidelines and Market Concentration.

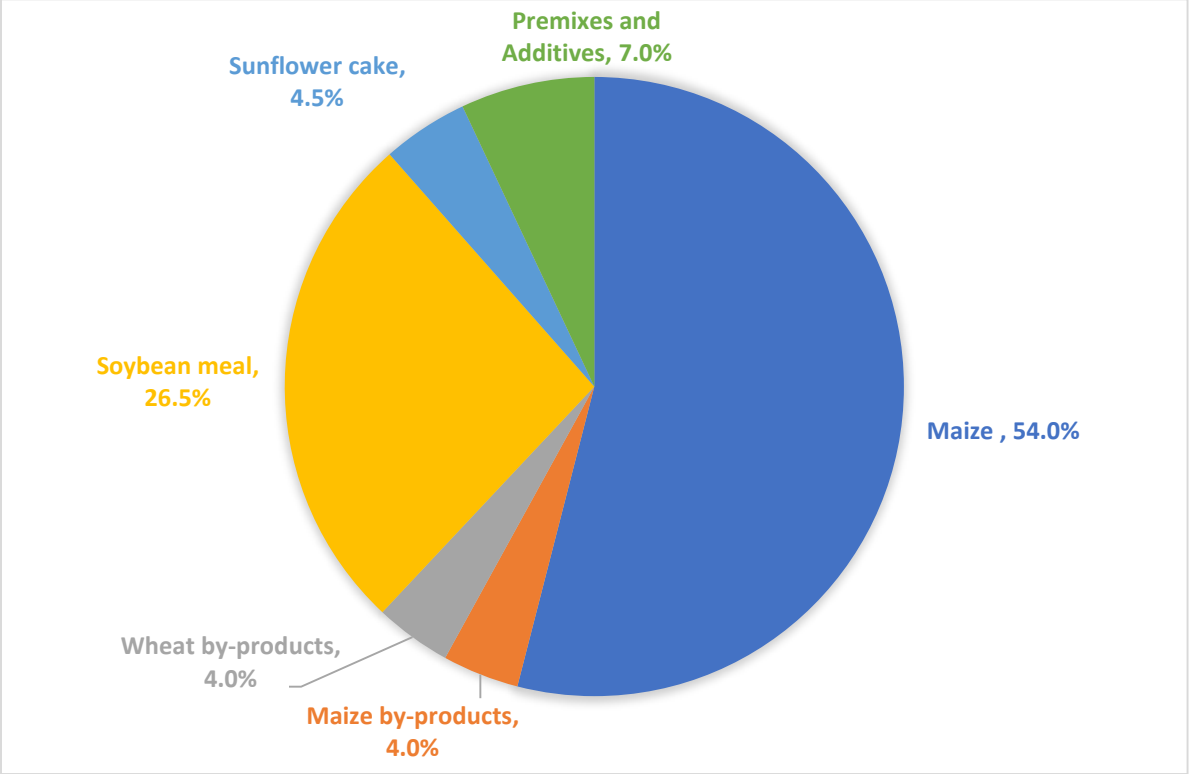
150. If ✂✂✂✂✂✂✂✂, for example, merges with other feed producers or strategic alliances with key poultry processors, its competitive position could further strengthen, reducing market entry opportunities for new players. In addition, such consolidation often leads to market practices that can disadvantage consumers. Consolidated firms may have fewer incentives to innovate or improve product quality, as their market power shields them from competitive pressures. Moreover, these firms can exercise price-setting power, which may translate into higher poultry prices due to increased feed costs. As shown in the provided market share data, smaller feed companies have not been able to significantly increase their share, which could be partly attributed to barriers created by dominant players' strategic moves, limiting their ability to compete effectively[142].

4.4 Inputs to animal feed

151. The main inputs of broiler feed are soya meal/cake and maize. They comprise roughly 25% and 50% of volumes respectively (Figure 13).[143] The proportions vary with the stage of the broiler feed (from starter to grower and finisher).[144] As soya meal is more expensive than maize (generally around twice the price) it means they have roughly similar shares in broiler feed costs by value, with each accounting for around 40% or more of the costs of constituents.

[142] ✂✂✂✂✂✂✂✂✂
[143] See also response of National Milling
[144] CAK. 2024. Animal Feed Market Inquiry Report (2024). Available at: ANIMAL FEED MARKET INQUIRY REPORT, 2024.pdf [Accessed 24 March 2025], pp.31-35

Figure 12: Proportions by volume in Broiler Feed



Source: CAK Animal Feed Market Inquiry as responses to information did not separate out broiler feed.

152. Large feed producers gave data for inputs to all poultry feed (including layers) by volume. This indicated maize at around 40%, with soybeans and meal at 39%, other inputs including by-products of milling of wheat and maize at 18% and premixes at 3%.

153. Unfortunately, other submissions, including for some of the larger market participants, only provided a breakdown for poultry feed (that is, layer and broiler feed) or all animal feed. These are presented in the Appendix, including for Zambeef.

4.4.1 Soya meal

154. Soybeans need to be processed into soya meal or cake in order to be used in soya feed. There are three methods for doing so: (1) crushing, (2) chemical/solvent extraction, and (3) mechanical extraction/pressing. The table below, which has been extracted from Nsomba et al (2022), shows that three processing methods, the main product produced, its usage and a description of the process involved. Large processors previously used mechanical extraction or pressing to extract oil from the soya meal but we understand they have mostly changed their processing method to solvent extraction.

Table 6: Soybean processing methods

Process	Main products	Use	Description
Crushing	Full fat soy cake	Animal feed ingredient	Crushing soybean into cake without removing the oil
Chemical/solvent extraction	Oil Low fat soy meal	Oil for human consumption, meal for animal feed; requires very high volumes to be economical	Crushing beans into thin flakes, then percolating with hexane solvent to extract oil from the meal/cake
Pressing (Mechanical Extraction)	Oil Low fat soy meal	Oil for human consumption, meal for animal feed; economical at low to medium volumes	Process involves the use of continuous screw presses to expel oil from the beans

Source: Derived from Opperman and Varia (2011)

Source: Nsomba, G. 2022. Assessing agriculture & food markets in Eastern and Southern Africa: an agenda for regional competition enforcement.

4.4.1.1 Main market participants

155. There are a very few large-scale processors of soybean in Zambia that sell soya meal or cake to producers of poultry feed. The three largest are ETG Parrogate, Mount Meru, and Wilmar Global Industries. Other processors include SunGlobe/SunSeed, Alliance Ginneries, Modern Millers, Seba Foods, and United African Grain Ltd (part of Seaboard like NMC), Emman,

and Quality Commodities. Emman and United African Grain may mainly be processing soya meal for their own needs rather than selling it, in which case they may not impact much on the soya meal market shares based on sales. We also believe that a few feed producers have tolling arrangements with soybean processors (as they purchase soybeans but do not sell beans or meal). These include Farm Feed, Heartland Best/ZamHarvest, and Africa Feeds/Tiger. However, tolling soybeans seem to be for own feed requirements.

156. Below, we discuss the three largest soybean processors, all of which we understand have solvent extraction plants.

Mount Meru

157. The Mount Meru Group, established in 1978, is a prominent business conglomerate in East and Central Africa, with its headquarters in Dubai, UAE. The group operates across multiple sectors, including fuel retail (it operates 79 petrol stations) [145], edible oil manufacturing, and liquefied petroleum gas (LPG) distribution.

158. Mount Meru's Zambian operations include Mount Meru Millers, which produces edible oils and feed cakes from soybeans, sunflower, cotton, and palm oil.[146] ✂✂✂✂✂✂✂✂. Mount Meru Millers exports soya meal, sunflower meal and cotton meal with its main destinations ✂✂✂✂✂✂✂✂.

[145] Mount Meru Group, 'Zambia Description', *Mount Meru Group*. Available at: https://mountmerugroup.com/ZambiaDescription (Accessed: 23 December 2024).
[146] LS Retail, 'Mount Meru', *LS Retail*. Available at: https://www.lsretail.com/customers/mount-meru (Accessed: 23 December 2024).

ETG Parrogate and Parrogate Ginneries Ltd

159. ETG Parrogate, a joint venture between the Parrogate Group[147] and ETG[148], is involved in the edible oil sector in Sub-Saharan Africa including Zimbabwe, Zambia, Malawi and Rwanda.[149] ETG Parrogate and its subsidiaries are engaged in cotton ginning, oilseed extraction and consumer products. Its Zambian operations began with the launch of a refinery followed by the establishment of a solvent extraction plant in 2016. Parrogate ETG also owns Vamara, a producer of animal feed including for poultry.[150] It launched the Vamara Group in 2018.[151]

160. Continental Ginnery Limited is also part of the Parrogate Group (under its subsidiary UNO). UNO was founded as part of the Parrogate group of companies in 2016. [152] It is primarily involved in cotton sourcing and processing (since 2007 in Zambia). It also does some edible oil processing and aggregates oilseed crops from its farming network for Parrogate Zambia on a commission basis.[153]

Wilmar

161. Wilmar International is a global company incorporated in Singapore and is listed on the SGX-ST (Singapore's stock exchange). It is involved in

[147] The Parrogate Group was originally established in India
[148] The ETG Group is a global company that is involved in commodity trading , fertilizer supply, biostimulant supply, crop protection, farm tools, speciality micronutrients, and bio stimulants. ETG website, available at: https://www.etgworld.com/etg-commodities/agriculture [Accessed 24 March 2025]
[149] The Parrogate Group is an agricultural global conglomerate which produces the Zamgold cooking oil brand in Zambia. Parrogate website, available at: https://www.parrogate.com/about-us/ [Accessed 24 March 2025]
[150] ETG website, available at: https://www.etgworld.com/vamara [Accessed 24 March 2025]
[151] Karna, A abd Tiwari, A. 2023. "ETG: Connecting Africa to the World", in *Indian Institute of Management Ahmedabad.* Available at: ETG: Connecting Africa to the World | Emerald Insight [Accessed 8 April 2025]
[152] UNO Energies website, available at: UNO Energies - About Us and what we do [Accessed 24 March 2025]
[153] Development Aid website, available at: ☑Continental Ginnery Ltd — Consulting Organization from Zambia — Agriculture, Gender, Training sectors — DevelopmentAid [Accessed 25 March 2025]; Enterprise Zambia website, available at: Continental Ginnery Limited - Enterprise Zambia Challenge Fund [Accessed 24 March 2025]

producing food products, producing industrial products (e.g. oilseed processing), plantations, and logistics. In oilseeds and grains, it has a presence in China, India, Vietnam, Malaysia, Zambia and South Africa. It processes a wide range of seeds including soybean, rapeseed, groundnut, sunflower seed, sesame seed, and cotton seen into protein meals (which it sells to the feed industry) and edible oils (largely transferred to its own Consumer Products business). Through its oilseed processing businesses, Wilmar produces low protein soybean hulls (meal), high protein soybean meal, and soy protein concentrate. In Zambia, Wilmar Industries Zambia Limited has an oilseed 'crushing plant', an edible oil refinery and an edible oil packing plant.

4.4.1.2 Concentration

162. Below we present estimates of the market shares of the three largest soybean processing firms on the basis of soya meal sales volumes from 2021 to 2023 and on the basis of soybeans purchased. The shares do not include those of smaller soybean processors in Zambia, including ✂✂✂✂✂ which is part of the ✂✂✂✂✂ (therefore ✂✂✂✂✂'s market share is understated). The sales data are also skewed by ✂✂✂✂✂ potentially not having included sales of soya meal to all of its export destinations (and so its share will be understated). With these caveats, the picture is of ✂✂✂✂✂ being the largest processor and supplier of soymeal, while the shares of Wilmar and Mt Meru vary across the measures, potentially due to the data issues.

Table 7: Soybean processors market shares

	Soymeal sales volumes			**Soybean purchase volumes**		
	2021	**2022**	**2023**	**2021**	**2022**	**2023**
Parrogate/ETG	[40-50%]	[40-50%]	[40-50%]	[35-40%]	[35-40%]	[35-40%]
Wilmar Global	[30-35%]	[30-35%]	[30-35%]	[15-35%]	[15-35%]	[25-35%]
Mt Meru	[20-30%]	[20-30%]	[20-30%]	[25-45%]	[25-45%]	[25-45%]

Source: ✂✂✂✂✂✂✂✂

Notes: ✂✂✂✂✂✂✂✂

163. When plant capacities are considered, Wilmar is the largest soybean processor, with Parrogate and Mt Meru being similar in 2021, before ETG's capacity expansion in 2022 (Table 8). However, these plants may be used to process other oilseeds (such as sunflower and cotton seed). Furthermore, and as is shown below, ✂✂✂✂✂✂✂✂. We understand that other producers have much smaller-scale plants. We have an estimated share for 2023 with Sunglobe included.

Table 8: Soybean processing capacity shares (2020-2023)

	2020	**2021**	**2022**	**2023 – excl. SunGlobe**	**2023 - with SunGlobe**
Parrogate	[25-35%]	[25-35%]	[25-35%]	[25-35%]	✂✂
Wilmar	[40-55%]	[40-55%]	[40-55%]	[40-55%]	✂✂
Mt Meru	[20-30%]	[20-30%]	[20-30%]	[20-30%]	✂✂
Sunglobe				5 – 10%	✂✂

Source: ✂✂✂✂✂✂✂✂

Notes: ✂✂✂✂✂✂✂✂

164. Parrogate has expanded its oilseed processing capacity in Zambia since establishing its first refinery 2014, starting with a capacity of ✂✂✂✂✂✂✂✂, and increasing this to ✂✂✂✂✂✂✂✂ by 2021. Mt Meru also increased its capacity ✂✂✂✂✂✂✂✂ , but only in 2023. In contrast, Wilmar's capacity has ✂✂✂✂✂✂✂✂ over the 2020-2022 period, however, it has had the ✂✂✂✂✂✂✂✂ utilisation (Table 9). Parrogate and Mt Meru investments in additional capacity followed ✂✂✂✂✂✂✂✂ rates.

Table 9: Capacity utilization of soybean processors (2019-2023)

	2019	2020	2021	2022	2023
Parrogate	[80 – 90%]		[70-80%]	[50-60%]	[70-80%]
Wilmar		[15-25%]	[20-30%]	[20-30%]	[25-35%]
Mt Meru	[45 - 60%]	[45-60%]	[60-80%]	[60-80%]	[45-60%]

Source: ✂✂✂✂✂✂✂

4.4.1.3 Barriers to entry

165. Barriers to entry include sourcing soybeans from farmers, and in the case of solvent oilseed processing operations, substantial investment into plants that can process soya at high quantities which is required for production to be economical (large economies of scale).[154] We understand that establishing such operations will likely require many years from decision to production and that soya feed produced in this way is cheaper than via mechanical extraction (See Table ***6***9 above). Mechanical extraction and crushing of soya meal may be more common, require less capital and be simpler to establish than solvent extraction.[155] Soya cake produced via crushing (full fat soya) and low-fat soya meal are "used to varying degrees based on the dietary requirements of broilers at different stages of their feeding regimes". It has a coarser grain, more fatty acids and lower protein content.[156]

[154] According to the Competition Authority of Kenya, the minimum efficient scale for a crushing plant using solvent extraction is around 70-100 thousand tonnes per annum. Source: Competition Authority of Kenya. 2024. Animal Feed Market Inquiry Report. Available at: ANIMAL FEED MARKET INQUIRY REPORT, 2024.pdf [Accessed 6/3/2025], p.64.

[155] *Kondwani Kaonga, Grace Nsomba, Ntombifuthi Tshabalala, Simon Roberts, Isaac Tausha, Olwethu Shedi. December 2023. Concentration, market structure and barriers to entry in the vegetable oil value chain in East and Southern Africa. CCRED working Paper 2023/14.*155

[156] Competition Authority of Kenya. 2024. Animal Feed Market Inquiry Report. Available at: ANIMAL FEED MARKET INQUIRY REPORT, 2024.pdf [Accessed 6/3/2025], Footnote 25.

4.4.1.4 Impact of mergers and strategic alliances on structure

166. There have been a few mergers involving soya-based products over the last few years, all of which have been unconditionally approved by the Zambian and regional (COMESA) competition authorities.

167. In 2015, Cargill acquired Zamanita, a subsidiary of Zamfeef. Zamanita was involved in soyabean processing for soya meal and oil and oil refining (and retailing it in Zambia). Zamanita ✂✂✂✂✂✂✂ of the annual imports of palm oil into Zambia and its market share of the edible oils industry ✂✂✂✂✂✂✂. Cargill Zambia was involved in grain and oilseed origination and trading but did not do oil seed processing, refining, or retailing of oilseeds in Zambia, nor was it involved in stock feed. The relevant market was the edible oils market in Zambia. There was no overlap because Cargill did not process seeds or refine oil in Zambia. COMESA found that there were no barriers to entry, no abuse of dominance concerns and the market was highly fragmented and the transaction was approved without conditions.[157]

168. In 2019, ETG Parrogate[158] and Zamanita merged following the unconditional approval from the Commission. Zamanita had ceased operating in 2018. After acquiring the plant from Cargill, ETG recommissioned the Zamanita plant.[159] Two main barriers to entry were

[157] COMESA Competition Commission Case File No. CCC/MER/03/03/2015, available at: https://comesacompetition.org/wp-content/uploads/2023/05/Statement-of-Merger-No-1-of-2015-Zaminital-V-Cargill.pdf [Accessed 6.3.2025]. in *Kondwani Kaonga, Grace Nsomba, Ntombifuthi Tshabalala, Simon Roberts, Isaac Tausha, Olwethu Shedi . December 2023. Concentration, market structure and barriers to entry in the vegetable oil value chain in East and Southern Africa. CCRED working Paper 2023/14.*

[158] Parrogate started operating in Zambia in 2006 with the acquisition of Kalomo & Sinda Ginning Plant, which was followed by the acquisition of Mpongwe Farm in 2007, which is among the largest cereal farms in Africa.

[159] Nsomba, G. 2022. Assessing agriculture & food markets in Eastern and Southern Africa: an agenda for regional competition enforcement. Available at: https://static1.squarespace.com/static/52246331e4b0a46e5f1b8ce5/t/627b83c72818b8346e9227a0/1652261854313/WP+Assessing+agriculture+food+markets+in+Eastern+and+Southern+Africa+an+agenda+for+regional+competition+enforcement.pdf [Accessed 6 March 2025]

mentioned by the Commission, namely the need for a large amount of capital to set up the plant as well as approval from the Zambian Environmental Management Authority (ZEMA). Neither was considered to be insurmountable and the Commission found that the merger would not lead to the creation of a dominant position nor would it lead to the substantial lessening of competition in the market for manufacturing and process of edible oils in Zambia.[160]

169. ✂✂✂✂✂✂✂✂. Olam Agri was involved in the wholesale trade of edible oils in Zambia and other countries (and wheat trading in Egypt and Tunisia) and SALIC was a farmer of soybean in Ukraine, a farmer of grains in Australia and Ukraine and an originator of oilseed products in Canada. COMESA, which assessed the merger, defined product markets to be grain origination, oilseed origination. All of these markets were considered to be global. COMESA assessed whether the merger was likely to raise vertical foreclosure concerns, in particular whether the merged entity could foreclose (i) Olam Agri's competitors' access to SALIC's grains and oilseeds and (ii) whether it could foreclose SALIC's competitors' access to a significant buyer of grains. It found both to be unlikely and approved the transaction without conditions.[161]

170. ✂✂✂✂✂✂✂✂. Cropit is involved in commercial farming and supplies soybeans, wheat and corn to manufacturers in Zambia while Sadot LLC is involved in trading, logistics, shipping and processing into value added-

[160] CCPC Annual Report. 2019. Available at: https://www.ccpc.org.zm/media/report/Annual-Report-2019.pdf [Accessed 6 March 2025]
[161] COMESA Competition Commission Case File No. CCC/MER/06/28/2022, available at: https://comesacompetition.org/wp-content/uploads/2023/05/SALIC-Olam-CID-Decision.pdf [Accessed 6.3.2025] in *Kondwani Kaonga, Grace Nsomba, Ntombifuthi Tshabalala, Simon Roberts, Isaac Tausha, Olwethu Shedi . December 2023. Concentration, market structure and barriers to entry in the vegetable oil value chain in East and Southern Africa. CCRED working Paper 2023/ 14.*

productions for animal and human consumption. Sadot is not active in Zambia.[162]

4.4.2 Maize and maize meal

171. Maize is the largest feed constituent by volume although not necessarily by value as it is lower cost than most other constituents. Maize is combined in feed in milled form which means feed produces can either mill in-house (as most do including the large feed producers) or procure milled maize.

4.4.2.1 Main market participants and concentration

172. Novatek (part of the Zambeef Products Plc group) is one of Zambia's largest integrated agribusinesses and the leading stockfeed producer in Zambia. This is reflected in it being the largest feed procurer of maize (Table 10). It operates two feed mills, in Lusaka and Mpongwe, with a capacity of 300,000 tonnes pa as of 2019,[163] and procures the most maize with over 100 thousand Mt per year (Table 10). Zambeef produces its own crops as well as procuring from others. It plants 7,265 ha in winter and a total 15,189 Ha is planted in Summer. Due to double cropping of irrigated land, the total area planted annually is 22,454 Ha.[164] Crop production focuses on soyabeans and maize during summer and wheat during winter. Novatek's growth and production scale suggest a robust sourcing strategy to meet increasing demand.

Table 10: Maize purchase volumes (MT)

	NOVATEK	NMC (NAMFEEDS)	NUTRIFEEDS	Hybrid PF	Tiger AF
2019	[100,000- 150,000]	[80,000-100,000]	[30,000-50,000]	[10,000-15,000]	[20,000-25,000]

[162] CCPC press release, 23 August 2023. Available at: https://www.ccpc.org.zm/media/guide/CCPC-Board-ADJUDICATION-FINAL-STATEMENT.pdf [Accessed 6/1/25].
[163] ZAMBEEF 2019 Annual Report.
[164] ZAMBEEF 2023 Annual Report.

2020	[100,000- 150,000]	[60,000-80,000]	[30,000-50,000]	[10,000-15,000]	[20,000-25,000]
2021	[100,000- 150,000]	[60,000-80,000]	[30,000-50,000]	[10,000-15,000]	[15,000-20,000]
2022	[100,000- 150,000]	[60,000-80,000]	[30,000-50,000]	[10,000-15,000]	[20,000-25,000]
2023	[100,000- 150,000]	[80,000-100,000]	[30,000-50,000]	[10,000-15,000]	[20,000-25,000]

Source: Authors Compilation ✂✂✂✂

173. National Milling Corporation Limited (NMC) was incorporated in 2000 and produces the Namfeeds brands. NMC specializes in wheat and maize milling, animal feed production, rice polishing and trading in dry foods. They have an animal feed production capacity of approximately ✂✂✂✂✂✂✂✂ and their purchase of maize is between ✂✂✂✂✂✂✂✂ (Table 10). ✂✂✂✂✂✂✂✂[165]. The stockfeed that they produced is also used inhouse for their breeder farms. ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂.

174. ✂✂✂✂ is the animal feed producer of ✂✂✂✂✂✂✂✂. It procures around ✂✂✂✂✂✂✂✂.

175. ✂✂✂✂✂✂✂✂ with around ✂✂✂✂✂✂✂✂of maize purchased each year. The company procures the bulk of its raw material inputs—such as maize, soya beans, and sunflower cake—from small-scale Zambian farmers. The only imported raw materials are ingredients not locally produced, such as vitamin and mineral premixes.

176. The shares in terms of maize procured reflects a relatively concentrated market with ✂✂✂✂✂✂✂✂ shares reflecting their lead position in feed production (Figure 13). The data for ✂✂✂✂✂✂✂✂ could be combined as they are in the same group, further highlighting the high levels of concentration.

[165] ✂✂✂✂✂✂✂✂

Figure 13: Market shares by maize procured

Source: Authors compilation from Commission ✂✂✂✂✂✂✂✂

4.4.2.2 Barriers to entry

177. Barriers to entry in maize milling for feed are low. This can be done at a relatively small-scale and mills which also mill maize for human consumption are able to do so for animal feed.

178. The main barriers in feed are in the procurement of processed soymeal, as well as other vitamins and nutrients.

4.5 Poultry meat production

179. Poultry broiler production is carried out by large and small-scale farmers. Some of the large poultry groups have substantial in-house production, while others have outgrower schemes. Chickens reared by small-scale commercial growers can be sold live to consumers, slaughtered for independent sale, or sold to large corporate groupings for slaughtering and supply in processed form.

180. As indicated, ✂✂✂✂✂✂✂✂ is vertically integrated and is involved in all the levels of the value chain. ✂✂✂✂✂✂✂✂ is involved in the supply of fresh and frozen chicken products to the different sales channels such as the wholesale, retail, Quick Service Restaurant channels, and export market. The retail channel includes sales made by

✂✂✂✂✂✂✂✂ through its own small retail outlets located at its depots or appointed resellers. ✂✂✂✂✂✂✂✂also sells processed chicken products to ✂✂✂✂✂✂✂✂.

181. ✂✂✂✂✂✂✂✂ is also involved in all the levels of the value chain and through its ownership of ✂✂✂✂✂✂✂✂, it processes chickens to produce poultry meat and these are sold via formal and informal routes including through retailers, supply to hotels, restaurants and catering markets, quick service restaurants and direct to customers and consumers. So, both ✂✂✂✂✂✂✂✂ are key processors as they are vertically integrated and involved in all the different levels of the value chain.

182. Although there are many poultry processors in Zambia, only three made submissions and these three are involved in more than one level of the value chain. Based on the submission made ✂✂✂✂✂✂✂✂, there are other poultry processors who are only involved at the processing level of the value chain and those did not make submissions.

183. Given the limited number of submissions received from processors, we rely on estimated market shares based on the number of broilers processed per week provided by ✂✂✂✂✂✂✂✂. As shown below, the processing level of the value chain is highly concentrated with the three biggest processors collectively accounting ✂✂✂✂✂✂✂✂. The three biggest abattoirs ✂✂✂✂✂✂✂✂) are vertically integrated into breeding and feed production as part of wider poultry corporate groups, as highlighted above.

Figure 14: ✂✂✂✂✂✂✂

Source: ✂✂✂✂✂✂✂✂✂[166]

4.6 Industry performance

The poultry sector in Zambia has continued to exhibit growth, driven by increased demand for poultry products, expansion of production capacities, and the emergence of new players in the industry. The sector plays a crucial role in contributing to food security, employment creation, and economic development.

4.6.1 Employment trends, direct and indirect

184. As shown in the table below, formal employment between 2019 and 2023 in key poultry-related enterprise activities such as hatcheries, broiler farms, feed production, and processing facilities demonstrated varying trends across different companies. ✂✂✂✂✂✂✂✂, the ✂✂✂, maintained consistently high employment levels, though it experienced a modest decline of approximately 5.5% over the five-year period, falling from ✂✂ employees in 2019 to ✂✂ in 2023. The total employment figure for these four companies (excluding ✂✂) was lowest in 2021, at ✂✂, likely reflecting pandemic-related disruptions. However, there was a marked recovery in 2022 when employment peaked at ✂✂, before slightly declining to ✂✂ in 2023. Overall, the collective workforce in

[166] Submission by RBZ made on 25 June 2024

these enterprises grew modestly from ✂✂ in 2019 to ✂✂ in 2023 an increase of about 1.2%.

Table 11: Formally reported jobs

Year	Zambeef	Hybrid	RBZ	Quantum	PPL	Total
2019	[5,000-8,000]	[500-800]	[1,000-1,300]	[300-500]	[300-500]	[5,000-8,000]
2020	[5,000-8,000]	[500-800]	[1,000-1,500]	[300-500]	[300-500]	[5,000-8,000]
2021	[5,000-8,000]	[500-800]	[1,000-1,500]	[300-500]	[300-500]	[5,000-8,000]
2022	[5,000-8,000]	[500-800]	[1,000-1,500]	[300-500]	[300-500]	[5,000-8,000]
2023	[5,000-8,000]	[500-800]	[1,000-1,500]	[300-500]	[300-500]	[5,000-8,000]

Sector-wide Situation

185. In 2014, the poultry sector in Zambia provided direct employment to approximately 80,000 individuals, comprising 50,000 permanent and 30,000 seasonal jobs while[167] in 2017, the Poultry Association of Zambia reported that the industry had created over 83,000 jobs, predominantly at the small-scale farming level.[168] This increase was attributed to the expansion of smallholder participation in the broiler value chain. By 2022, the industry employment had not changed with approximately 80,000 individuals (50,000 in permanent positions and 30,000 in seasonal roles)[169]. This figure includes direct employment in areas such as hatcheries, broiler farms, feed production, and processing facilities.

186. It should be noted that the stagnation of the 2014 to 2022 numbers of employment suggest the formal employment figures of 80,000 (with 50,000 permanent and 30,000 seasonal) remained largely unchanged between 2014 and 2022. This may suggest limited growth in larger

[167] Times of Zambia, *Poultry sector remains afloat*, online - available at: https://www.times.co.zm/?p=56851 -accessed 16 Apr. 2025
[168] Zambia 24, *Significance of the poultry industry*, online - available at: https://zambia24.com/significance-of-the-poultry-industry/ - accessed 16 Apr. 2025
[169] Times of Zambia, *Poultry sector remains afloat*, online - available at: https://www.times.co.zm/?p=56851 - Accessed 16 Apr. 2025.

commercial operations, which often form the core of official statistics and structured reporting.

187. In addition, the sector has improved in efficiency and technology adoption with modern abattoirs, better feed, disease control being employed. This might mean fewer people are needed per unit of output, especially in commercial farms. With the growth in output compared to employment numbers, this reflects productivity gains rather than stagnation.

188. The 2017 data show over 83,000 jobs created predominantly at the small-scale level. This reflects a broadening base of participation in the sector. Increased smallholder involvement means employment is growing in the informal or semi-formal sector, even if not captured in formal employment statistics.

189. The broiler industry's growth has also influenced indirect employment, particularly in sectors supplying inputs such as maize and soybeans for feed production. Small-scale farmers engaged in cultivating these crops have benefited from the industry's demand, thereby supporting livelihoods beyond direct poultry farming[170]. Additionally, the establishment of modern abattoirs and processing facilities to meet growing domestic demand for chicken has created further employment opportunities in logistics, retail, and veterinary services[171] .

4.6.2 Regional Distribution

190. According to the 2022 Livestock Survey, Lusaka Province accounted for 37% of the national broiler population, followed by Central Province at

[170] Zambia 24, *Significance of the poultry industry*, online - available at: https://zambia24.com/significance-of-the-poultry-industry/ - accessed 16 Apr. 2025
[171] Times of Zambia, *Poultry sector remains afloat*, online - available at: https://www.times.co.zm/?p=56851 - Accessed 16 Apr. 2025.

15.6% and Copperbelt at 13.6%[172]. This distribution indicates a concentration of broiler production in these regions, contributing to regional employment opportunities.

4.6.3 Broiler Chicken Production

The broiler chicken industry in Zambia has grown at modest rates consistent with increasing demand for poultry meat due to urbanization, population growth, and changing dietary preferences. In 2015, production was approximately 46,468 metric tons, increasing to 53,840 metric tons by 2023, which translates into an average compound annual growth of just under 2% per annum.[173] This trend reflects improvements in production efficiency, investment in poultry infrastructure, and growing consumer demand for affordable animal protein despite challenges such as high feed costs and disease risks.[174] Commercial producers such as Zambeef, and Hybrid Poultry Farms dominate large-scale production and have been important in the growth.[175] However, small-scale farmers also play a crucial role, contributing significantly to total output, though they face challenges such as high feed costs and limited access to veterinary services.

191. A critical component of broiler production is the supply of Day-Old Chicks (DoC), which serves as the foundation for poultry farming. Zambia's hatcheries produced approximately 50-60 million broiler DoC annually by 2023, with the majority (45-55 million) sold domestically[176]. Small-scale farmers accounted for about 60% of DoC purchases, highlighting their

[172] Zambia Statistics Agency, *The 2022 Livestock Survey Report*, online - Scribd. Available at: https://www.scribd.com/document/651569703/The-2022-Livestock-Survey-Report -Accessed 16 Apr. 2025.
[173] Husfarm. (n.d.). *Fresh Meat, Chicken Production in Zambia*. Retrieved from https://husfarm.com/statistic/production/meat-chicken-in-zambiaHusfarm Agriculture platform
[174] Report Linker. (2024). *Zambia Poultry Industry Outlook 2024 - 2028*. Retrieved from https://www.reportlinker.com/clp/country/1761/726321ReportLinker
[175] Ministry of Fisheries and Livestock (MFL). 2022. *Annual Livestock and Poultry Sector Report 2022*. Lusaka: Government of Zambia.
[176] Poultry Association of Zambia (PAZ). 2023. *Zambia Poultry Industry Report 2023*. Lusaka: PAZ.

reliance on commercial hatcheries[177] . While Zambia has the capacity to export DoC, shipments remain limited (under 1 million per year), primarily going to neighboring countries such as the Democratic Republic of Congo (DRC) and Malawi, as local demand continues to outstrip supply[178].

192. In terms of hatching eggs, Zambia produced an estimated 80-100 million broiler hatching eggs annually, with over 90% used by domestic hatcheries to meet DoC demand.[179]. Exports of hatching eggs were minimal, averaging around 5 million eggs per year, with Zimbabwe and Botswana being the primary markets.[180] The limited export volume suggests that Zambia's poultry sector remains inwardly focused, prioritizing local market needs before exploring regional trade opportunities.

193. Despite its growth, the broiler industry faces several challenges. The high cost of feed primarily due to fluctuating maize and soybean prices remains a major constraint, affecting profitability for both small and large-scale producers.[181] Additionally, competition from cheap imported poultry products, particularly from Brazil and South Africa, has pressured local producers, prompting calls for stricter import controls and enhanced support for domestic farmers.[182] Improving access to vaccines, biosecurity measures, and financing could further strengthen the sector's resilience and productivity.

[177] Zambia National Farmers' Union (ZNFU). 2023. *Poultry Sector Performance Analysis*. Lusaka: ZNFU.
[178] Ministry of Fisheries and Livestock (MFL). 2022. *Annual Livestock and Poultry Sector Report 2022*. Lusaka: Government of Zambia.
[179] Poultry Association of Zambia (PAZ). 2023. *Zambia Poultry Industry Report 2023*. Lusaka: PAZ.
[180] Ministry of Fisheries and Livestock (MFL). 2022. *Annual Livestock and Poultry Sector Report 2022*. Lusaka: Government of Zambia.
[181] Poultry Association of Zambia (PAZ). 2023. *Zambia Poultry Industry Report 2023*. Lusaka: PAZ.
[182] Zambia National Farmers' Union (ZNFU). 2023. *Poultry Sector Performance Analysis*. Lusaka: ZNFU

4.6.4 International trade

194. The poultry industry relies heavily on key agricultural feed inputs, primarily maize and soybeans, sourced through both domestic production and international trade. Maize serves as the main energy source in poultry feed, and while Zambia is traditionally self-sufficient, the 2024/25 season saw a production drop of over 50% due to drought, prompting the government to approve imports of up to 1 million metric tons of non-GMO maize[183]. Soybeans, a vital protein input, are seeing increased domestic production, projected to reach 770,000 metric tons by the 2025/26 season[184]. Together, these inputs support Zambia's stock feed production, which currently stands at around 300,000 metric tons annually, about 60% of the country's estimated 500,000 metric ton processing capacity[185].

Table 12: ZAMBIA AGRICULTURE PRODUCTION

Crops	**5-yr Avg (2020-2024) (1000 Tons)**	**2024/25 (1000 Tons)**	**2025/26 (1000 Tons)**	**% Change 2025-26/Avg**
Corn	2,897	1,510	3,400	17
Soybean	543	770	770	42
Wheat	227	227	250	10

Source: *USDA (2024) Foreign Agriculture Services*[186]

i. Animal feed and its inputs

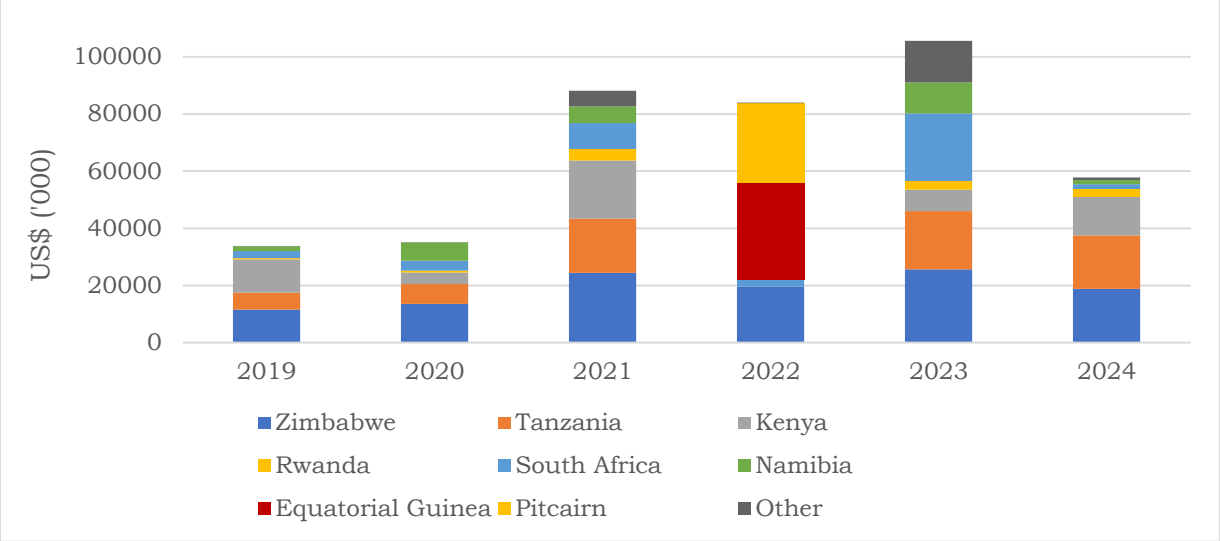
195. The three following figures below illustrate Zambia's top three export products: soybeans, oilcake and maize, categorized by the main export destinations. Due to Zambia's expanding soybean production and

[183] USDA (2024) Zambia Depends on Corn Imports to maintain food security, USDA GAIN REPORT
[184] FAS/IPAD (2025) Zambia Crop Production Summary. IPAD Country Summary
[185] Animal Feed Value Chain Study CCPC (2016)
[186] The author omitted some items on the table and only left corn, wheat and soybeans.

processing capacity, it has become a significant exporter of oilcake to countries in the Southern and Eastern Africa region. Zimbabwe is the largest importer of oilcake from Zambia, occasionally surpassed by South Africa, driven by the increasing demand from its growing poultry industry, which is a consequence of urbanization[187].

196. Over 2021 and 2023 soybean and cake exports have ranged between US$100mn and US$180mn, equivalent to more than 200th tonnes. Production and exports reduced somewhat in 2024 due to poor harvest… In addition, Zambia has recorded substantial exports of animal feed products.

Figure 15: Zambia Oilcake exports by importing country, 2019 to 2024



Source: Trade Map

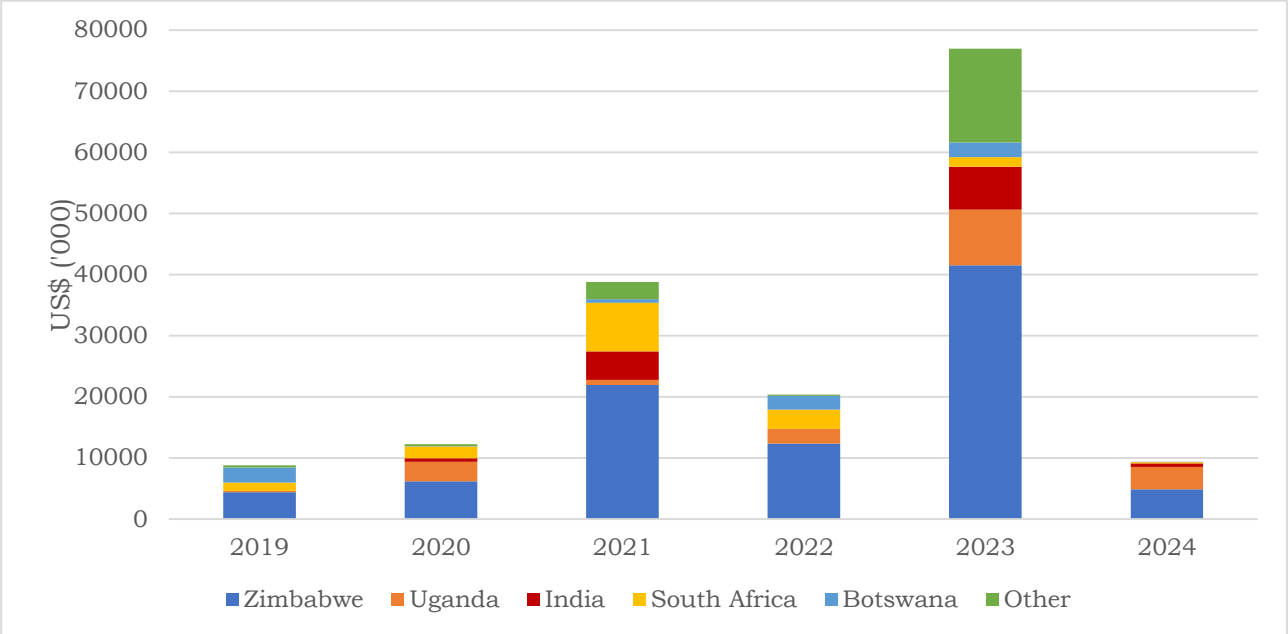
197. Kenya on the other hand has also grown to be a major importer of oilcake from Zambia, having been a significant importer between 2017 and 2018 and has remained a consistent importer. In 2022, however, Zimbabwe was overtaken by the Pitcairn Islands and Equatorial Guinea as major

[187]Nsomba and Shedi, 2023

importers of oilcake. Over 50% of all oilcake exports in Zambia are recorded to have gone to both the Equatorial Guinea and the Pitcairn Islands 188. In the same year, Zambia's exports to Kenya and Tanzania, which previously accounted for about 50% of all Zambia's oilcake exports fell to zero.

198. Figure 17 below shows Zambia's soybean exports and major importing countries. Soybeans are considered the 'green gold' as a key source of protein. The crop is grown in tropical and subtropical climates and is one of the most valuable crops in the world, not only as an oilseed crop and for feed for livestock and aquaculture, but also as a good source of protein in the human diet and as a biofuel.

Figure 16: Zambia soybean exports by importing country, 2019 to 2024



Source: Trade Map

188 Ibid 36

199. The global soybean market is therefore driven by demand for the derivative products, through the processing industry, where soymeal and soy oil are extracted. By far the most important driver of soybean demand is the animal feed industry which consumes around 80% of global soybean production.[189] A large proportion, more than 30% of soybean demand, is met by international trade (which would be an even higher proportion if we took trade in derivative products, such as animal feed, into account).

200. Zambia is one of the biggest producers of GM-free soybean in the Southern Africa region – and has been a consistent net exporter of soybean.[190] Out of all its soybean exports, Zimbabwe represents the largest demand for Zambia's soybean exports, especially for the years 2014 and 2017. South Africa, even though a huge soybean producer in its respect, it also imports a considerable amount of soybean from Zambia – largely to supplement the growing demand of soybean from the poultry feed industry.[191]

201. In 2022, Zambia exported a considerable amount of soybean to the Equatorial Guinea and the Pitcairn Islands – over US$1.1 million and over US$2.2 million for the Equatorial Guinea and Pitcairn Islands in 2022, respectively.

202. Figure 18 below shows Zambia's maize exports by export destinations. Maize is a major agricultural crop across southern Africa and is produced by smaller farmers in most of the countries, across large areas of land. Since 1970 maize production in the region has almost

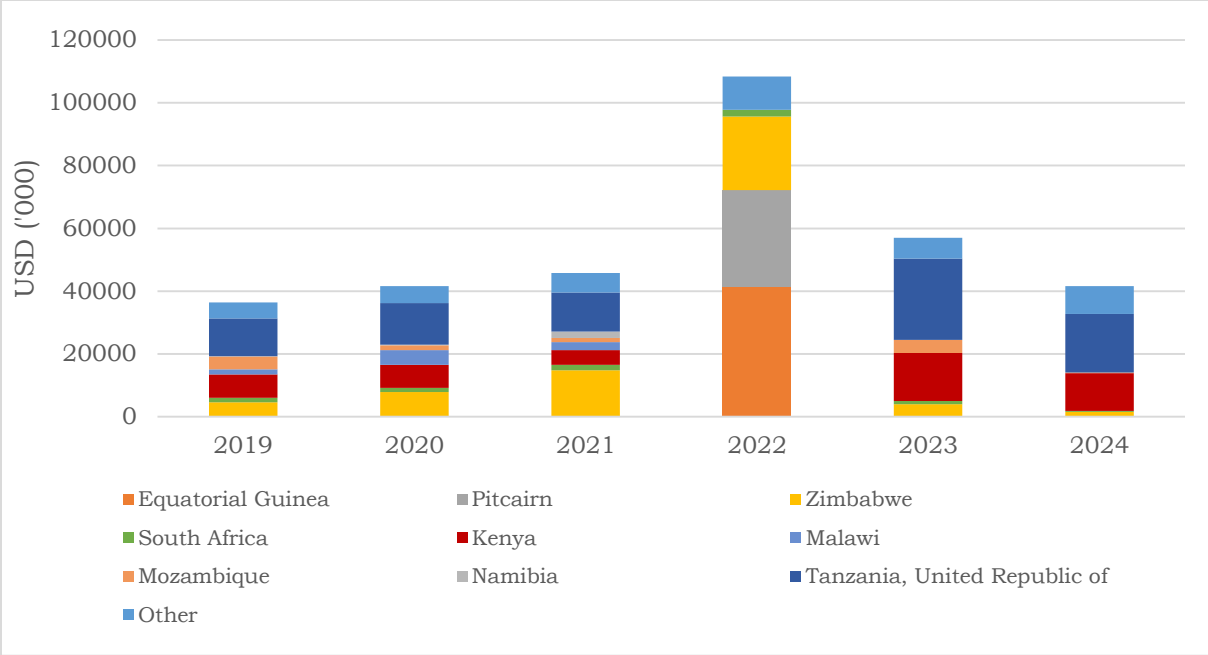
[189] Bell, L., Morris, M. and Mason, N. (2020) *Trends in Maize Production and Trade in Southern Africa*. Lusaka: Regional Agricultural Policy Institute

[190] Nsomba, A. and Shedi, T. (2023) *Zambia's Soybean and Maize Trade: Regional Demand and Export Patterns*. Lusaka: Zambia Agricultural Research Institute.

[191] Nsomba, A. and Shedi, T. (2023) *Zambia's Soybean and Maize Trade: Regional Demand and Export Patterns*. Lusaka: Zambia Agricultural Research Institute.

quadrupled reaching over 48 million tons harvested in 2018.[192] Zambia is one of the biggest maize exporters in the Southern Africa region and has enjoyed a net exporter position in the region.[193]

Figure 17: Zambia maize exports by importing country, 2019 to 2024



Source: Trade Map

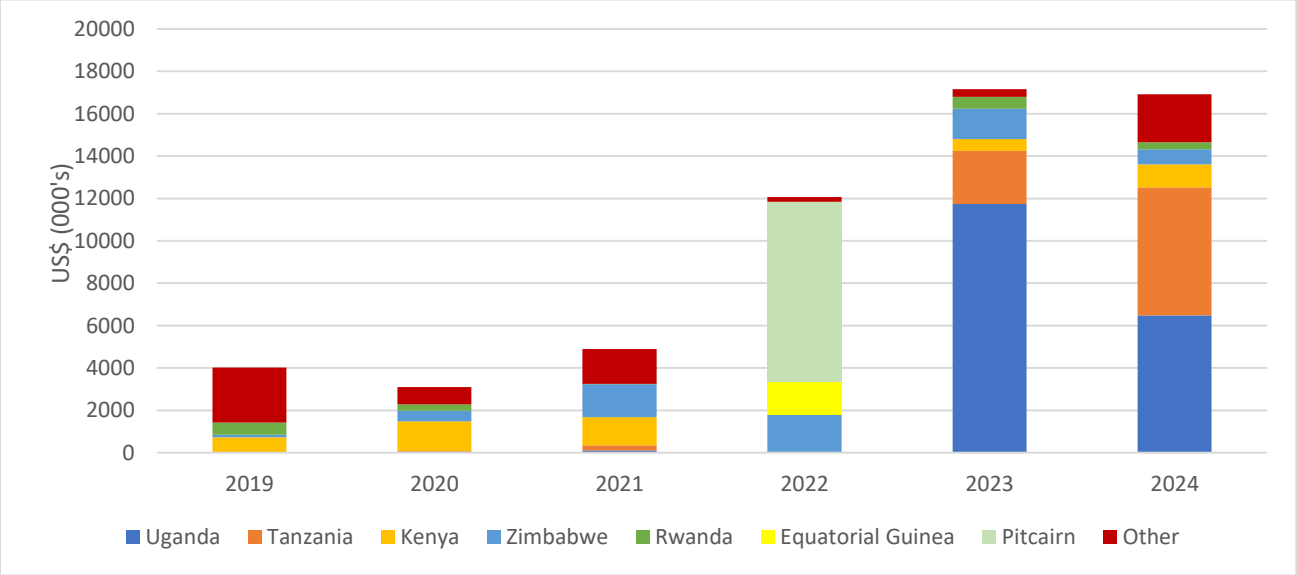
203. In terms of export destination, Zimbabwe continues accounting for the majority of Zambia's maize exports. Between 2015 and 2016, Zimbabwe accounted for over 50% of all Zambia's maize exports – probably due to the 2015/16 Southern Africa droughts. Even though having dwindled over time, South Africa previously imported maize from Zambia. Malawi has previously also been a big importer of maize from Zambia – between 2013 and 2016.

[192] Bell, L., Morris, M. and Mason, N. (2020) *Trends in Maize Production and Trade in Southern Africa*. Lusaka: Regional Agricultural Policy Institute.
[193] Nsomba, A. and Shedi, T. (2023) *Zambia's Soybean and Maize Trade: Regional Demand and Export Patterns*. Lusaka: Zambia Agricultural Research Institute.

204. Exports of animal feed have grown substantially over the period, from approximately $4 million to over $16 million to several regional countries. We note that soybean oilcake exports to Kenya as recorded above have been complimented with exports of feed, which further highlights the growth in soybean production and processing in Zambia. Tanzania and Uganda also account for a substantial proportion of exported animal feed, accounting for just under half of the exports for 2023 and 2024.

205. The observed oilcake exports to the Pitcairn Islands and Equatorial Guinea are mirrored in the animal feed exports in 2022, with approximately $10 million in exports to these destinations. In total, over 80% of all Zambia's exports of feed preparation in 2022 went to the Equatorial Guinea and the Pitcairn Islands.

Figure 18: Exports of preparations of a kind used in animal feeding



Source: Trade Map

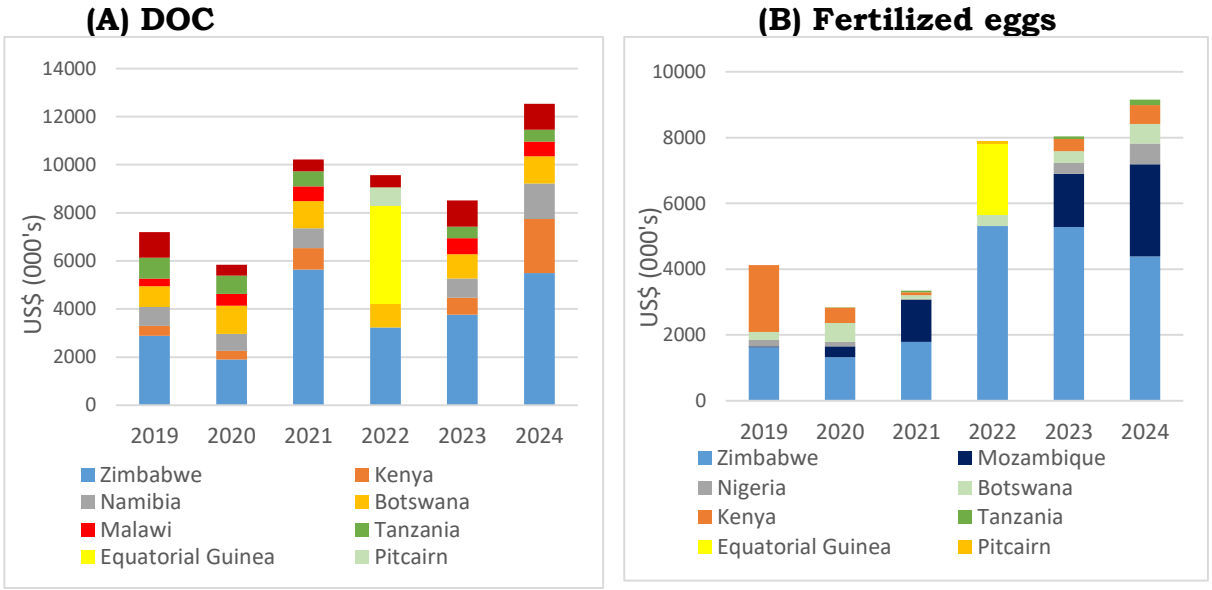
ii. **Breeding stock**

Zambia imports breeding stock as grandparent and as parent stock, and is a substantial exporter of day-old chicks and fertilized eggs (including

for parent stock). Exports are to a large number of other African countries with the largest market being Zimbabwe which has accounted for over 40% of Zambia's exports of day-old chicks and over 50% of exports in fertilized eggs.

206. Exports to Botswana, Namibia and Malawi have remained relatively consistent in the case of day-old chicks, with the exception of 2022. Whereas export to Kenya have more than doubled between 2023 and 2024. For fertilized eggs, there has been substantial growth in exports to Mozambique, indicating growth in eggs production in Zambia together with likely investments in upstream egg hatching facilities in Mozambique.

Figure 19: Zambia breeding stock export



Source: Trade Map

5 Competition Analysis of Breeding Stock

207. This section provides the breeding stock competition analysis by assessing the market conduct of breeders. The analysis is carried out by firstly setting out possible competition issues given the market structure. Secondly, it considers the pricing dynamics. Third, it reviews the extent of information sharing, market control and possible collusion or coordination among competitors. The section concludes by assessing buyer or supplier power of firms with significant market power.

5.1 Assessing Harm from Market Power or Possible Effects on Competition

208. The breeding stock market structure has become a monopoly flowing through the supply of grandparents and parent stock and following from the ✂✂✂✂✂✂✂✂and with the merger to form ✂✂✂✂✂✂✂✂also having a potential impact on incentives. ✂✂✂✂✂✂✂✂, a vertically integrated company, is the sole supplier of grandparents supplying ✂✂✂✂✂✂✂✂. Both ✂✂✂✂✂✂✂✂ are ✂✂✂✂✂✂✂✂suppliers, and in recent years have also exported. ✂✂✂✂✂✂✂✂ supply to the export market is in line with its ✂✂✂✂✂✂✂✂. This means that ✂✂✂✂✂✂✂✂ is the main supplier of parent stock in Zambia. ✂✂✂✂✂✂✂✂, however, exports ✂✂✂✂✂✂✂✂ of the parent stock to other countries and only ✂✂✂✂✂✂✂✂ is used in Zambia (including internal supply). ✂✂✂✂✂ is also supplying parent stock through imports to ✂✂✂✂✂✂✂✂.

209. At the day-old chick level, although there are several breeders, including ✂✂✂✂✂✂✂✂, they are reliant, directly or indirectly, on either ✂✂✂✂✂✂✂✂ for parent stock. As the monopoly supplier of ✂✂✂✂✂✂✂✂ and with control over ✂✂✂✂✂✂✂✂ through breeding stock relationships, ✂✂✂✂✂✂✂✂ is dominant in Zambia as defined by

the Zambian Competition Act.[194] The position of Aviagen and related companies ✂✂✂✂✂✂✂✂ at the upstream levels of breeding stock interacts with the oligopolistic situation of several suppliers in the parent stock and DOC markets.

210. Monopolistic markets, such as in upstream levels of breeding stock in Zambia may be characterized by anticompetitive conduct through the exercise of unilateral market power in abuses of a dominant position. There are two types of abuses of dominance, exploitative and exclusionary conduct. A conduct is characterized as exploitative when a monopoly takes advantage of customers by charging unfair prices or imposing unfair conditions on consumers.[195] Exclusionary conduct is intended to protect the monopoly supplier from any actual or potential competition.[196]

211. The main type of exploitative conduct is excessive pricing. Excessive pricing is exploitative because it causes direct loss of consumer welfare.[197] Excessive pricing occurs when a dominant firm charges high prices to its end-customers or companies with which the dominant firm does not compete with.[198]

212. An excessive price may also be exclusionary where it is aimed at protecting the dominant firm by putting rivals at a disadvantage.[199] This happens when the dominant firm is an upstream supplier of an input and it sets prices so high that the margin between wholesale and retail prices is unprofitable for a firm operating in the downstream market.[200] This type of excessive pricing is generally referred to as margin squeeze.

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[194] An undertaking holds a dominant position in a market if by itself or together with an interconnected company, it occupies such a position of economic strength as will enable it to operate in the market without effective constraints from its competitors or potential competitors
[195] OECD.(2020). Abuse of dominance in digital markets
[196] De Streel, A and Motta, M., (2003). Exploitative and exclusionary excessive prices in EU law.
[197] Evans, D.S., and Padilla A.J., (2005a). "Excessive Prices: Using Economics to Define Administrable Legal Rules." Journal of Competition Law and Economics 1, no. 1 pp. 97–122.
[198] De Streel, A and Motta, M., (2003). Exploitative and exclusionary excessive prices in EU law.
[199] De Streel, A and Motta, M., (2003). Exploitative and exclusionary excessive prices in EU law.
[200] De Streel, A and Motta, M., (2003). Exploitative and exclusionary excessive prices in EU law.

213. Although there are differences across jurisdictions, there are two main tests used in assessing excessive pricing. The first test involves comparing the actual prices charged to actual costs and assessing whether the price charged has a reasonable relationship with costs.[201] The second test involves the assessment of the prices against comparator benchmarks of competitive prices by reviewing prices charged for the same product in different geographies or different time periods, or prices charged by other companies for identical or similar products.[202]

214. High prices (and profits) may be justified if they are a reward for a firm taking risks, a due return on investment, or the result of a firm's innovativeness.[203] For example, these issues have been relevant in pharmaceutical markets although excessive pricing cases have been focused more on generic drugs where innovation played a marginal role.[204]

215. The oligopolistic structure of the markets for parent stock and DOCs may raise concerns of coordinated conduct (cartels). Cartels are intended to increase the collective profitability of firms by not competing to attract customers from each other. This allows cartel members to charge higher prices and realize bigger profits.[205]

216. Collusion can either be explicit or tacit. Explicit collusion in a cartel is where cartel members devise a common plan of action and have exchange assurances to follow the plan.[206] Tacit collusion can occur without any communication

[201] Calcagno, C., Chapsal, A. and White, J., 2019. Economics of excessive pricing: an application to the pharmaceutical industry. *Journal of European Competition Law & Practice*, *10*(3), pp.166-171.
[202] Calcagno, C., Chapsal, A. and White, J., 2019. Economics of excessive pricing: an application to the pharmaceutical industry. Journal of European Competition Law & Practice, 10(3), pp.166-171.
[203] OECD. (2018). Excessive Pricing in Pharmaceutical Markets - Note by the European Union
[204] Akker, I. and Sauter, W., 2022. Excessive pricing of pharmaceuticals in EU law: Balancing competition, innovation and regulation. In *The Interaction of Competition Law and Sector Regulation* (pp. 233-258). Edward Elgar Publishing.
[205] Motta, M. (2004). Competition Policy. CUP.
[206] Motta, M. (2004). Competition Policy. CUP; Harrington, J. E. (2008) Detecting cartels. In P. Buccirossi (Ed.), Handbook of antitrust economics (pp. 213–258). Cambridge, MA: MIT press

where firms coordinate their behavior by simply observing and anticipating each other's pricing behavior.[207] It is commonly accepted that explicit collusions are the most egregious form of competition violation as it allows cartel members to earn monopoly-like profits.[208]

217. Two key aspects are crucial in assessing whether there is a cartel in a market, structural features and behavioral signals. Structural features that make a market susceptible to cartel conduct include markets with few firms, more homogenous products, barriers to entry, and a more stable demand[209]. In terms of behavioral signals, cartel members can harm consumer welfare by limiting output, raising pricing or diving markets.[210] Cartels may also be a combination of price fixing with forms of market allocation as this will undermine competition on price.

218. Considering the possible effects on competition identified, below we assess the pricing dynamics.

5.2 Parent stock pricing and supply

219. The parent stock pricing analysis is conducted by assessing prices of the three suppliers of parent stock in Zambia, ✂✂✂✂✂✂✂✂. We undertake the analysis from July 2020 due to data availability. ✂✂✂ ✂✂✂✂✂✂✂✂✂cost data, as such they reflect prices paid by ✂✂✂✂✂✂✂✂ pricing data was submitted by these entities and shows prices to all their customers. ✂✂✂✂✂✂✂✂ also submitted data and we derived the price for each month by dividing revenue by volume.

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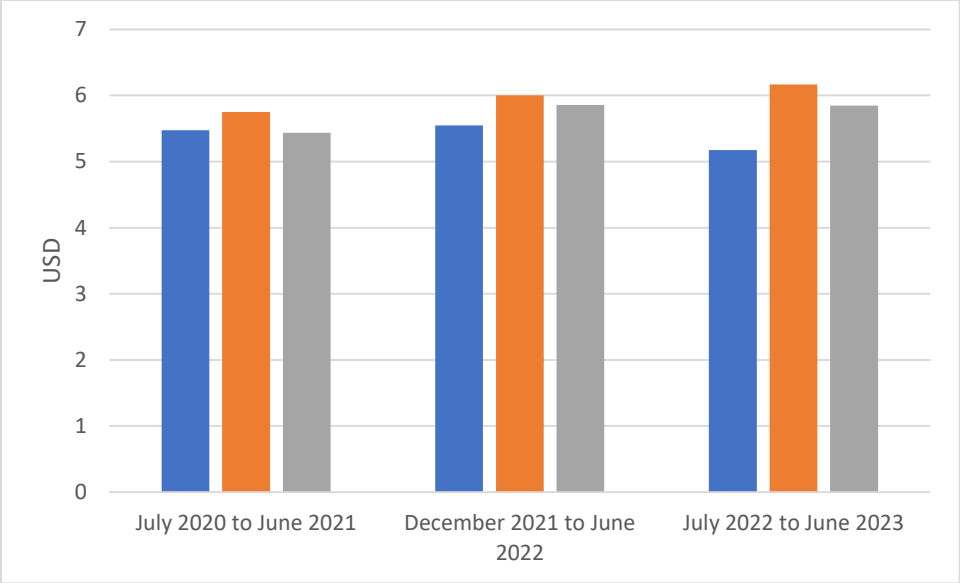
[207] Harrington, J. E. (2007) Behavioural screening and the detection of cartels. In C.-D. Ehlermann & I. Atanasiu (Eds.), European competition law review 2006: Enforcement of prohibition of cartels. Oxford: Hart Publishing.
[208] Connor, J.M. and R. Lande (2005) How High Do Cartels Raise Prices? Implications for Optimal Cartel Fines, Tulane Law Review 80.
[209] Harrington, J.E., 2005. Detecting cartels (No. 526). Working paper; Kovacic, W., Marshall, R., Marx, L., & White, H. (2011). Plus factors and agreement in antitrust law. Michigan Law Review, 110(3), 393–436; Marshall, R., & Marx, L. (2012). The economics of collusion: Cartels and bidding rings. MIT Press.
[210] Carlton, D. and J. Perloff (1994) Modern Industrial Organization. Pearson; Lande, R and H.P. Marvel, (2000) 'The three types of collusion: Fixing prices, rivals, and rules'. Wisconsin Law Review, 941

220. It is worth noting that ✂✂✂✂✂✂✂✂ does not buy ✂✂✂✂✂✂✂✂. So, the average prices calculated for the stated periods are derived for the months ✂✂✂✂✂✂✂✂ purchased ✂✂✂✂✂✂✂✂. For consistency, ✂✂✂✂✂✂✂✂ average prices are also calculated based on the months ✂✂✂✂✂✂✂✂. We do not have ✂✂✂✂✂✂✂✂ data between July 2021 and November 2021. As a result, instead of showing an average price between July 2021 and June 2022, we show the average price between December 2021 and June 2022.

221. ✂✂✂✂✂✂✂✂ effectively has monopoly power in setting prices and supply for ✂✂✂✂✂✂✂✂ following the changes in market structure and breeding supply into Zambia. ✂✂✂✂✂✂✂✂ together with a shareholder agreement ensuring joint control with ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂.[211] ✂✂✂✂✂✂✂✂. Figure 21 shows that from 2020/21 to 2021/22, the three suppliers of parent stock were pricing closely to each other. In 2020/21, ✂✂✂✂✂✂✂✂average parent ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂.

Figure 20: Average Parent DoC prices in Zambia 2019 to 2023

[211] From merger filing in Aviagen RBZ



Source: Calculations based on ✂✂✂✂✂✂✂✂[212]

222. It is evident that there is no competitive pricing for parents by ✂✂✂✂✂✂✂✂ given its ✂✂✂✂✂✂✂✂and constraints on ✂✂✂✂✂✂✂✂ through the ✂✂✂✂✂✂✂✂to effectively ✂✂✂✂✂✂✂✂ could amount to market division as this leaves ✂✂✂✂✂✂✂✂ as the sole supplier of ✂✂✂✂✂✂✂✂- supplying ✂✂✂✂✂✂✂✂directly and through its ✂✂✂✂✂✂✂✂. This means that ✂✂✂✂✂✂✂✂ is also able to control the number of parent stock sold in Zambia and it has information about the ✂✂✂✂✂✂✂✂as per the ✂✂✂✂✂✂✂✂ and through its shareholding in ✂✂✂✂✂✂✂✂. So, ✂✂✂✂✂✂✂✂ is able to set ✂✂✂✂✂✂✂✂ prices in Zambia by restricting supply as it is effectively the sole supplier of ✂✂✂✂✂✂✂✂. Figure 21 reflects the fact that it has reduced prices of parents to ✂✂✂✂✂✂✂✂, even while the supplies are constrained, which allows a somewhat higher margin for ✂✂✂✂✂✂✂✂.

[212] ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂

223. The ✂✂✂✂✂✂✂✂that saw the formation of ✂✂✂✂✂✂✂✂ aligned the incentive of ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂ as the main supplier of ✂✂✂✂✂✂✂✂ in Zambia is beneficial for both. For ✂✂✂✂✂✂✂✂, having control of ✂✂✂✂✂✂✂✂ sales in Zambia allows it to extract as much profits as possible. ✂✂✂✂✂✂✂✂ benefits as long as ✂✂✂✂✂✂✂✂ does not allow another breeder to supply ✂✂✂✂✂✂✂✂ in Zambia as this might bring a competitive constraint to ✂✂✂✂✂✂✂✂ and reduce its profitability and consequently ✂✂✂✂✂✂✂✂.

224. The ✂✂✂✂✂✂✂✂ prices are well above costs. ✂✂✂✂✂✂✂✂'s data is for the period July 2020 to June 2021 and ✂✂✂✂✂✂✂✂'s data is for the period December 2021 to June 2023. As highlighted, we do not have data between July 2021 and November 2021. The price of ✂✂✂✂✂✂✂✂remained constant between July 2020 and January 2023 with some fluctuations. From January 2023 until the end of the analysis period, ✂✂✂✂✂✂✂✂prices increased and peaked at US$7/parent stock in June 2023. Although costs fluctuated throughout the analysis period, they were higher between July 2020 and June 2021 averaging US$2.4/parent stock while the average selling price was US$5.8/✂✂✂✂✂✂✂✂. When ✂✂✂✂✂✂✂✂ took over the operations, ✂✂✂✂✂✂✂✂costs reduced to an average US$1.9 between December 2021 and June 2023.

Figure 21: ✂✂✂✂✂✂✂

Source: Calculations based on submission by ✂✂✂✂✂✂✂✂

225. The average margin earned by ✂✂✂✂✂✂✂✂ was 58% while ✂✂✂✂✂✂✂✂'s average margin increased to 69% between December 2021 and June 2023 due to a combination of lower costs and the increase in prices towards the end of the analysis period. The margins and pricing power suggest an absence of effective competition. ✂✂✂✂✂✂✂✂also relied on ✂✂✂✂✂✂✂✂ and this was constrained in terms of volumes supplied, while ✂✂✂✂✂✂✂✂over the period was constrained in terms of the ✂✂✂✂✂✂✂✂ it can sell locally as explained above.

Figure 22: ✂✂✂✂✂✂✂✂

Source: Calculations based on submission by ✂✂✂✂✂✂✂✂

The margins earned by ✂✂✂✂✂✂✂✂ are reflective of its monopoly position and are pointing to ✂✂✂✂✂✂✂✂ possibly engaging in an excessive pricing conduct and/or margin squeeze. An investigation will be

able to determine conclusively if this is the case taking into account international benchmarks, other costs and all the risks taken when the investment was made.

5.3 DoC pricing and supply dynamics

226. This section analyses the DoC pricing dynamics by first assessing the state of price competition among breeders. Secondly, it analyses whether there is differential pricing for spot sales, contract sales and internal sales. Parent stock together with feed are the main inputs in producing broiler hatching eggs and DoCs. As such, given that ✂✂✂✂✂✂✂ is the main ✂✂✂✂✂✂✂ supplier, the high margins and high prices increase the costs of producing hatching eggs and DoC.

227. Broiler DoC prices of the main companies increased significantly from May 2020 to September 2021, more than doubling to peak at ZK16/DoC. From the beginning of 2022 prices varied somewhat across the main companies. There was a decrease in DoC prices between December 2022 and February 2023. There was also a significant reduction in volumes at this time.

Figure 23: Average Broiler DoC prices in Zambia[213]

Source: Calculations based on submission by breeders[214]

228. The DoC pricing analysis shows that the market structure comprising of the monopolistic ✂✂✂✂✂✂✂✂, the highly concentrated ✂✂✂✂✂✂✂✂ and DoC levels of the value chain negatively affected the pricing outcomes observed at the DoC level of the value chain. The transition to ✂✂✂✂✂✂✂✂as the main breed supplied in Zambia linked to the ✂✂✂✂✂✂✂✂ with effective control over the breeding volumes coincided with very large price increases in DoCs.

229. Data on prices[215] relative to costs[216] (Figure 25) provided by breeders shows that the price increases were not related to costs. When there have been competing breeds in the form of the ✂✂✂✂✂✂✂✂ in 2020 prices were even below costs for a time. From July 2020 onwards,

[213] ✂✂✂✂✂✂✂✂

[214] ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂

[215] These are average costs submitted by breeders as used in the average Figure above.

[216] ✂✂✂✂✂

prices and costs diverged as prices increased while costs in fact reduced. The transition to ✂✂✂✂✂✂✂ as the main breed provided ✂✂✂✂✂✂✂ with pricing power. While the ✂✂✂✂✂✂✂ is still supplied in Zambia, its volumes are limited and it is also supplied by ✂✂✂✂✂✂✂. Prices increased relative to costs from 2020 to 2021, from being around 30% to 75% above costs in the second half of 2020 to being in excess of double costs from mid-2021 through to mid-2022.

Figure 24: ✂✂✂✂✂✂

Source: Calculations based on submission by ✂✂✂✂✂✂✂

230. It is unclear what led to the price reductions in December 2022; however, prices increased once again in the first half of 2023.

231. While ✂✂✂✂✂✂✂ only sells broiler DoC in Zambia, broiler hatching eggs are exported to other countries as well as being sold in Zambia. ✂✂✂✂✂✂✂.

232. The exertion of market power over DoC prices in Zambia is reinforced by the observation that hatching eggs (HE) prices, while fluctuating, have remined more in line with costs, averaging around ✂✂✂✂✂✂✂. Changes in ZK prices may also reflect exports being priced in US dollars while the ZK earned reflects exchange rate

movements. Hatching eggs prices peaked in May 2021 and reduced significantly in June 2021 and fluctuated throughout the analysis period but never returned to the May 2021 level even though there were cost increases in some months. Unlike the local market where DoC are sold, the export market where hatching eggs are also sold appears to be much more competitive and as a result ✂✂✂✂✂✂✂✂ must price in a manner more reflective of costs. Below we also show the margins earned on DoC and hatching eggs.

Figure 25: ✂✂✂✂✂✂✂✂

Source: Calculations based on submission by ✂✂✂✂✂✂✂✂

233. The margins earned by ✂✂✂✂✂✂✂✂ on DoC and hatching eggs diverged from June 2021 reflecting the difference in competitive constraint faced by ✂✂✂✂✂✂✂✂. In the local market where all the DoC are sold, ✂✂✂✂✂✂✂✂ faces little competitive constraint while the export market, where hatching eggs are sold, appears more competitive. Between 2019 to 2023, hatching eggs were exported to Botswana, DRC, Zimbabwe, Nigeria, Mozambique, Malawi, Ghana. The customers were responsible for freight costs.

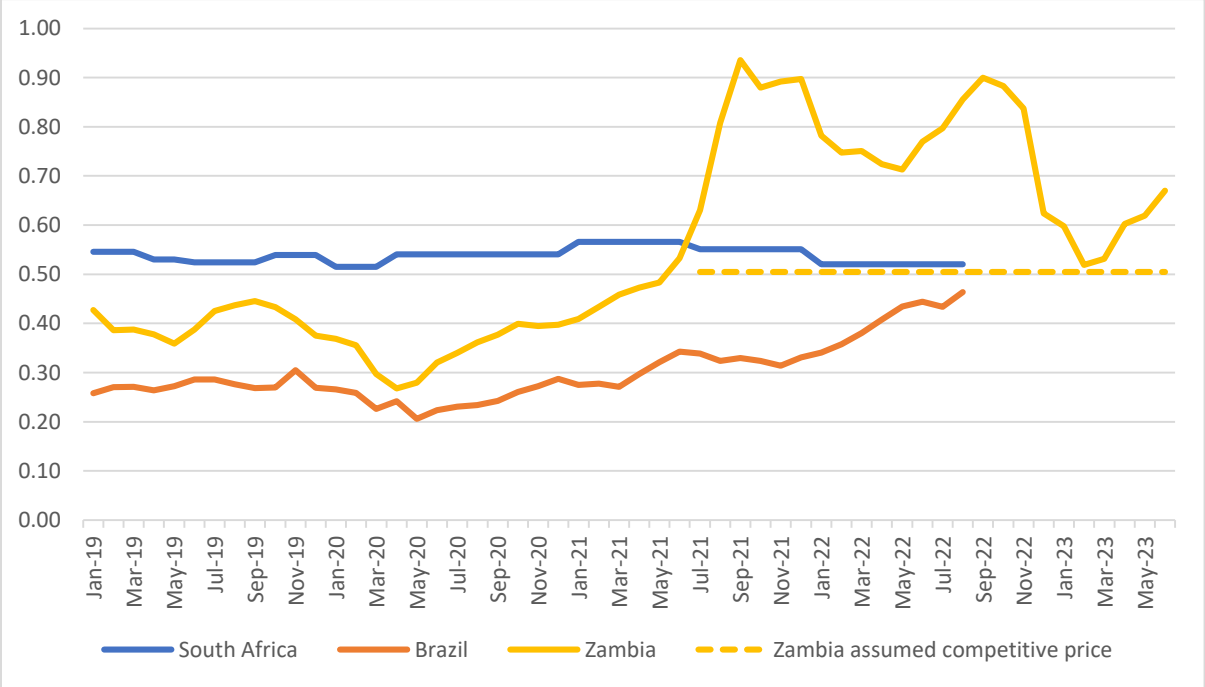
Figure 26: ✂✂✂✂✂✂✂✂

Source: Calculations based on submission by ✂✂✂✂✂✂✂✂

5.4 DoC prices compared to international comparators

234. Zambia DoC prices also increased substantially relative to international comparators. Between 2019 and 2020, DoC prices were relatively low in Zambia and close to the international benchmark of Brazil. This appears to be associated with a substantial decrease following a cartel investigation by the Commission.[217] Since June 2020, DoC prices in Zambia steadily increased and surpassed South African prices (another benchmark) in August 2021. As indicated, the increasing trend in prices coincides with the increased concentration from the ✂✂✂✂✂✂✂✂.

Figure 27: Broiler DoC prices, US$ per chick



Source: South Africa, Brazil prices, as reported by AMO; Zambia prices averaged from submissions by breeders

[217] See AMO-WP-AnimalFeed-Poultry-KenyaMwiZambia_FINAL_DRAFT_clean18012022_WP9.pdf

235. The high DoC prices in Zambia from August 2021 compared to international benchmarks are possibly pointing to breeders engaging in supra-competitive pricing through the exertion of market power which squeezes the margins of independent poultry producers purchasing DOCs at these prices. At firm level, the divergence of prices and costs to such an extent that prices and costs do not have a reasonable relationship reinforces the supra-competitive nature of the pricing. The higher prices are across suppliers including ✂✂✂✂✂ which is another big supplier of DOCs, with close links to ✂✂✂✂✂✂✂✂ through sourcing of its parent stock, as well as ✂✂✂✂✂✂✂✂.

236. In assessing indicative competitive prices, we use the average DoC price between May 2021 and June 2021 of US$0.51, as a conservative estimate as it is still substantially higher than prices over 2019 and 2020, while costs fluctuated through 2021 and 2022 and were not out of line with those in 2019/20. The gap between the actual price in Zambia and this indicative competitive price fluctuated, peaking in September 2022 when the actual was US$0.90 (78% more than what we consider the competitive price). Between July 2021 and June 2023, on average, the actual DoC price in Zambia was 48% more than what we consider to be an indicative competitive price.

237. The commercial broiler industries of South Africa, Brazil, and Zambia can be compared meaningfully due to their shared reliance on similar production systems and feed ingredients. All three countries utilize intensive broiler production methods based on the same high-performance breeds such as Ross and Cobb. Moreover, maize and soya beans constitute the principal feed inputs in all three cases, making feed cost and input comparisons both feasible and relevant to understanding cost competitiveness. We recognize that the industries in Brazil and South Africa are much larger and that both countries allow GMO maize and

soybeans, however, for the comparisons we are interested in the prices of maize and soybeans as key inputs to feed. While Zambia is a much smaller economy and poultry industry, the same global multinationals are involved in the sector and have made investments in large-scale integrated production facilities.

238. It should also be noted that Zambia, small- and medium-scale farmers often receive lower farm-gate prices for maize and soybeans than producers in Brazil or South Africa, partly due to limited access to premium export markets and weak bargaining power[218] (and refer to Figures 39 and 40 below). This price dynamic gives Zambia a theoretical competitive advantage in broiler feed production since maize and soy are the primary components of feed potentially lowering the feed cost base compared to Brazil and South Africa, where farmers enjoy more favorable yields but higher crop prices. There is a combination of factors which impact on Zambia including higher energy costs, and a need for improved infrastructure. Zambia has vertically integrated poultry companies much like South Africa but has not seen these benefits flowing through to independent buyers of breeding stock or feed. Zambia has experienced currency volatility and seasonal production swings in feed inputs although in the period overall has recorded year-on-year net surpluses in production.[219] Brazil and South Africa have larger, more predictable grain markets supporting consistent feed pricing and supply, although South Africa has been reliant on imports of soybeans to meet domestic demand. As a result, even though feed ingredients in Zambia may be a cheaper at source, broiler feed prices and retail chicken prices do not necessarily reflect that advantage.

[218] Nsomba, G. & Roberts, S. (2023) *Building Competitive Agricultural Markets for Zambia*, IGC report. Available at: IGC Zambia markets report (International Growth Centre).
[219] AMO Price Tracker (2024) *Regional Trade Stabilises Maize Prices*. Available at: AMO maize price tracker (Squarespace).

239. Along with the various factors relating to the size and scale of the industries, the high and increasing DoC prices in Zambia from August 2021 compared to international benchmarks possibly point to breeders engaging in excessive pricing and/or margin squeeze over third party buyers. At firm level, the divergence of ✂✂✂✂✂✂✂ prices and costs to such an extent that prices and costs do not have a reasonable relationship point to ✂✂✂✂✂✂✂ possibly engaging in excessive pricing and investigation will be able to determine conclusively if this is the case taking into account other costs and all the risks taken when the investment was made. ✂✂✂✂✂✂✂is also another big supplier and while we did not have their costs, ✂✂✂✂✂✂✂ should also form part of a possible investigation into supra-competitive pricing along with other major DOC suppliers.

240. Price increases appear to have occurred across other countries in the region where the same companies operate although it would be important to verify the prices which have been reported in press articles (Table 13). It appears that prices in Kenya, while increasing over 2021, were somewhat lower than in Zambia even while Zambia exported breeding stock and feed constituents to Kenya and Kenya had duties on DOC imports at times.

Table 13: Day old chick prices, US$

	Kenya	Tanzania	Zimbabwe
2020	No data	$0.94	$0.57
2021	$0.58 – $0.77[220]	$0.95	$0.90[221]

[220] Business Daily Africa, 2021. *Chick prices jump 32.8 percent on imported eggs tax*. online Available at: https://www.businessdailyafrica.com/bd/markets/commodities/chick-prices-jump-32-8-percent-on-imported-eggs-tax-3604066 Accessed 15 Apr. 2025.
[221] Sunday Mail, 2021. *Day-old chicks production rises to 92m*. online available at: https://www.sundaymail.co.zw/new-day-old-chicks-production-rises-to-92m Accessed 15 Apr. 2025.

2022	$0.70 – $0.78[222]	$0.86	$0.90 – $1[223]
2023	$0.71 – $0.79[224]	$0.86	$0.90 – $1[225]

5.5 Price discrimination among different customer groups

241. In this section, we assess whether breeders are price discriminating in the sale of DoC to different customers, including internal sales. ✂✂✂✂✂✂✂✂ sell DoC on the open market and do not use DoC internally for their own broiler growing operations. ✂✂✂✂✂✂✂✂use chicks internally and sell to independent poultry farmers. ✂✂✂✂✂✂✂✂ has grower agreements with third party-farms wherein ✂✂✂✂✂✂✂✂ supply broiler DoC to farms at a discounted price, 5% less than ✂✂✂✂✂✂✂✂ DoC market price, to raise the DoC on behalf of ✂✂✂✂✂✂✂✂.[226] We are however of the view that a 5% discount is not significant and is unlikely to have any anti-competitive effects.

242. ✂✂✂✂✂✂✂✂ sells DoC via three channels, through agents, ✂✂✂✂✂✂✂✂ shops and to its own subsidiary ✂✂✂✂✂✂✂✂. Prices in ✂✂✂✂✂✂✂✂ shops were highest. Prices at agents and prices to ✂✂✂✂✂✂✂✂ were similar for much of the period although between August 2020 and January 2021, there was a significant divergence as ✂✂✂✂✂✂✂✂ paid ZK6/DoC while the prices for the two channels were between ZK7/DoC and ZK10/DoC. The price charged

[222] The Organic Farmer, 2022. *Key considerations for selecting healthy day-old chicks*. Online available at: https://theorganicfarmer.org/key-considerations-for-selecting-health-day-old-chicks/ Accessed 15 Apr. 2025.
[223] NewsDay, 2023. *High costs paralyse poultry farmers*. online available at: https://www.newsday.co.zw/thestandard/business/article/200003459/high-costs-paralyse-poultry-farmers Accessed 15 Apr. 2025.
[224] Agbro, 2023. *Broiler Market Prices 2023*. online available at: https://www.agbro.com/broiler-market-prices-2023/ Accessed 15 Apr. 2025
[225] NewsDay, 2023. *High costs paralyse poultry farmers*. online available at: https://www.newsday.co.zw/thestandard/business/article/200003459/high-costs-paralyse-poultry-farmers Accessed 15 Apr. 2025.

[226] ✂✂✂✂✂✂✂✂

to ✂✂✂✂✂✂✂✂ increased to ZK9/DoC in February 2021 and this narrowed the gap significantly between the three channels from February 2021 onwards. There was a single month deviation in February 2023 when prices sold via ✂✂✂✂✂✂✂✂ declined from ZK11/DoC to ZK5/DoC, which may be a data error.

Figure 28: ✂✂✂✂✂✂✂✂ DOC pricing across three sales channels

Source: Calculations based on submission by ✂✂✂✂✂✂✂✂

243. ✂✂✂✂✂✂✂✂ has changed its supply channels for DoC. In FY2020, 52% of the DoC were sold through agents to independent poultry farmers, and 26% were sold to outgrowers (Table 14). From FY2021 onwards (✂✂✂✂✂✂✂✂ no longer used agents and most of the sales were made on a wholesale basis followed by sales to outgrowers. The depots are owned by ✂✂✂✂✂✂✂✂ and this is ✂✂✂✂✂✂✂✂'s preferred way of selling DoC as payment is made in cash which diminishes the credit risk that ✂✂✂✂✂✂✂✂ assumes when dealing with other customers.[227]

Table 14 : ✂✂✂✂✂✂✂✂ – Proportion of DoC sales through different sales channels FY2020 to FY2023 (from July to June)

	FY 2020	**F2021**	**FY2022**	**FY2023**
Rowan	[0-10%]			
Medium scale	[5-10%]			
Agents	[50-60%]			

[227] ✂✂✂✂✂✂✂✂

Outgrowers	[25-35%]	[20 - 30%]	[20-30%]	[20-30%
Depots	[15-25%]	[10-20%]	[10-20%]	[10 -20%]
Wholesale		[40-50%]	[30-40%]	[30-40%]
Omnia		[0-10%]	[0-10%]	[0-10%]
Avian Ventures		[20-30%]	[15-25%]	[15-25%]

Source: Compilation based on submission by ✂✂✂✂✂✂✂✂

244. ✂✂✂✂✂✂✂✂ did not provide the DoC prices for the different customer segments highlighted above. From the transactional data provided, ✂✂✂✂✂✂✂✂ does offer lower prices to various customer segments but there is no clear pattern of specific customer segments constantly getting lower prices. ✂✂✂✂✂✂✂✂ did not provide a pricing policy for different customer segments and as such we are not able to state if ✂✂✂✂✂✂✂✂ is price discriminating or not.

5.6 An assessment market outcomes and impact of arrangements on competition

245. The main market outcome in breeding stock is the sharp increase in DoC prices which appears unrelated to costs in the context of extremely high levels of concentration and the integration of breeding arrangements in Zambia especially following the ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂ supplier of ✂✂✂✂✂✂✂✂ stock in Zambia. At the parent level, ✂✂✂✂✂✂✂✂ of the market in 2022/23, ✂✂✂✂✂✂✂✂is constrained by ✂✂✂✂✂✂✂✂. Through an agreement with ✂✂✂✂✂✂✂✂holds the rights to distribute ✂✂✂✂✂✂✂✂in Zambia, which positions it as the primary supplier for other industry players, notably ✂✂✂✂✂✂✂✂. This arrangement forces these downstream companies to rely on ✂✂✂✂✂✂✂✂ for their broiler stock needs, giving ✂✂✂✂✂✂✂✂ significant market power.

246. Under the terms of the ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂.

247. ✂✂✂✂✂✂✂✂ currently uses ✂✂✂✂✂✂✂✂ as parent stock. It is also constrained in terms of its quantities. The merger agreement further included reference to ✂✂✂✂✂✂✂✂, placing it on the same footing as ✂✂✂✂✂✂✂✂ in breeding stock and which would further consolidate ✂✂✂✂✂✂✂✂ distribution network.

248. In effect, ✂✂✂✂✂✂✂✂ has unilateral market power over breeding stock supply and pricing in Zambia given ✂✂✂✂✂✂✂✂ decision to switch to the ✂✂✂✂✂✂✂✂ has exercised this market power to set supra-competitive prices. This is directly contradictory to the ✂✂✂✂✂✂✂✂.

249. Small-scale local farmers have seen substantial price increases and constrained supplies. The price increases were already occurring before the ✂✂✂✂✂✂✂✂, which raises questions about whether the price increases were ✂✂✂✂✂✂✂✂, however, it is important to note that the ✂✂✂✂✂✂✂✂ had been announced earlier, by 26 March 2021.[228]

250. The control over volumes of DOCs in Zambia is related to the link between grand-parent to parent and to DoC volumes. By controlling grand-parent and parent stock volumes the amounts of DoCs are also impacted. In addition, the parent and DoC volumes supplied in Zambia depend on what volumes are exported. The conditions which apply to exports (both volumes and to which export markets) are therefore relevant. The contractual terms on breeding stock further include provisions relating to

[228] https://www.thepoultrysite.com/news/2021/03/aviagen-secures-local-supply-through-a-greenfield-investment-in-east-africa-with-the-establishment-of-aviagen-east-africa-limited

information flow to monitor volumes and performance along the supply chain, as we consider below in more detail.

251. We note that the effective ✂✂✂✂✂✂✂ has broader effects on breed diversity and resilience in Zambia's poultry market. While the concentration on Ross can streamline operations, it also reduces genetic diversity which can make the supply chain more vulnerable in the event of a breed-specific health or performance issue.

Common ownership

252. There are also common shareholding arrangements across RBZ and Hybrid through APDL, which resulted from the merger to create the Aviagen East Africa Joint Venture, at the same time as the merger for the RCA Joint Venture.

253. The joint venture between APDL (Hybrid's shareholder), Aviagen (RCA's shareholder) and CBH (RBZ and RCA's shareholder) to form Aviagen East Africa changed APDL's incentives as far as Hybrid's continued use of the Cobb-500 breed is concerned as APDL and Aviagen were now partners. ✂✂✂✂✂✂✂✂. ✂✂✂✂✂✂✂✂.

254. While previously ✂✂✂✂✂✂✂ had an incentive to compete with ✂✂✂✂✂✂✂✂ in selling a rival ✂✂✂✂✂✂✂✂breed in Zambia, ✂✂✂✂✂✂✂✂ and ✂✂✂✂✂✂✂✂ that there is an alignment of incentives between these three entities through ✂✂✂✂✂✂✂. The information flow ✂✂✂✂✂✂✂ has imposed on ✂✂✂✂✂✂✂ in the agreements to sell grandparent stock to them also means that the three partners (✂✂✂✂✂✂✂) are also able to monitor and control the sale of parent stock in Zambia and in other territories including Tanzania. This control mechanism ensures that ✂✂✂✂✂✂✂ can

see the flow of sales to other countries from Zambia and are thus able to ensure that ✂✂✂✂✂✂✂ is not facing competitive constraint and remains profitable which benefits all the three partners.

Contractual obligations to share performance and operational data

255. ✂✂✂✂✂✂✂✂.

256. ✂✂✂✂✂✂✂✂.

257. Vertical agreements under the CCPA, such as out-grower schemes are not inherently anti-competitive but are evaluated on a case-by-case basis to determine their impact on market competition. This approach aligns with the "rule of reason" principle, assessing whether such agreements prevent, restrict, or distort competition to an appreciable extent[229]. In February 2022, the Commission reviewed a vertical agreement between ✂✂✂✂✂✂✂✂. The agreement aimed to formalize the supply of live broiler chickens under an out-grower arrangement. Given the parties' combined ✂✂✂✂✂✂✂✂ market share in the formal processed broiler chicken market, the agreement required Commission's authorization under Section 14 of the CCPA[230].

258. Investigations revealed that while the arrangement included elements of exclusivity such as ✂✂✂✂✂✂✂✂supplying all inputs out-growers were not restricted from sourcing inputs elsewhere, provided they adhered to strict biosecurity measures. Furthermore, ✂✂✂✂✂✂✂✂production data indicated that approximately ✂✂✂✂✂✂✂✂ of their weekly production of day-old chicks was supplied to the open market, mitigating concerns about market supply constraints. Consequently, the Commission concluded that the agreement

[229] cuts-lusaka.org retrieved 21th May 2025

[230] ✂✂✂✂✂✂✂✂.

did not raise anti-competitive concerns but recommended periodic monitoring to ensure ongoing conformity.

259. Similarly, in September 2021, the Commission evaluated a vertical agreement between ✂✂✂✂✂✂✂✂ would supply ✂✂✂✂✂✂✂✂live broiler chickens every eight weeks[231]. Given ✂✂✂✂✂✂✂✂ market share in the formal processed broiler chicken market, the agreement necessitated Commission's review under Section 14 of the CCPA. Initial concerns centered on exclusivity clauses that restricted ✂✂✂✂✂✂✂✂ from sourcing day-old chicks from other suppliers and mandated exclusive sales to ✂✂✂✂✂✂✂✂. Upon the Commission's intervention, these clauses were amended to eliminate exclusivity, allowing ✂✂✂✂✂✂✂✂ the freedom to engage with other suppliers and customers for the remaining 100,000 chickens produced each cycle.

260. Further analysis by the Commission addressed potential anti-competitive concerns such as tying and bundling of products and market supply constraints. The Commission found no evidence of tying practices, as ✂✂✂✂✂✂✂✂ retained the liberty to procure inputs independently. Regarding market supply, while the agreement allocated a significant portion of ✂✂✂✂✂✂✂✂ production to ✂✂✂✂✂✂✂✂, the remaining output was available to other market players, mitigating fears of supply shortages. Additionally, ✂✂✂✂✂✂✂✂ commitment to recruiting 25 new employees upon the agreement's implementation highlighted potential economic benefits.

261. These evaluations by the Commission underscore the importance of scrutinizing vertical agreements to prevent anti-competitive practices, such as market foreclosure or abuse of dominance. Historical precedents,

[231] ✂✂✂✂✂✂✂✂

like the exclusive dealing arrangement between ✂✂✂✂✂✂✂, demonstrate the Commission's willingness to nullify agreements that hinder market competition. In that case, the Commission found that the exclusive supply terms foreclosed competition in the market for day-old chicks and broiler chickens, leading to the termination of the agreement[232].

262. While this alignment may help standardize product quality and brand positioning for Ross 308, it also weakens the ability and incentive for ✂✂✂✂✂✂✂ to operate independently, especially when coupled with control over breeding stock at the grandparent level. ✂✂✂✂✂✂✂ oversight act as a barrier for new entrants who lack access to proprietary Ross 308 stock and related market intelligence.

263. ✂✂✂✂✂✂✂.

264. ✂✂✂✂✂✂✂

265. ✂✂✂✂✂✂✂.

266. ✂✂✂✂✂✂✂.

At the DoC level, ✂✂✂✂, ✂✂✂✂ and ✂✂✂✂ collectively account for more than ✂✂✂✂✂✂✂of third-party sales throughout the analysis period, and account for the great majority of DOC production and sales in Zambia. In breeding stock there is vertical integration of ✂✂✂✂ and ✂✂✂✂, while ✂✂✂✂ and other independent producers of DoC have no ability or incentive to compete given the control

[232]Paper - Consumer Unity & Trust Society. Competition Policy and Interests of The Poor Dr. S.C. Hakravarthy. Retrieved 21th May 2025

over their volumes from the supply of parent stock and the monitoring due to the obligation to provide ongoing data on operations.

5.7 Potential for Vertical Foreclosure or Exclusionary Practices

267. As the effective monopolist in breeding stock, following the exit of ✂✂✂✂✂✂✂✂ as ✂✂✂✂✂✂✂✂ switched to the ✂✂✂✂✂✂✂✂has the power to foreclose entry into production of DoCs as it is now the only source of parent stock in Zambia. An entrant would have to source breeding stock internationally and establish an operation. Other ✂✂✂✂✂✂✂✂ could be licensed in Zambia, however, the restrictive terms which generally apply as evidenced in those to ✂✂✂✂✂✂✂✂ and ✂✂✂✂✂✂✂✂ indicate these would allow effective competition.

268. An entrant could seek a license from Cobb; however, the most likely entrant would be Cobb Africa in the form of APDL or Irvine's as part of the regional duopoly.

269. ✂✂✂✂✂✂✂✂. This restriction not only reduces breed diversity but also raises barriers for new entrants seeking to introduce alternative genetic stock into the market. ✂✂✂✂✂✂✂✂.

270. In 2021, Aviagen European Holdings Ltd acquired a 25% stake in Ross Central Africa Ltd (RCA), forming a joint venture with Ross Breeders Zambia (RBZ), a subsidiary of Country Bird Holdings (CBH). ✂✂✂✂✂✂✂✂.[233]

271. ✂✂✂✂✂✂✂✂.

[233] Merger Decision No 28 2021 - Aviagen European Holdings and Ross Central Africa (1).pdf

5.7.1 Licensing Agreements and Exclusivity Clauses

272. ✂✂✂✂✂✂✂✂.

273. ✂✂✂✂✂✂✂✂.

5.7.2 Market Concentration and Potential for Vertical Foreclosure

274. The ✂✂✂✂✂✂✂✂ have led to a high concentration of Ross 308 usage among Zambian breeders. With ✂✂✂✂✂✂✂✂ and ✂✂✂✂✂✂✂✂ and the majority of breeders sourcing Ross 308 parent stock from these entities, there is a significant risk of vertical foreclosure. Vertical foreclosure occurs when upstream firms (e.g., Aviagen) restrict downstream competitors access to essential inputs (e.g., breeding stock), thereby limiting competition. In this context, the exclusivity clauses and territorial restrictions in the licensing agreements may hinder other breeders from accessing alternative genetic lines, such as ✂✂✂✂✂✂✂✂, thereby reducing breed diversity and competitive dynamics in the market.

5.8 Barriers to Entry and Impact on Competition

275. The current licensing structure creates substantial barriers to entry for new breeders seeking to introduce alternative broiler breeds into the Zambian market. The ✂✂✂✂✂✂✂✂ and the strategic alignment of major breeders, limits the availability and promotion of competing breeds. This environment may discourage innovation and breed diversification, potentially leading to reduced genetic resilience and adaptability in the

poultry sector. Moreover, the limited competition could result in higher prices for day-old chicks and reduced choices for poultry farmers[234].

276. ✂✂✂✂✂✂✂✂.

277. The ✂✂✂✂✂✂✂✂ and subsequent ✂✂✂✂✂✂✂✂ have significantly reshaped Zambia's poultry breeding landscape, centralizing control over Ross 308 parent stock distribution. While this consolidation may offer efficiencies, it also poses risks of vertical foreclosure and reduced competition. To safeguard market competitiveness and breed diversity, continuous regulatory oversight and the promotion of alternative breeding options are essential.

6 Competition Analysis of Feed

278. This section analyses competition in the poultry feed market, including the supply of key inputs to poultry feed, led by maize and soymeal. By exploring the interconnectedness of these factors, we can understand how fluctuations in material input costs have influenced feed prices. In chapter 7 we bring together feed and breeding stock inputs to poultry to assess the effects on poultry production and pricing.

279. The poultry feed sector is relatively concentrated with four firms accounting for more than ✂✂✂✂✂✂✂✂ of the production of commercial poultry feeds (See section 4.3.1 above). Furthermore, the production and supply of soymeal is very concentrated with three major industrial processors of soybeans. In maize there are many more

[234]Competition issues and regional integration in soybean and animal feed to poultry markets, within and across Kenya, Malawi and Zambia Grace Nsomba, Angella Kachipapa Mhone, Inonge Mulozi, Rosebela Oiro and Simon Roberts CCRED African Market Observatory Working Paper 2022/09. December 2022

processors of maize for feed, including the animal feed companies themselves and it is easier to set up a milling plant for maize.

280. In the period under review, from January 2019 to December 2023, there have been substantial increases in feed prices, especially over 2019 and 2020 when prices almost doubled. We assess whether these are related to costs or could reflect competition concerns.

281. In addition, we assess the extent of differential pricing to different customer groups which could place some groups of feed and poultry producers at a significant disadvantage. The average price would then not be a good reflection of what some buyers face. Where this is the case, we consider evidence on whether price differences may be related to volumes or other factors and point to further areas for inquiry.

6.1 Possible effects on competition

282. The features of competition in the assessment of the inquiry depend on market structure. The oligopolistic nature of the feed segment of the poultry industry, with relatively homogenous products where inputs are concerned, means that the main factors to be considered relate to whether competition between companies is lessened, prevented or distorted due to possible explicit or tacit coordination. It is important to clarify that the inquiry is investigating whether firms behave in a way that is consistent with competition and it is not a cartel investigation.

283. Where the feed segment is concerned, we consider market structure and outcomes relative to two main segments: inputs into feed production (mainly maize and soymeal) and the feed production itself. As noted above, we have identified that there are many processors in maize with

lower likelihood of concerning competition issues. Therefore, in terms of inputs, we consider the structure of the soybean crushing industry. The links between input markets and the feed industry also mean that it is important to consider vertical arrangements including integration and agreements, and their likely effects, as part of understanding whether markets are working well.

284. In addition, the traded nature of the inputs and the feed products mean that it is necessary to consider trade flows and arrangements which may exist across borders.

285. These considerations entailed the inquiry to gather information at each level on market shares, prices and costs in Zambia together with analysing regional and international trade flows where appropriate. This enabled consideration of market outcomes over time to make it possible to analyze whether the outcomes are consistent with competition or raise possible concerns.

286. We briefly review the literature on conduct in oligopolistic markets and the likelihood of coordination.

287. Companies which are actual, or potential, competitors can reach understandings to increase their collective profit by not competing. If the firms do not compete to attract customers from each other they can all charge higher prices and realize bigger profit margins.[235] Competitors which coordinate can agree to restrict output, raise prices, or divide markets at the expense of consumer welfare.[236] These understandings between competitors may combine an understanding on pricing with

[235] Motta, M. (2004). *Competition Policy*. CUP.
[236] Carlton, D. and J. Perloff (1994) *Modern Industrial Organization*. Pearson; Lande, R and H.P. Marvel, (2000) 'The three types of collusion: Fixing prices, rivals, and rules'. *Wisconsin Law Review*, 941

forms of market division, as agreeing on how to allocate sales into markets will undermine competition on price. In the case of the supply of soybean oilcake in Zambia, the data raises important questions around the choices made by firms in terms of their crushing capacities and customers to sell to, which indicate decisions to not actively compete.

288. Coordination between firms can be explicit or tacit. Firms engage in explicit collusion when they mutually devise a common plan of action and exchange mutual assurances to follow that plan.[237] Tacit collusion occurs when firms are able to coordinate their behavior simply by observing and anticipating their rivals' pricing behavior without any communication or reaching a common understanding.[238] Arrangements such as agreeing to share information which undermines competition or using common price and cost benchmarks likely go beyond tacit coordination to constitute collusion.

289. Identifying coordination involves the consideration of structural features and behavioral signals from firms. Coordination is more likely where the structural features of the market include high concentration, relatively homogenous products, high barriers to entry, stable demand conditions, firm symmetry, and multi-market contact between firms.[239] There have for instance been cartels identified in concentrated industries for food, agriculture and industrial products, including export cartels which have all exhibited these features.[240] However, these structural features do not

[237] Motta, M. (2004). *Competition Policy*. CUP; Harrington, J. E. (2008) Detecting cartels. In P. Buccirossi (Ed.), *Handbook of antitrust economics* (pp. 213–258). Cambridge, MA: MIT press

[238] Harrington, J. E. (2007) Behavioural screening and the detection of cartels. In C.-D. Ehlermann & I. Atanasiu (Eds.), *European competition law review 2006: Enforcement of prohibition of cartels*. Oxford: Hart Publishing.

[239] Church, J. and R. Ware, (2000) *Industrial Organization: A Strategic Approach*. Irwin McGraw Hill.

[240] Connor, J.M. and C G Helmers (2006), 'Statistics on Modern Private International Cartels: 1990–2005' (Department of Agricultural Economics, Purdue University Working Paper No 06-11, 2006); Connor, J.M. (2020)

necessarily mean there is collusion nor does the absence of these features mean there cannot be collusion.

290. The ability to monitor forms a very important part of the success of coordination. The arrangements require monitoring of firms' compliance as each firm has an individual incentive to deviate from a collusive action because it can increase its own profits by expanding its market share.[241] There need to be mechanisms in place that would be able to detect this deviation. Mechanisms for monitoring, detecting, and punishing deviations from collusive understandings include exchanging detailed information on sales volumes and using excess capacity to be able to flood the market.[242]

291. Vertical integration can aid in monitoring as well as in deterring new entry which may undermine the cartel.[243] Networks of relationships, cross-ownership and multimarket contacts can also facilitate collusion. Importantly, if the firms control a significant proportion of the regional market, the conduct can also undermine the benefits of reducing trade barriers to enhance the flow of goods, and any efforts by governments to support new entrants in certain sectors through industrial development strategies.[244]

The private international cartels data set: guide and summary statistics, 1990- 2019. Working Paper, available at: https://ssrn.com/abstract=3682189; Jenny, F. (2012) "Chapter 6: Export Cartels in Primary Products – The Potash Case in Perspective." In Trade, Competition, and the Pricing of Commodities, edited by S. J. Evenett, and F. Jenny, 99–132. London: Centre for Economic Policy Research.

[241] Motta, M. (2004). *Competition Policy*. CUP.

[242] Marshall, R., & Marx, L. (2012) *The economics of collusion: Cartels and bidding rings*. MIT Press; Garrod, L., Harrington, M. Olczak, (2021) *Hub-and-spoke cartels: Why They Form, How They Operate, and How to Prosecute Them*. MIT Press.

[243] Church, J. and R. Ware, (2000) *Industrial Organization: A Strategic Approach*. Irwin McGraw Hill.

[244] Roberts, S., W. Simbanegavi, T. Vilakazi (2017) 'Competition, Regional Integration and Inclusive Growth in Africa: A Research Agenda' in Klaaren, J., S. Roberts, I. Valodia (eds) *Competition law and economic regulation: addressing market power in Southern Africa*, Wits University Press

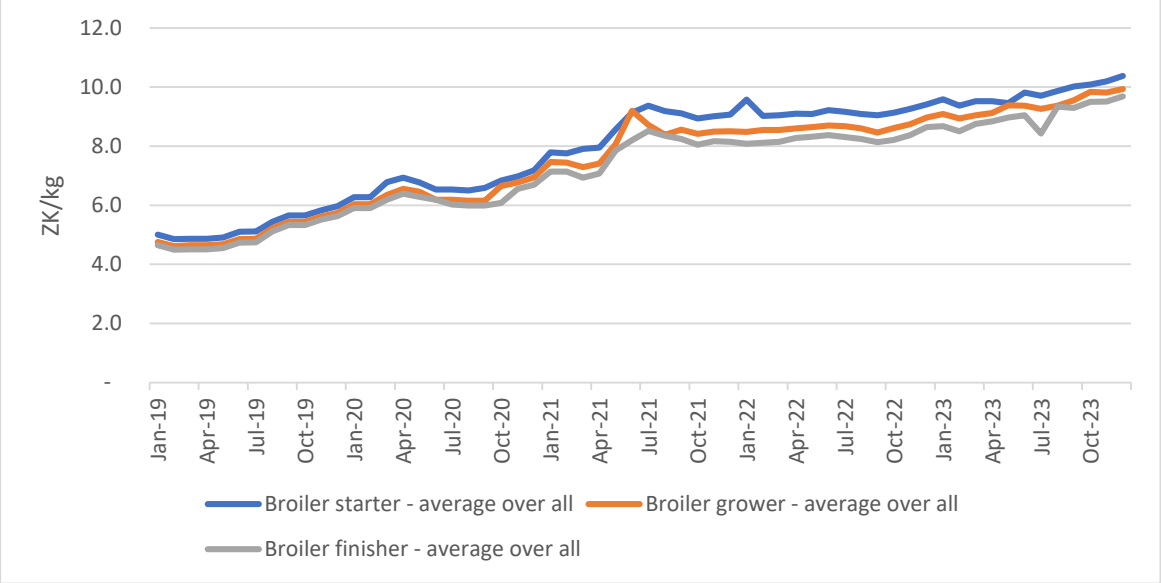
6.2 Feed Prices

292. Feed as the single most important cost in poultry production accounts for over 70% of the total costs.[245] It is important to highlight that in feed inputs there are (1) the Kwacha-based inputs (2) the US dollar-based inputs which include micronutrients.[246] Some local and regional inputs (such as maize and soymeal) may also be priced in US dollars reflecting their tradability.

293. Average broiler feed (starter, grower and finisher feed) across different feed producer companies recorded substantial price increases, more than doubling in the period overall, from an average of K4.6-4.9/Kg in January 2019 to an average of K9.6-10.3/Kg in December 2023. There was a particularly large jump in May-July 2021. Prices for starter, grower and finisher feed have all increased in line with one another, which is unsurprising given that they use similar constituents albeit in different proportions and are formulated to meet the needs of broiler production using the same breeds of chicks.

[245] Poultry Association of Zambia Annual Report 2023.
[246] Poultry Association of Zambia Annual Report 2023.

Figure 29: Average Broiler Starter, Grower and Finisher Feed Prices (ex-works, January 2019-December 2023)



Source: Authors compilation based on company submissions (✂✂✂✂✂✂✂✂)

Note: Price data was obtained from wholesale ex-mill price lists or weighted average prices per broiler type where available. Where data was missing for one firm, the simple average over the remaining firms was used

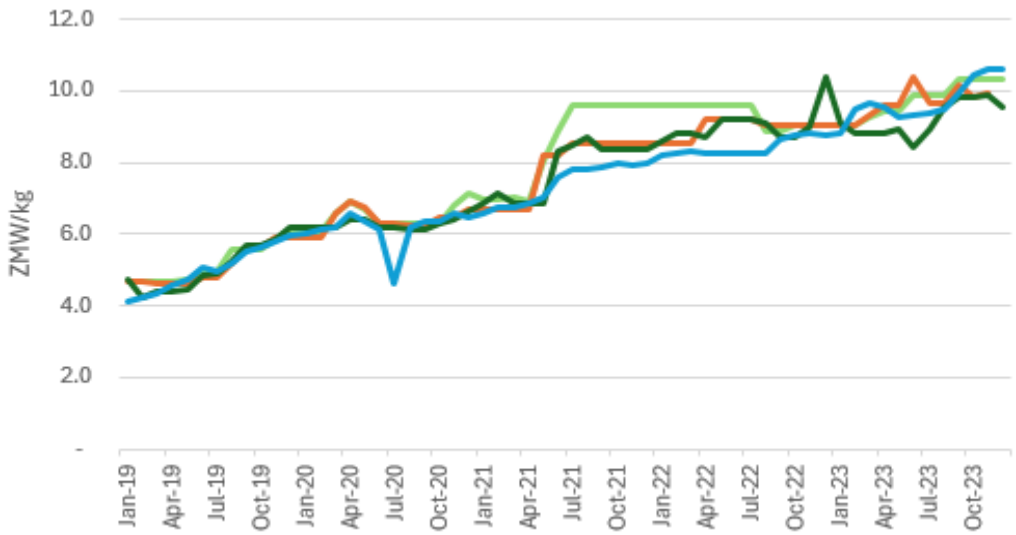
294. The increases shown above are compared against changes in the costs of the two main inputs, namely soya meal and maize meal. These price increases are also compared to other countries, alongside comparisons of the cost of soya meal and maize meal in other countries, to assess if feed producer margins are in line with other countries.

295. An important feature is the differential prices of important inputs to different buyers, including different local feed and poultry companies, local traders and international traders and customers. This is notable as one question the inquiry seeks to address is whether Zambia's favourable agricultural conditions for growing maize and soybean inputs are resulting

in competitive conditions downstream in the broiler industry including competitive poultry prices for consumers.

296. Average broiler feed prices were relatively similar across the four largest broiler feed producers which provided information on broiler-specific feed prices, noting that one producer provided prices (✂✂✂✂✂✂✂✂) as the weighted average prices of poultry feed and did not isolate broiler feed prices. All of the producers experienced large jumps in broiler feed prices in May-July 2021. The prices of feed have been provided for specifications by the companies, with some differences in the basis on which these have been provided, as noted. Where possible prices are given for broiler feed on an ex-factory basis for bulk sales, with the largest four firms (Figure 30). For some prices these are list prices and it has not been possible to account for discounts for bulk sales (as for ✂✂✂✂✂✂✂✂).

<u>Figure 30:</u> ✂✂✂✂✂✂✂✂ Average Broiler Starter, Grower and Finisher Feed Prices (ex-works, January 2019-December 2023)



Source: Authors Compilation based on company submissions

Note: ✂✂✂✂✂✂✂✂.

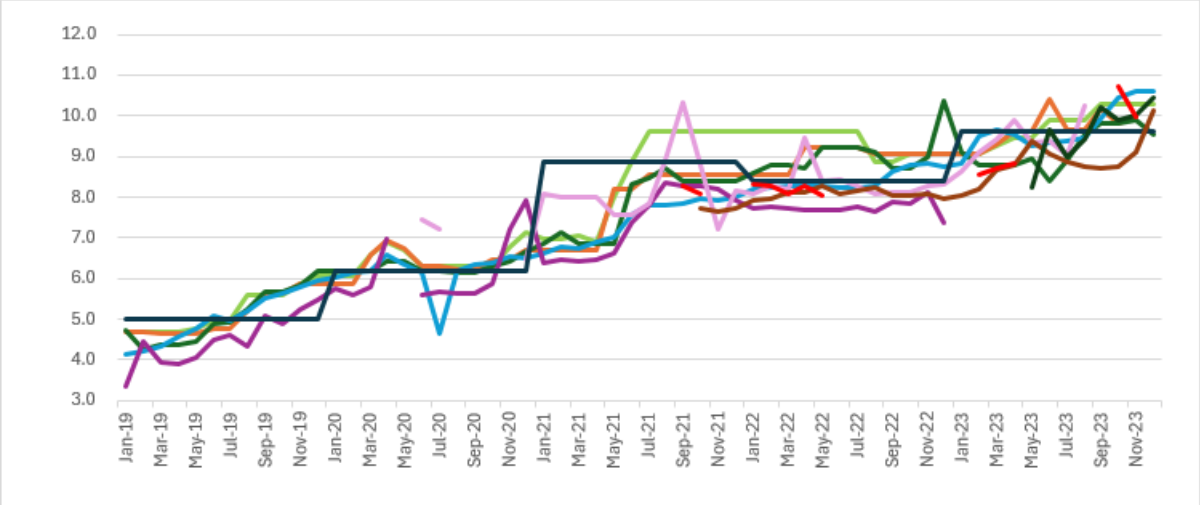
297. When we examine data for all suppliers, ✂✂✂✂✂✂✂✂ appear to have broiler feed prices that are lower than ✂✂✂✂✂✂✂✂ animal feeds (Figure A9). At least with respect of ✂✂✂✂✂✂✂✂, the differences may be explained by the fact that ✂✂✂✂✂✂✂✂ and ✂✂✂✂✂✂✂✂ are weighted average prices and likely include discounts and rebates whereas in the case of the former, these are likely to have been excluded from list prices. ✂✂✂✂✂✂✂✂, which is also one of the medium sized feed producers, frequently had among the most expensive prices, despite it also providing weighted average prices (net of discounts and rebates).

298. Differences in prices among the broiler feed suppliers may be due to the different forms in which data were provided.[247] Differences in price data provided include that ✂✂✂✂✂✂✂✂ and ✂✂✂✂✂✂✂✂ data is based on price lists, while ✂✂✂✂✂✂✂✂data is based on quotes and may include discounts and rebates. While ✂✂✂✂✂✂✂✂ prices are unlikely to include any discounts and rebates, ✂✂✂✂✂✂✂✂ data may include a volume discount since it applies to orders of 10 tons and more (although it likely excludes other company specific discounts).

299. There are also differences in prices across the smaller feed producers, however, between which there are also different treatment of discounts, rebates and transport costs in the prices.

[247] Such as from July 2021 to July 2022, when Feed Producer 1's broiler feed prices appeared to be considerable higher than those of Producers 2 and 3. Please note that Feed Producer 1's prices were assumed to be static between July 2021 and July 2022 as there were no price lists provided for that period.

Figure 30: Monthly broiler/poultry feed prices per company



Source: Authors Compilation based on company submissions

Note: ✂✂✂✂✂✂✂✂.

300. Some feed producers provided data (✂✂✂✂✂✂✂✂, and ✂✂✂✂✂✂✂✂) that would allow the Inquiry to accurately compare the prices charged to third parties with internal transfer prices. ✂✂✂✂✂✂✂✂ provided data that allowed the comparison of poultry prices charged to its third-party customers and prices charged to a company in the same group which is listed separately from external sales. Its related company consistently received a price that was lower than the price that the feed producer charged external customers with the price difference increasing from 4% in 2020 to around 9-10% in 2022 and 2023. This may be justified by the volumes and internal efficiencies of coordinating supply. It may also be the case that the external prices are in line with competitors while the internal prices track changes in costs (as reflected in cost of goods sold including depreciation on equipment). ✂✂✂✂✂✂✂✂weighted average prices for starter, grower and finisher broiler feed to external customers were also mostly higher than internal transfer prices of the same.

Figure 31: ✂✂✂✂✂✂✂✂ monthly feed prices to third parties versus a related company, volume weighted averages

Source: Own compilation based on company submissions
Notes: ✂✂✂✂✂✂✂✂

301. ✂✂✂✂✂✂✂✂, however, recorded that external customer were charged less than internal customers. This may be because the majority of external customers are walk-in cash customers, who are likely to have benefitted from ex-factory wholesale prices (list prices with transport are higher).

Figure 32: ✂✂✂✂✂✂✂✂ feed price internal and external

Source: Authors compilations from the Commission PMI submissions

302. Throughout the period, ✂✂✂✂✂✂✂✂ external prices for all feed types were generally higher than internal prices, suggesting the presence of third-degree price discrimination.[248] The price gap was most

[248] **Third-degree price discrimination is** a pricing strategy where different prices are charged to different customer segments based on their characteristics or market power. In this case, internal users (e.g. vertically integrated poultry companies) likely benefit from economies of scale, direct access to raw materials, and cost-sharing across the value chain. External buyers,

prominent in the broiler starter and grower feeds, indicating that suppliers may be leveraging higher markups on essential early-stage feeds required by external producers, who may have less bargaining power or flexibility in switching suppliers. The sharp price spike in external grower feed around August 2021 further reflects how external markets are more vulnerable to volatility possibly due to supply constraints, logistics issues, or opportunistic pricing. In contrast, internal feed prices remained more stable and comparatively lower across all feed types, reinforcing the strategic advantage of internal feed production and use. This differential pricing structure indicates that large integrated firms may be using internal cost efficiencies to maintain profitability, while external buyers absorb higher costs effectively a form of price discrimination based on buyer type and integration level.

Figure 33: ✂✂✂✂✂✂✂✂ internal and external domestic monthly sales of broiler feed, volume weighted averages

Source: Own compilation based on company submissions
Notes: ✂✂✂✂✂✂✂✂.

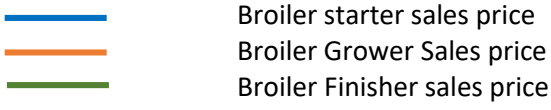
Figure 34 above shows the internal (bold line) and external (dotted) sales of broiler feed by ✂✂✂✂✂✂✂✂. From 2021 to late 2022, the prices of external sales have been generally more than the internal sales. But as we approach 2023, the internal sales price seems to be more than the external sales.

typically independent poultry producers, face higher prices due to additional costs related to marketing, distribution, and profit margins charged by feed suppliers.

Broiler/poultry feed prices versus soya bean costs

303. Throughout the period, ✂✂✂✂✂✂✂ broiler feed prices generally increased in a steady and synchronized manner across all three categories. The close alignment in the trend lines for starter, grower, and finisher feed prices suggests a uniform pricing strategy with minor differences likely due to formulation cost differences. In contrast, the soya purchase price (dotted line) shows more pronounced and step-like jumps, indicating discrete annual price adjustments rather than a smooth trend. A sharp increase occurred around mid-2021, where the soya price surged to over ZMW 10.00/kg**,** exceeding the corresponding feed prices. This elevated price persisted through to early 2023, after which there was a notable decline in soya prices in mid-2023, falling slightly below feed prices once again by late 2023. The comparison suggests that soya price volatility especially the significant jump in 2021 likely contributed to the increases in broiler feed prices, as soya is a major input in poultry feed production. However, feed prices did not always move proportionally to soya prices, implying that other factors such as cost buffering, ingredient diversification, or pricing strategies may have moderated the pass-through effect. For much of the period, feed prices trailed or remained just below the soya purchase price, indicating tight margins and possible cost absorption by ✂✂✂✂✂✂✂ during high input cost periods.

Figure 34: ✂✂✂✂✂✂✂ broiler feeds sales prices versus soya purchase prices



Soya purchase price PA

Sources: Author compilation based on company submissions

Notes:✂✂✂✂✂✂✂✂✂.

304. The comparison of ✂✂✂✂✂✂✂✂ broiler feed prices including starter, grower, and finisher and its soya meal purchase price over the period from January 2019 to November 2023 reveals a close and evolving relationship between feed input costs and final feed pricing. Throughout this five-year period, feed prices steadily increased, closely tracking the trend in soya meal prices, though with observable lags and moderated movements, indicative of price smoothing and internal cost management. Interestingly, while soya meal prices declined slightly in 2023, reflecting easing global pressures and improved supply conditions, ✂✂✂✂✂✂✂✂ feed prices remained relatively stable and did not decrease proportionally. This stickiness in downward price adjustments could be due to locked-in contract prices, rising non-soya input costs (e.g., maize, energy), or pricing inertia common in commodity-linked industries.

Figure 35: ✂✂✂✂✂✂✂✂ feeds sales prices versus soya purchase prices

Broiler starter sales price
Broiler Grower Sales price
Broiler Finisher sales price

Poultry feed weighted sales price PA
Soya meal and bean purchase price PA

Sources: Author compilation based on company submissions

Notes: ✂✂✂✂✂✂✂✂.

305. The trend in ✂✂✂✂✂✂✂✂' broiler feed prices including starter, grower, and finisher compared to the company's soya meal costs from 2019 to 2023 demonstrates a generally strong correlation, with clear evidence of input cost influence on final feed pricing. The feed prices show a steady, upward trajectory throughout the five-year period, while the soya meal costs exhibit more volatile and stepwise movements, reflecting fluctuations in global and regional soybean markets. Throughout the period, ✂✂✂✂✂✂✂✂ feed prices maintained a narrow spread across the three broiler feed types, indicating relatively uniform cost structures and possibly a strategic pricing model aimed at consistency and predictability for customers.

Figure 36: ✂✂✂✂✂✂✂✂ poultry feeds sales prices versus soya purchase prices

Sources: Author compilation based on company submissions

Notes: ✂✂✂✂✂✂✂✂.

306. The comparative analysis of feed prices and soya meal costs across ✂✂✂✂✂✂✂✂ from 2019 to 2023 reveals a consistent pattern of tight coupling between input costs and final feed prices, with important implications for the poultry industry. All three feed producers responded to rising soya meal costs especially the sharp spike in 2021 by gradually

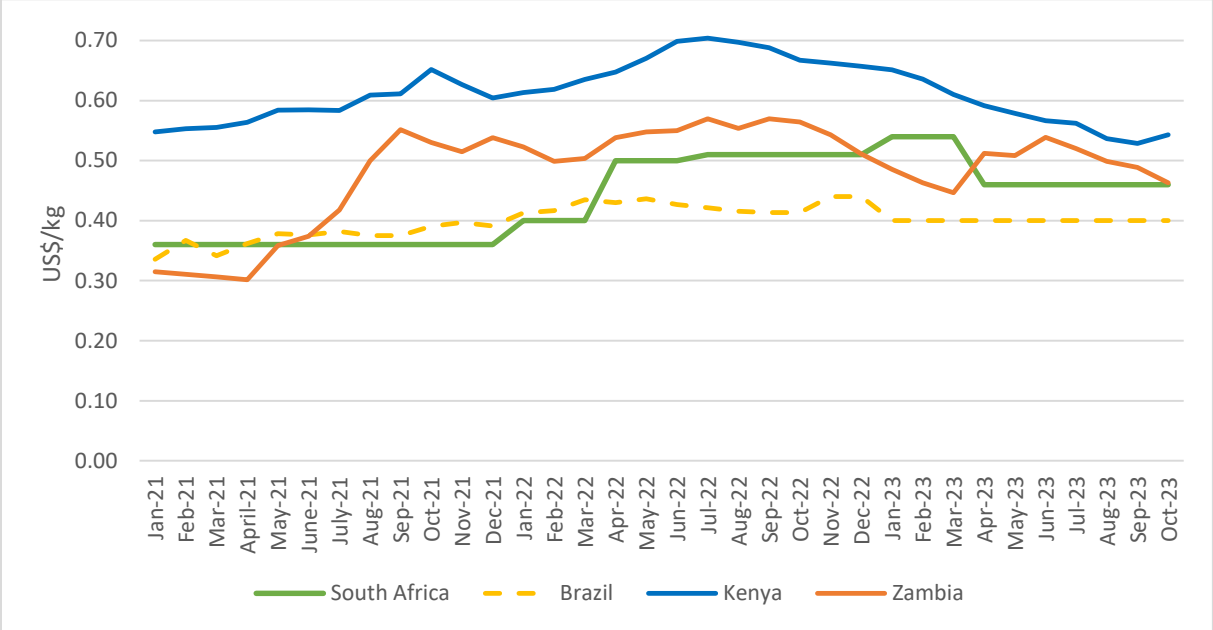
increasing feed prices. However, the increase in feed prices generally lagged behind the rise in soya meal costs, suggesting deliberate pricing strategies aimed at buffering external customers from sudden shocks. The spread between feed prices and soya meal costs narrowed significantly during this period, often dropping to ZMW 0.30–1.50 per kilogram, indicating pressure on operating margins and a limited ability to fully pass on costs in real time. Notably, while soya meal prices began to ease from 2022 into 2023, feed prices remained relatively high across all three producers, suggesting pricing rigidity, potentially to recover margins, cover other rising costs (such as maize, energy, and transport), or due to forward contracting. The implications for the poultry industry are significant. First, the increased cost of feed, which typically accounts for 60–70% of broiler production costs, translated directly into higher production costs for poultry farmers, squeezing profit margins especially for small and medium-scale operators. Second, the lag in price reductions, even when soya costs fell, meant that poultry producers did not benefit from cost relief in a timely manner, making their operations vulnerable to prolonged periods of high input expenditure. This has likely contributed to reduced competitiveness.

International feed and input price comparisons

307. We compare broiler finisher feed prices of the large Zambian feed producers against prices in Brazil, Kenya and South Africa. In the first half of 2021, Zambian prices appear to be the lowest against international prices and in line with Brazil and South Africa by June 2021. However, prices rise significantly over the subsequent three months, reaching $0.55/kg. Relative to South Africa and Brazil, prices of feed are substantially higher until the first quarter of 2022, and persistently high against Brazil throughout 2022. The prices in Zambia are also higher than those set by a discovered cartel in Malaysia, at

$0.54/kg, with Malaysia being dependent on imported maize and soymeal for its feed industry.[249]

Figure 37: Comparative broiler finisher feed prices



Source: Own compilation based of company data received, CAK (2024).

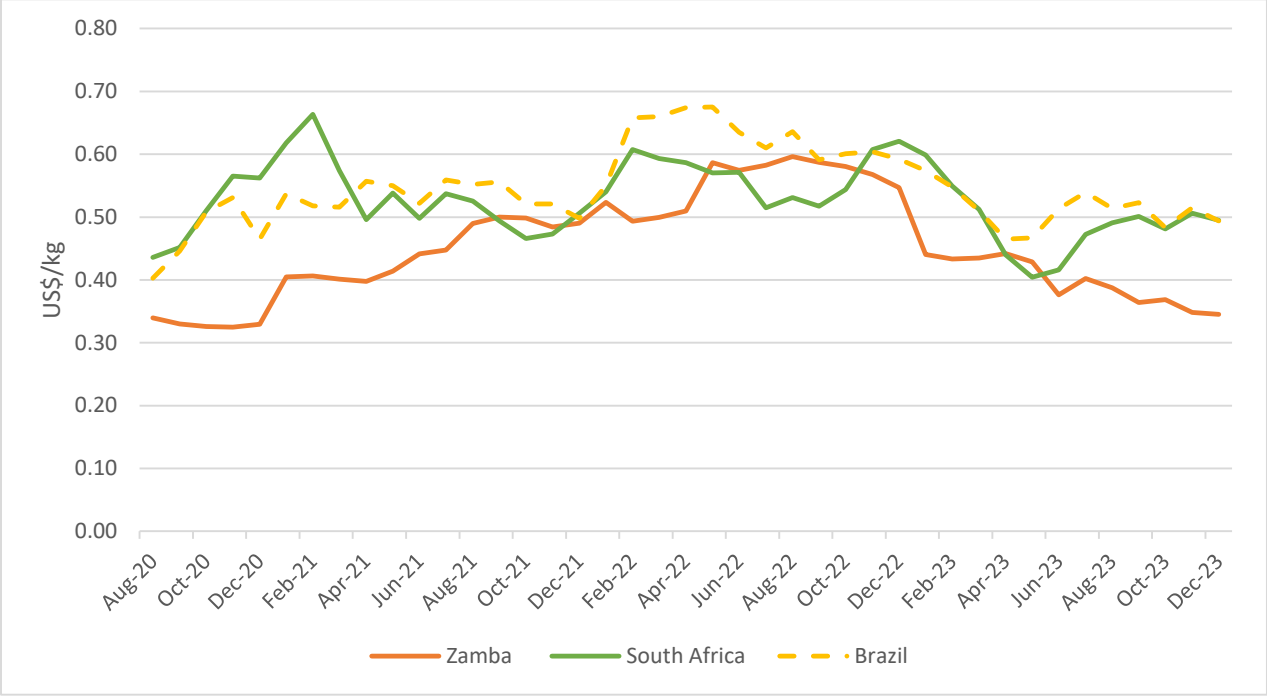
NOTE: Zambia price is average of ✂✂✂✂✂✂✂✂✂ list prices as the other countries are also list prices.

308. It is useful to also consider the prices in the context of the prices of the main inputs to feed.

309. Zambia's soybean prices have been lower than Brazil and South Africa over the period except for between June and October 2021. In 2021, prices were up to 40% lower than in South Africa. This is consistent with the trade in soymeal from Zambia to South Africa that took place over the same period.

[249] Malaysia Competition Commission, Case No. 700-1/2/1/2021 non-confidential infringement decision, p88, using an exchange rate of 4.18, from 112 Ringgit per 50kg bag

Figure 38: Comparative soybean prices

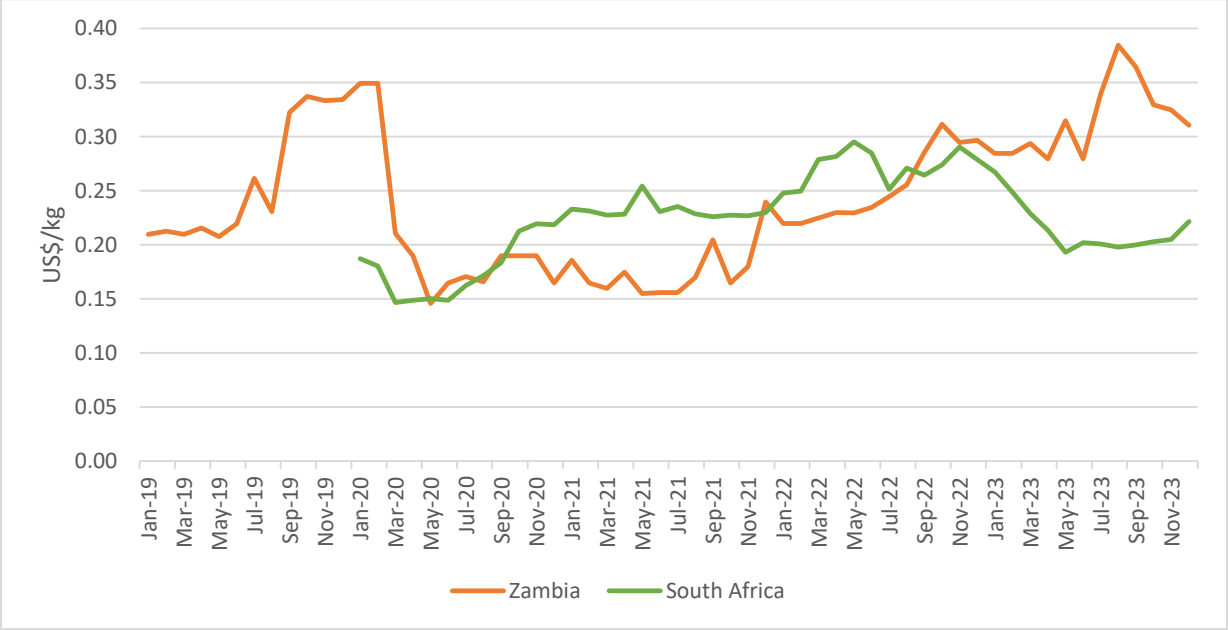


Source: Average of ✂✂✂✂✂✂✂✂ prices for Zambia; Brazil and South Africa from SAFEX

Note: ✂✂✂✂✂✂✂✂

310. The Zambian maize prices have been lower than the South African benchmark from mid-2020 to mid-2022 (Figure 39), however, prices were higher in 2019 and 2023.

Figure 39: Comparative maize prices



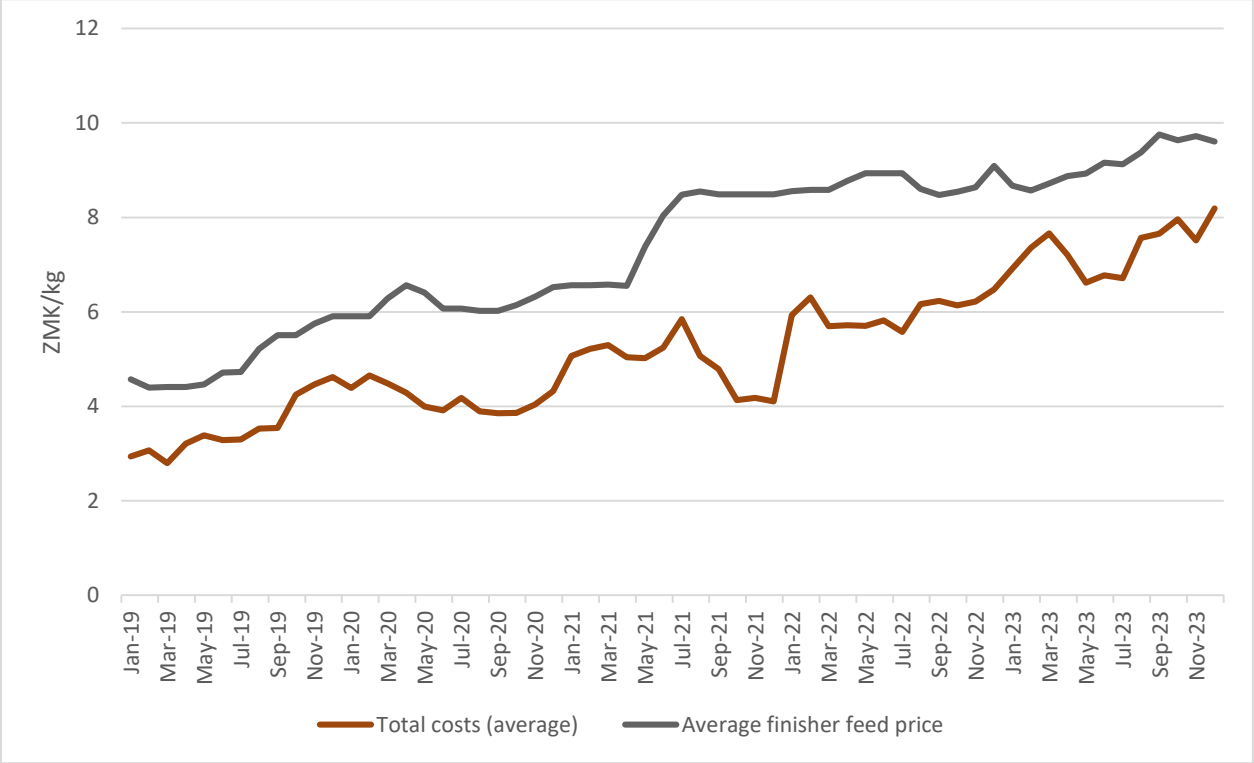
Source: ✂✂✂✂✂✂✂✂, South Africa from SAFEX

Price cost comparisons for feed and main inputs

311. We examine the main input costs relative to feed prices and examine the effects on the average costs of feed production, including considering differential pricing of the main inputs.

312. Based on the standard formulation (see section 4.4 above), we plot the total costs of production against the broiler finisher feed price. We further estimate the additional production costs (such as electricity and labour) from information provided by feed companies, which ranges between 4% and 6% of total costs. We use the conservative 6%. Feed prices have increased in response to higher input costs, however, they have not tended to fall when costs reduced and this has meant a greater margin over cost in 2020 and 2021.

Figure 40: Costs and prices for broiler finisher feed



Source: compiled from company data

Notes: the formulation is as per the standard in 4.4, and averages for input prices are across all submissions by suppliers and feed producers, the average finisher feed price is the average for all finisher feed across submissions from feed producers.

For soymeal, simple averages over the sales prices of bean processors and purchase prices of feed producers. Input prices of large and small feed producers are included; monthly prices and average annual prices, where average annual prices have been applied to each month

Where possible, the full fat soya prices are excluded and only focussed on soya meal prices since the former seems to be less expensive. Also excluded soya husks.

Prices of ✂✂✂✂✂✂✂✂have not been included. With the first, both soya beans and soya meal were reported in the price. With the second two, the companies did not stipulate if the prices refer to soya beans or meal or both (just said 'soya').

313. There have been considerable differences in the prices paid by different buyers of soymeal/cake, including large differences in prices to export markets. There have also been different prices paid for maize by the feed producers. We assess evidence on different soymeal prices and then compare the effects on costs of feed production of the lower prices against the average and high prices for soymeal/cake and for maize.

314. There are very substantial differences in prices charged to different customers. As we analyse below, some large customers of inputs have received much lower prices (towards the low export prices) than others. We consider a combination of prices of soymeal provided by the main crushers to a range of customers and destinations depending on the year.

315. For the lower prices, we combine prices supplied by ✂✂✂✂✂✂✂✂ in 2019 and 2020 (as the export price to South Africa) and prices supplied by ✂✂✂✂✂✂✂✂ in 2021 to 2023 (as the lowest prices to Zambian feed producers). For the higher soymeal prices, we combine ✂✂✂✂✂✂✂✂prices in 2019 and 2020 to local Zambian producers and the highest ✂✂✂✂✂✂✂✂ to Zambian feed producers.

316. If the lower soymeal/cake prices are used in calculating feed costs (the lowest prices reflected in Figure 42 below), then these feed costs would be up to 25% lower than the average costs in 2019 and 2020, and between 10% and 15% lower in the following years.

317. Across the observed years, the price differentials translate to a difference in estimated costs of 15% to 20% between producers that would receive a low soymeal price vis a viz those that received the higher soymeal price. We must also note, however, that although there were potential differences in costs between feed producers as a result of differential

pricing received in the inputs, producers that received higher prices of soymeal still recorded positive margins 2019 and 2022 (albeit with calculations from conservative production costs) relative to the average feed prices. We analyse these outcomes further in section 7 below.

318. We also consider the differential pricing in maize. (For the lower priced maize, we use prices provided by ✂✂✂✂✂✂✂✂, while prices from ✂✂✂✂✂✂✂✂ are used for higher priced maize.) If the lower maize prices are used in calculating feed costs, then these costs would be up to 20% lower than the average feed costs. Whereas if we use the higher maize prices recorded, then these costs would be approximately 8% higher than the average feed costs.

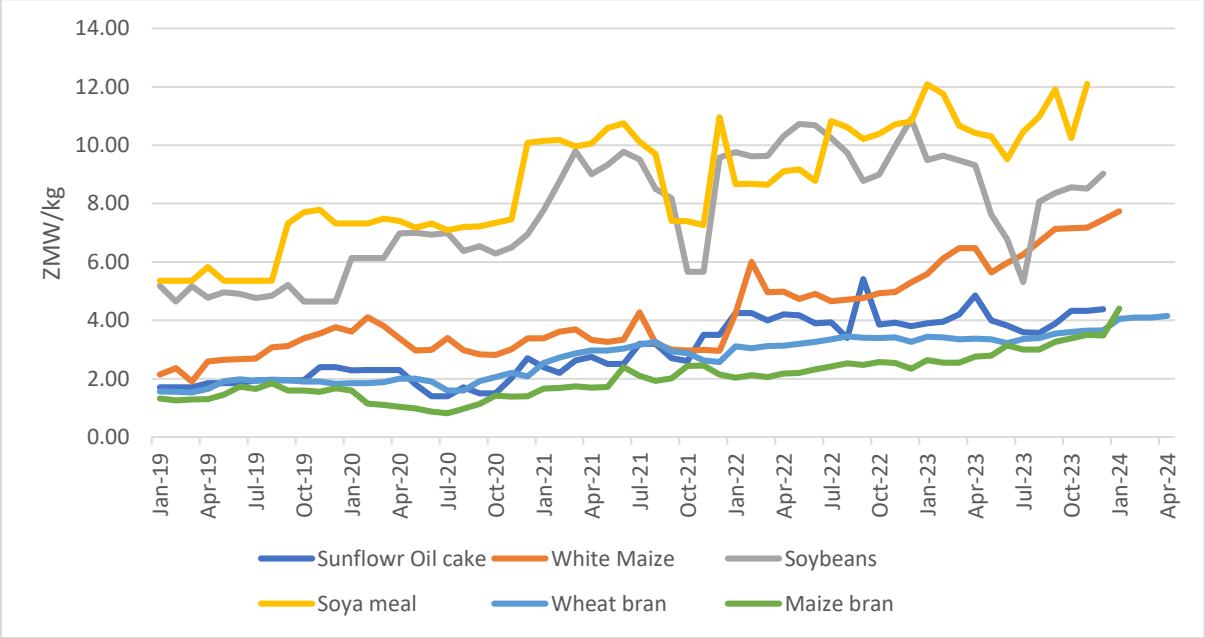
6.3 Feed Inputs

319. The prices of feed inputs directly affect the cost structure of feed companies. As noted above, maize stands out as the largest input by volume in Zambia, contributing approximately 50% to the feed formulation, while soymeal is the second largest input and the main source of protein.[250] Maize high starch content makes it the primary energy component in feed, significantly influencing feed conversion efficiency and overall poultry performance.[251] (See section 4.4.) The local prices of maize, soymeal and other inputs have increased in price over the period, however, with substantial fluctuations (Figure 39).

[250] ✂✂✂✂✂✂✂✂✂

[251] Kim, S., Zhang, X., & Dale, B. E. (2014). *Energy requirements and greenhouse gas emissions of maize production in the USA*. Agricultural Systems, 123, 26-37. Retrieved from https://www.researchgate.net/publication/262572949

Figure 41: Domestic prices of feed inputs (January 2019-April 2024)



Source: Authors Compilation based on company submissions

Notes: The soya meal prices are simple averages across the purchase prices of feed production companies and domestic sales prices of soya bean processing companies. The soya bean prices are the average purchase prices of soya beans of both soya bean processors and feed production companies, where information is available. The use of simply averages means that each price is weighted equally (rather than based on volumes). Soya bean husks and full fat soya have been excluded from soya meal and bean prices were excluded from the prices were possible. Company prices are typically weighted average prices that were calculated by dividing total values by volumes, with some exceptions including (a) ✂✂✂✂✂✂✂✂ as prices rather than values and volumes were provided. We excluded from the averages the pricing data from five firms: (i) ✂✂✂✂✂✂✂✂, whose soya bean prices looked like they may be incorrect, as also wheat bran and ✂✂✂✂✂✂✂✂ on sunflower; (ii) ✂✂✂✂✂✂✂✂, for whom weighted averages were difficult to compute (because volumes were provided in only UOMs instead of MT or kgs); (iii) ✂✂✂✂✂✂✂✂ because one price for beans and cake were provided, (iv) ✂✂✂✂✂✂✂✂, as the price refers to "soya" and it is unclear what it refers to – soya meal, beans or both, and (v) ✂✂✂✂✂✂✂✂ for the same reason as ✂✂✂✂✂✂✂✂.

6.3.1 Maize

320. Maize is a critical input in livestock and poultry feed production, providing a high-energy source essential for growth and productivity. In poultry feed formulations, maize typically constitutes around 50% of the diet (by volume), depending on the production stage.[252] Given its importance, fluctuations in maize production and prices directly impact feed cost, in Zambia as in other countries. Previous market inquiries into the poultry sector in Zambia have highlighted how maize price changes affect feed affordability and, consequently, the cost of poultry products. (Competition and Consumer Protection Commission, the value chain report).

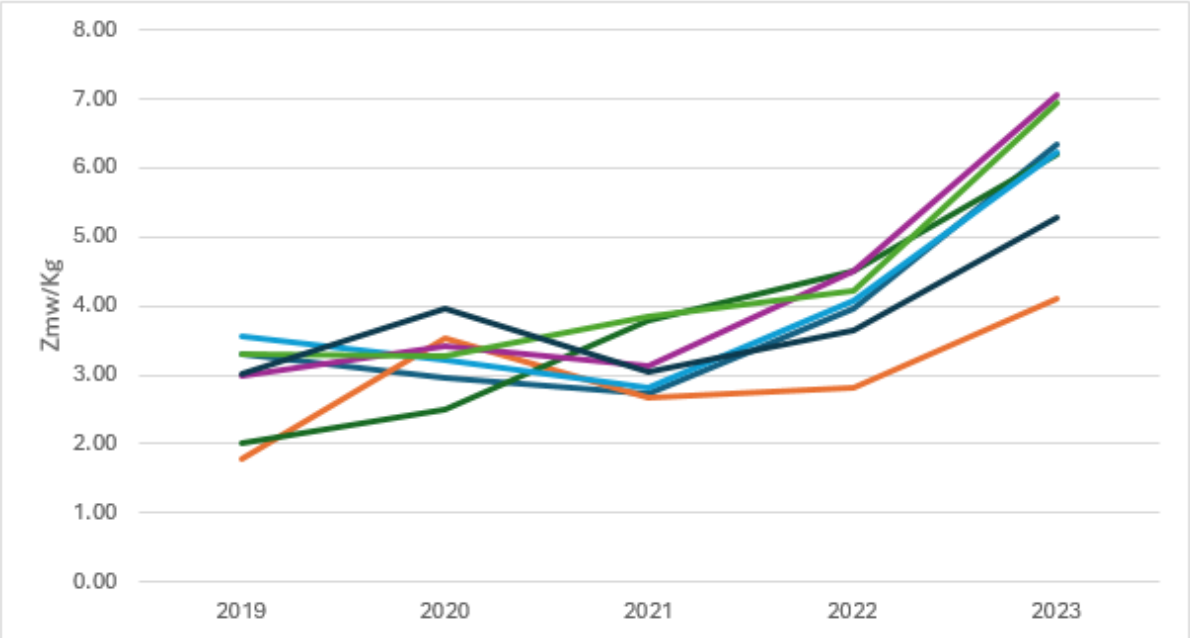
321. The monthly fluctuations in maize prices have been reflected in Figure 42 above. Maize is a major feed input (predominantly white maize in Zambia). During the 2022/23 production season, the Food Reserve Agency (FRA) revised the price of white maize from K180 per 50Kg to K280 per 50Kg (equivalent to K5.60 per Kg). This amounted to a 75% price rise, which placed upward pressure on value-added products using grains as an input.[253]

322. In addition, there are big differences in the prices paid by different feed producers for maize and variations over the years. Maize prices ranged from ZK1.79 for the lowest priced feed compared to ZK3.57/kg for the highest priced in 2019. There were similarly large ranges in the following years, and even larger in 2023.

[252] See also Heuzé, V., Tran, G., Sauvant, D., Noblet, J., Lessire, M., & Lebas, F. (2015). *Maize grain: Feedipedia, a programme by INRAE, CIRAD, AFZ and FAO.* Retrieved from https://www.feedipedia.org/node/556

[253] Poultry Association of Zambia Annual Report 2023.

Figure 42: Annual prices paid for maize (2019 - 2023)



- *[redacted] has paid lower prices in every year, except for 2020 and [redacted] also reflected low prices in 2019 and 2020.*
- *In 2023, [redacted] had the highest purchase price for maize, followed closely by [redacted] ranking third. This trend is especially interesting considering that [redacted] owns a [redacted], which would typically give them an advantage in terms of procuring maize at a lower cost. [redacted] had a relatively low maize purchase price in 2021, which was almost identical to that of [redacted].*
- *[redacted], in contrast, followed a steady upward trend in maize purchase prices, with peak prices reached in 2021 and 2022. This could be attributed to [redacted] procurement strategy, as the company sources its maize from local farmers. Given the limited control they have over the prices of this crucial input, it is plausible that the increase in maize purchase prices over time is a result of market conditions, inflationary pressures, or changes in supply and demand dynamics.*

- ✂✂✂✂✂✂✂✂, *in particular, did not specify any alternative sources of maize beyond small-scale farmers. This reliance on smallholder suppliers could mean that* ✂✂✂✂✂✂✂✂ *was more vulnerable to price fluctuations driven by local market conditions as small-scale farmers may be more affected by shocks such as droughts, policy changes, or supply chain disruptions.*

323. The differentials in prices could be indicative of various factors, such as strategic procurement practices, supplier agreements, or market positioning. A key factor influencing maize prices during this time was the export ban imposed by the Zambian government in 2019 and 2020. This restriction was likely introduced as a response to the low maize yields recorded in the 2019/20 farming season and had the effect of suppressing prices. In 2022/23, the Food Reserve Agency (FRA) then revised prices upwards from K180 per 50Kg to K280 per 50Kg, a 75% price rise.

324. If Zambia produced substantial surpluses each year as it should and this meant net exports, then market prices would be at export prices, in other words, international prices less transport costs, placing local buyers at an advantage.

6.3.2 Soymeal and beans

325. Zambia's growth in soybean production along with increased export trade means we need to understand pricing of the input in local terms versus exports that take place to various destinations. Previous sections have highlighted the importance of soymeal as an input into feed production, its tradability into regional markets and the increasing role that Zambia is playing as a key producer.

326. A vital question then arises around whether there is differential pricing that has taken place between local and international markets as well as between various export destinations. This can help us ascertain whether there are trading dynamics that favour or harm the Zambian poultry industry by way of altering the feed and poultry production cost base.

327. Exports of soy can be in the form of soybeans or in the form of soymeal/cake after oil has been extracted. Internationally, soymeal is priced somewhat lower than soybeans as the extracted oil has a higher value.[254] Zambia is a net importer of vegetable oils, including soybean oil. In 2023, Zambia imported approximately $21 million worth of soybean oil, primarily from South Africa, Argentina, and Malaysia[255]. This reliance on imported vegetable oils underscores the economic advantage of extracting oil and producing soybean meal. The large volumes of soymeal produced means Zambia exports meal and retains oil domestically.

328. Prices for soymeal are compared between Kenya and South Africa as the largest export destinations, average export prices from official sources, and the domestic Zambian price based on the information provided by large soybean processors (✂✂✂✂✂✂✂✂).

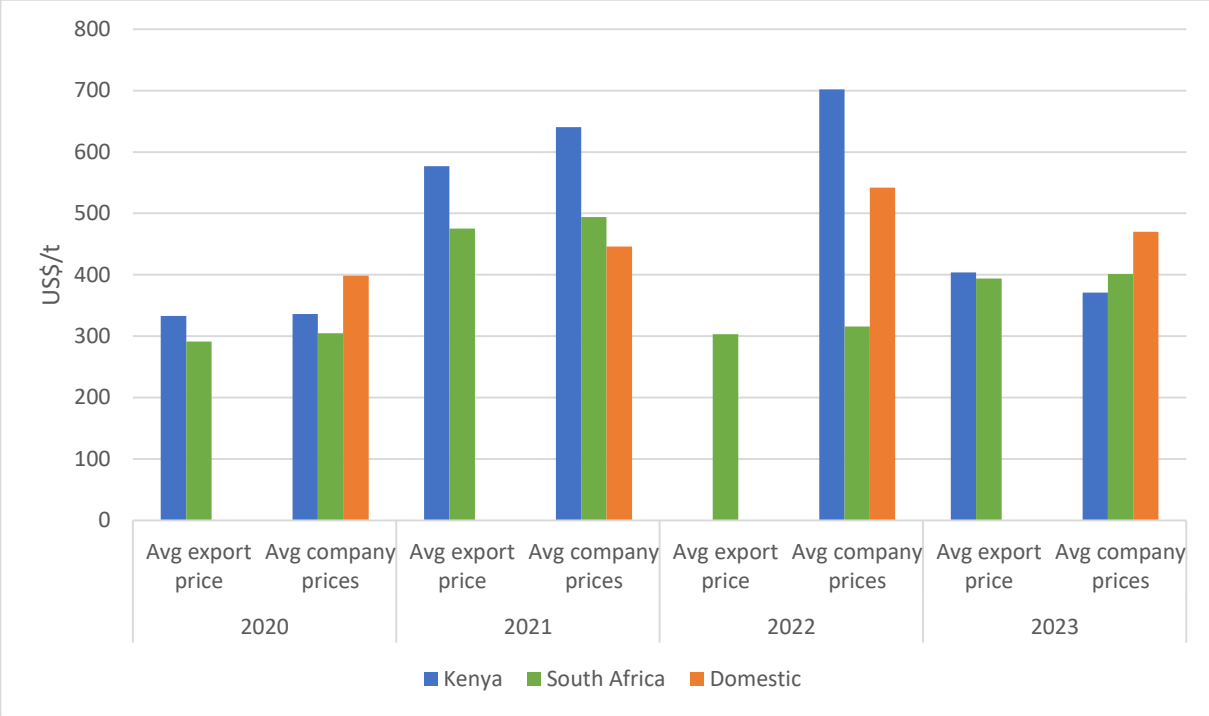
- It is evident that domestic prices have been higher than the average export prices from the official trade data in each year, except for 2021. For example, in 2020, local prices were 37% higher than export prices to South Africa.
- The average export prices recorded by the companies were generally similar to the official data, where available. In 2021 and 2022 there

[254] https://www.iowafarmbureau.com/Article/Relative-Value-of-Soybean-Meal-and-Soybean-Oil#:~:text=Soybean%20oil%20yields%20have%20also,oil%20as%20a%20crush%20product.
[255]https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2023/tradeflow/Imports/partner/WLD/product/150710

were much higher prices recorded on exports to Kenya than on exports to South Africa.

- Zambia did export to other destinations.
- The company average domestic prices did conceal quite different prices being charged in some years. For example, in 2022, domestic prices of US$418 and US$566, compared with the official export price to South Africa of US$303 (margins of 38% and 87%). The differentials in domestic prices are considered in more detail below.

Figure 43: Soymeal prices to Kenya, South Africa and Zambia



Source: Trademap and information supplied by companies

329. The export prices to South Africa are consistent with the soybean prices in that country where there is competition, and the transport costs which would have to be incurred to get the product to this market of around

US$60/t or more. Zambian prices would be expected to be lower than in destination markets such as South Africa.

330. It is unclear whether prices supplied by the companies (✂✂✂✂✂✂✂✂) for export are delivered prices or also free of transport. The export prices to Kenya, in particular, recorded by ✂✂✂✂✂✂✂✂ are extremely high in some years (and this is consistent with high delivered prices to Kenyan buyers reported in the CAK Inquiry 2024). We also note that analysing prices on an annual basis removes the seasonality of prices variations on a month-by-month basis, as soymeal and beans are typically more available in the harvest season in April with less supply towards the end of the calendar year.

331. The Competition Authority of Kenya (CAK, 2024), noted substantial price differences between exports to Kenya, and exports to Zimbabwe and South Africa by Zambia in 2021. This outcome indicates that exporters were able to differentially price depending on the degree of competition they faced in each destination market.

332. There also appear to be inconsistencies in the data in 2022. Official trade data (from Trademap) reports Zambian exports to Equatorial Guinea and the Pitcairn Islands, while there is no officially recorded exports to Kenya and other regional markets such as Rwanda and Tanzania. However, import data in Kenya records Zambia as the source and data received from oilseed processors as part of this inquiry shows otherwise, with over 50,000 tons in exports to Kenya, Rwanda and Tanzania (by ✂✂✂✂✂✂✂✂) in the records supplied to us.

333. It is notable that there is far more differential pricing by country by ✂✂✂✂✂✂✂✂. Prices to customers in Kenya were over $800/t in 2022, or approximately four times those paid by customers in South

Africa, while domestic customers in Zambia paid twice the price that South African customers paid for soymeal. At the same time, Wilmar prices appear to be more consistent amongst the customers they supplied to, albeit still higher than the officially recorded average export price on Trademap.

334. The average prices further conceal large differentials in pricing between individual large customers in local and export markets, which we consider now, where data has been provided.

Differential prices of soya meal

335. We are able to assess differential pricing to customers for a limited set of customers based on the responses from soymeal suppliers. These reveal that among large local and export customers there are quite large differences in prices, which are not related to volumes. Among the largest customers the lower priced export customers were charged prices some 25-33% lower than the higher priced customers.

Figure 44: A soya meal producer's annual export prices (lines) of soya meal by ✂✂✂✂✂✂✂✂ in 2023 (2021 – 2023), volumes (bars)

Source: Own calculations based on a soya meal producer's submission
Notes: ✂✂✂✂✂✂✂✂.

336. ✂✂✂✂✂✂✂✂.

337. The soya producer consistently sold the highest volumes by far to ✂✂✂✂✂✂✂✂, a vertically integrated feed producer. However, ✂✂✂✂✂✂✂✂ did not always receive the lowest price; it receives the second lowest and lowest prices in 2021 and 2022 respectively but received the second highest price in 2023. ✂✂✂✂✂✂✂✂, which is an international trader, received a similar price to ✂✂✂✂✂✂✂✂ in 2021 and 2022 and a considerably lower price in 2023 despite purchasing far smaller volumes of soya meal from the soya meal producer than ✂✂✂✂✂✂✂✂ over the 2021-23 period (✂✂✂✂✂✂✂✂ is also included in export sales volumes).

338. The price differences also do not appear to be explained by distance to the soya meal producer's plant. Four of the six feed producers are based in Lusaka (✂✂✂✂✂✂✂✂) and three of the four traders are based in Lusaka (One is in Kabwe). ✂✂✂✂✂✂✂✂ is the closest to the soya meal producer but was charged the third highest price among the feed producers in 2023, although the lowest price in 2021.

339. There is also a similarly wide variation in domestic prices among large domestic customers, including feed producers as well as some apparent traders. The lowest priced domestic customer received prices around or at times lower than the lowest priced export customers while other domestic customers paid much higher prices, as much as 30-40% above the lower priced domestic and export customers. While volumes may play a role in the price differences, these are all customers buying relatively large volumes. prices broadly vary inversely with volumes, there are exceptions, most notably the prices of the two largest customers.

Figure 45: A soya meal producer's weighted average sales prices and volumes of soya meal for ✂✂✂✂✂✂✂✂ in 2023 (2021-2023)

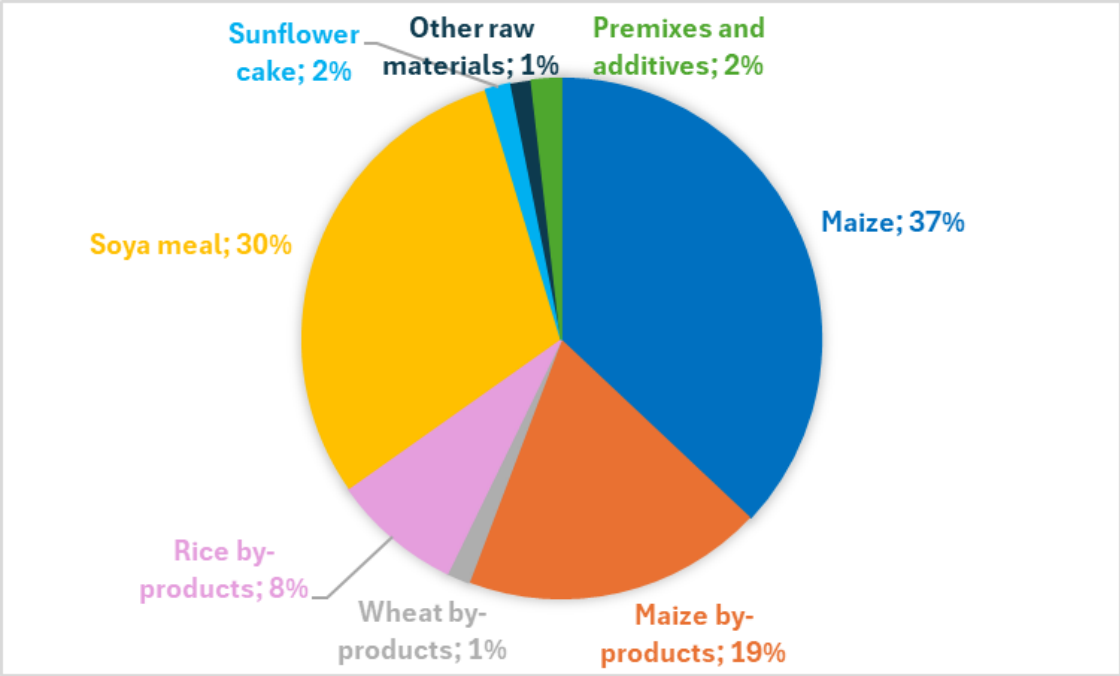
Source: Own calculations based on a soya meal producer's submission

Notes: ✂✂✂✂✂✂✂✂.

6.3.3 Other feed inputs

340. A full broiler feed (as opposed to all poultry feed including layer feed) breakdown was only provided by a small feed producer which given its small size is unlikely to be representative of Zambian broiler feed more broadly. It also included some non-standard additives. The data by volume indicate that the contribution of soya meal (low fat and full fat) and maize (including maize by-products) to total broiler feed input volumes (excluding packaging) were 30% and 56% respectively in 2023.

Figure 46: Percentage breakdown of broiler feed inputs by volume (2023)



Source: Own compilation based on company submission

Notes: Packaging has been excluded from the above (not included in 'other raw materials').

341. Beyond maize and soya meal, which constitute the bulk of poultry feed (soya meal and maize, including maize by-products, were 30% and 56% respectively in 2023), a diverse array of other feed inputs makes up the remaining of the feed formulation. These include, rice by-products, sunflower cake, wheat by-products, premixes and additives, and a small portion of miscellaneous raw materials. While individually these ingredients may represent smaller shares of the total composition, collectively they play an essential role in ensuring feed cost-efficiency, nutritional balance, and adaptability in times of supply constraints.

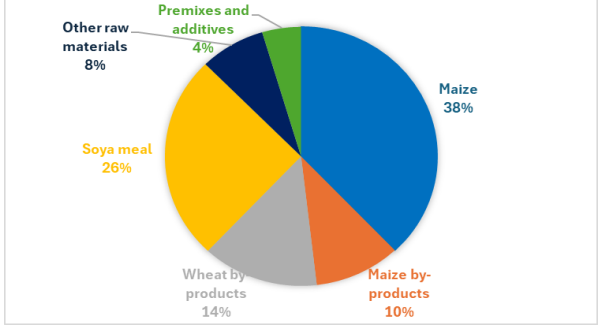
342. Rice by-products have made up about 8% of the feed and contribute both fiber and moderate energy levels. Their use is often driven by regional availability and price competitiveness, offering flexibility in ration formulation.

343. Sunflower cake, though only 2% of the total, is another key protein supplement, derived from oil extraction processes. While it contains less digestible protein than soybean meal, it provides a useful alternative during periods of high soybean prices or limited access. Wheat by-products, at 1%, also offer fiber and are typically used in limited quantities to enhance bulk and assist digestion. Premixes and additives, which make up 2% of the feed, though minimal in volume, are critical for animal health and growth. They include essential vitamins, minerals, and enzymes that help optimize feed conversion and performance. Finally, the category of other raw materials, comprising just 1%, may include inputs such as molasses, salt, or region-specific supplements that improve palatability or energy levels.

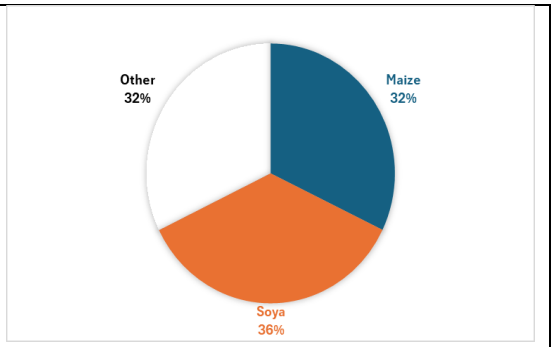
344. Based on the ✂✂✂✂✂✂✂✂ feed composition by volume and value, the typical composition of poultry feed is carefully balanced to meet the nutritional needs of the birds while optimizing cost and feed efficiency. Maize or corn usually constitutes the largest portion, often making up between 50 to 60 percent of the feed by volume or weight, serving as the primary energy source due to its high carbohydrate content. Protein sources like soybean meal and fishmeal generally make up 20 to 30 percent and 5 to 10 percent respectively, providing essential amino acids necessary for growth, muscle development, and overall health. Additionally, wheat bran or other fiber sources contribute around 5 to 10 percent to aid digestion and provide additional energy. Fats and vegetable oils are included in smaller quantities, typically 2 to 5 percent, to supply concentrated energy and essential fatty acids that support metabolic functions. Mineral components such as limestone and dicalcium phosphate are added in small but critical amounts (about 1 to 2 percent each) to supply calcium and phosphorus, essential for bone

development and eggshell formation. Salt is included at roughly 0.3 to 0.5 percent to maintain electrolyte balance, and a vitamin and mineral premix, usually under 1 percent, ensures the feed meets all micronutrient requirements necessary for the birds' immune system and overall wellbeing. Essential amino acids like methionine and lysine are supplemented in small amounts to correct any deficiencies in the primary ingredients and support optimal protein synthesis.

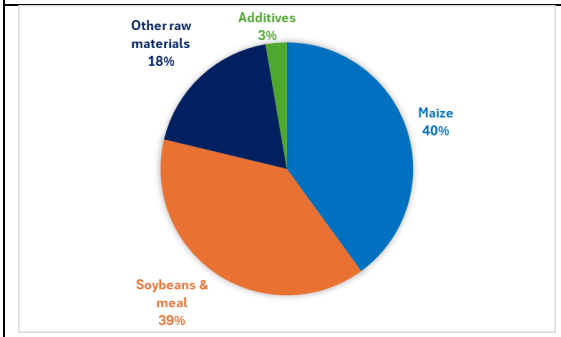
Figure 47: Poultry Feed Composition



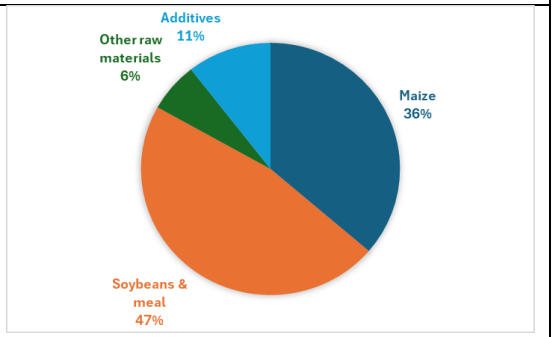
Feed inputs by volume in 2023



All Feed inputs by value in 2023



Poultry Feed inputs by volume in 2023



Poultry Feed inputs by value in 2023

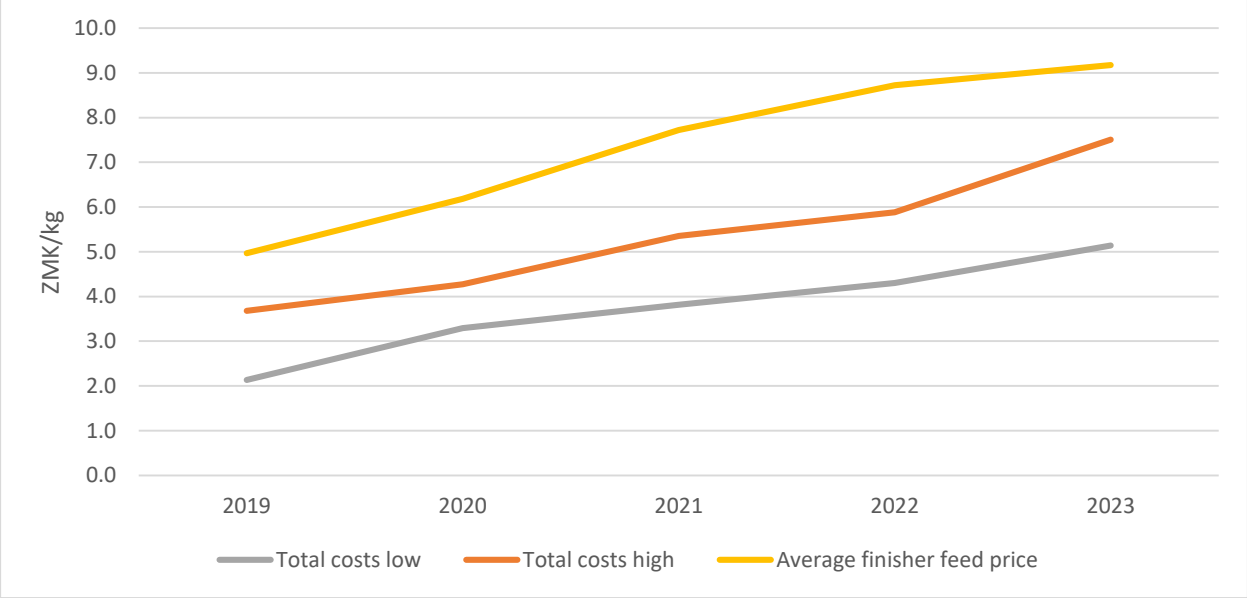
Source: Author calculations based on company submissions

6.3.4 Broiler feed input costs compared to broiler feed prices

345. Considering differential prices in both soymeal and maize, there is a substantial difference in costs and associated margins when compared

with the average and the high input prices. A combination of low soymeal and maize prices results in 20% lower costs in 2020 and 2021, and 30% lower costs in 2022 and 2023. In 2019, costs are 40% lower than the average costs. On the other hand, a combination of high soymeal and maize prices yields costs that are up to 10% higher than the average costs.

Figure 48: Annual costs and prices for broiler finisher feed with differential maize and soymeal prices



Source: compiled from company data

NOTE: ✂✂✂✂✂✂✂✂.

6.4 Poultry feed and inputs competition assessment: information sharing, market control, and possible coordination

346. Market concentration is an issue that could raise concerns about potential collusion. A small number of firms dominate the feed subsector, which increases the likelihood of tacit or explicit coordination on prices, supply levels, or other strategic decisions. This concentration of market power makes it easier for firms to align their actions, whether through informal communication or shared market signals, and can stabilize prices, limit

output adjustments, and create barriers for new entrants[256]. Oligopolistic markets like Zambia's poultry feed subsector are more prone to such risks because of the limited number of major players, which can facilitate tacit or explicit coordination.

347. Additionally, large integrated firms, which control key inputs like maize and soymeal, have a significant influence over smaller firms, impacting their ability to compete on price and supply stability. These dynamics underscore the need for regulatory oversight to prevent anti-competitive practices, ensuring fairness for smaller players and consumers alike.

348. Such concentration in horizontal relationships implies that ✂✂✂✂✂✂✂✂ likely wields substantial market power, allowing it to influence prices, control supply conditions, and establish competitive standards within the sector. Studies have shown that high market concentration within horizontal relationships often leads to price-setting power, which can create entry barriers for smaller firms and reduce market efficiency (Porter, 1980)[257]. Smaller firms like ✂✂✂✂✂✂✂✂, with less than ✂✂✂✂✂✂✂✂ market share each, may find it challenging to expand in a market dominated by a single large player, especially if price pressures or volume discounts favour the dominant firm's larger scale of production.

6.5 Potential for Vertical Foreclosure or Exclusionary Practices

349. Vertical foreclosure and exclusionary practices are anti-competitive strategies that firms, particularly those with market power, may use to limit competition by restricting rivals' access to essential resources or markets.

[256] https://www.wider.unu.edu/publication/analysis-animal-feed-poultry-value-chain-zambia
[257] Porter, M. E. (1980). Competitive Strategy: Techniques for Analysing Industries and Competitors.

Vertical **Foreclosure**

350. Vertical foreclosure occurs when a firm operating at one level of the supply chain (e.g., manufacturing) uses its position to restrict or completely block competitors at another level of the supply chain (e.g., distribution) from accessing key resources, distribution channels, or customers. This can happen in industries where vertical integration is common, when a company controls multiple stages of production or distribution. For example, in a vertically integrated market, a poultry feed producer that also owns or partners with poultry farms might prevent other feed producers from selling to these farms, effectively "foreclosing" access to a key market[258]. This exclusion can force competitors out of the market or prevent them from growing, ultimately consolidating market power within the integrated firm.[259]

Exclusionary Practices

351. Exclusionary practices are strategies used by dominant firms to hinder competitors from entering or expanding in a market. These practices can restrict competition by increasing costs or creating entry barriers for rivals, which may reduce consumer choice, raise prices, or stifle innovation over time.[260]

352. In highly concentrated industries, large firms may engage in vertical foreclosure, using their dominant position at one supply chain level to restrict competitors' access at another level. The dominance of ✂✂✂✂✂✂✂✂ in the feed market creates the potential for such exclusionary practices. For instance, a dominant feed producer with

[258] Carlton, D. W., & Perloff, J. M. (2015). Modern Industrial Organization.
[259] **Carlton, D.W. & Perloff, J.M., 2015.** *Modern Industrial Organization*. 4th ed. Boston: Pearson
[260] Pepall, L., Richards, D. J., & Norman, G. (2014). Industrial Organization: Contemporary Theory and Empirical Applications.

affiliations to specific poultry processors could provide preferential terms to these partners, limiting the access of independent farmers to competitively priced feed. Studies on concentrated markets show that when leading suppliers control significant portions of the market, they often use their position to create entry barriers for smaller competitors, which reduces overall market competition and affects supply stability[261].

353. If smaller feed producers like ✂✂✂✂✂✂✂✂, which each hold a minimal share in the market, face restricted access to essential distribution channels due to dominant players' strategic practices, they may be unable to scale or remain profitable. In this context, vertical foreclosure becomes a tool that entrenches existing market power and limits competition at multiple supply chain stages, ultimately narrowing options and raising prices for end consumers.

7 Competition analysis of broiler production and effects of breeding and feed

354. In this section, we analyse the competition dynamics at the broiler production level of the value chain in two ways. Firstly, we assess the prices of processed products, including an international comparison. Secondly, we assess if the downstream operation of the vertically integrated firm could trade profitably based on the upstream prices third-party independent processors are charged.

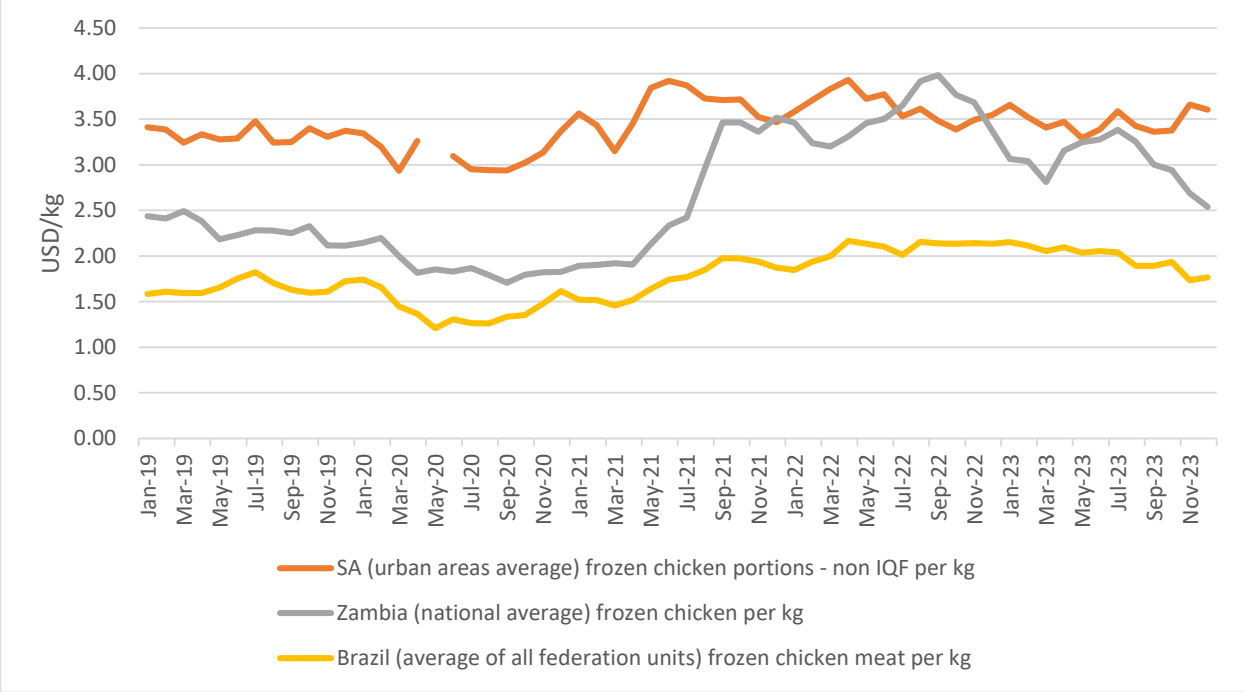
7.1 Processed wholebird chicken pricing analysis

[261] European Commission. (2021). Competition Policy in the Feed and Poultry Supply Chains. Brussels: European Commission.

355. Comparison of Zambian retail prices for frozen chicken with prices of similar products in South Africa and Brazil indicates Zambian prices increased substantially from April 2021, when they were relatively close to Brazil, to September 2021 similar to the higher prices in South Africa. The Zambia prices are national averages of frozen whole chicken per kg, while for South African we used average prices for all urban areas for frozen chicken pieces (non IQF) per kg. For Brazil, we used average frozen chicken meat per kg prices for all federal units[262] where there is data.

356. Prices in Zambia did fall from mid-2023 which may point to a correction. We compare wholesale and retail poultry prices to estimates of costs below.

Figure 49: Retail chicken prices in Zambia, South Africa and Brazil



Source: Compilation based on data from the Zambia National Statistics Agency, Statistics of South Africa, Conab

[262] Brazil is formed by the union of 27 federal units.

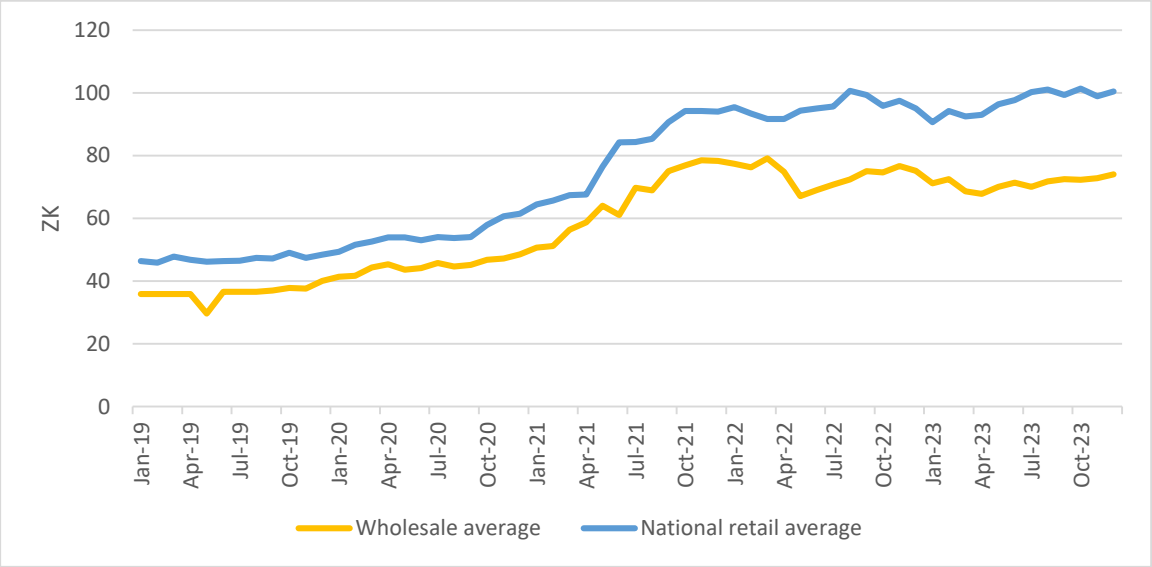
357. Below we compared wholesale prices of the 1.65kg[263] birds to the national average retail price per 1kg as obtained from the Zambia National Statistics Agency. The retail prices are higher given the retail margins.

358. From the submissions of the three integrated poultry processors, only two [✂✂✂✂✂✂✂] provided pricing data for different processed products. Both processors sell frozen whole birds, and we show prices of whole birds (without giblets), averaged for larger birds[264] (Figure 51). These reflect very substantial increases in price over 2021, of well over 50%, consistent with the increases in retail prices. The companies charged similar wholesale prices to retailers for processed chickens, although it appears that ✂✂✂✂✂✂✂ discounted larger birds somewhat from May 2022 to mid-2023.

263 ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂

264 ✂✂✂✂✂✂✂✂

Figure 50: Wholesale and retail prices, for whole bird frozen (1.6-1.8kg)



Source: Compilation based on data submitted by processors and from the Zambia National Statistics Agency.

7.2 Cost build-up of processed whole bird chicken

359. In this section, we assess whether the downstream operation of the vertically integrated firm could trade profitably based on the upstream prices third-party producers are being charged. The margin between the input price that the vertically integrated firm charges third-party producers and the price that the downstream operations of the vertically integrated firm charge, allows a reasonably efficient firm operating in the downstream market to obtain a normal profit. If it has a negative margin, then the prices that third-party processers are charged would appear to undermine their ability to effectively compete.

360. We therefore assess whether third-party processed poultry producers procuring day-old chicks and poultry feed at the prices set by vertically integrated producers make a reasonable margin when selling at the

prices charged by the downstream poultry divisions of ✂✂✂✂✂✂✂✂for processed frozen whole birds.

361. Both ✂✂✂✂✂✂✂✂ sell a large number of processed products to many customers such as retailers and fast-food restaurants. We do the calculation for one of the largest individual items, that is, for a 1.6-1.7kg whole bird frozen processed chicken (without giblets) even while this is a relatively small share in total revenues given the many other products.

Prices and costs

362. We have established the day-old chick prices charged by vertically integrated producers and for poultry feed through the cycle from starter, grower to finisher feed to grow a broiler to a size required for processing. We use average feed prices across the three feed types: starter, grower and finisher feed.

363. Another important aspect with respect to feed is the feed conversion ratio. This is the kg of feed used to produce a kg of meat and is a good indicator of production efficiency of any producer. Lower values of the feed conversion ratio indicate high production efficiency in that smaller amounts of feed are required to produce a kilogram of meat.[265] We used feed ratio of 2.3kg[266] of feed per kg of chicken meat in a processed whole chicken (that is, after removing feathers, giblets, feet and head) based on efficiency levels in international markets. This is equivalent to a lower FCR for kilogram of 1.7kg live bird weight. To obtain feed cost, we multiply the average feed price (per kg of feed) by the feed conversion ratio for the weight of the processed bird produced. Energy & labor costs plus vaccines,

[265] Note the FCR can also be done per kg of live chicken.

[266] The ratio of slaughtered 'dressed' chicken to live weight is 75%. This means a 1.65 chicken is equivalent to a 2.2 live chicken. Feed for this chicken at 1.75 Feed conversion ratio (FCR) is 3.85kg, which gives the FCR for meat in slaughtered 1.65kg chicken of around 2.3

drugs, litter for the production of a live broiler chicken are estimated at 5% and 2% respectively of the cost of feed cost and day-old chicks.[267] We also included 4% mortality rate to the variable cost.

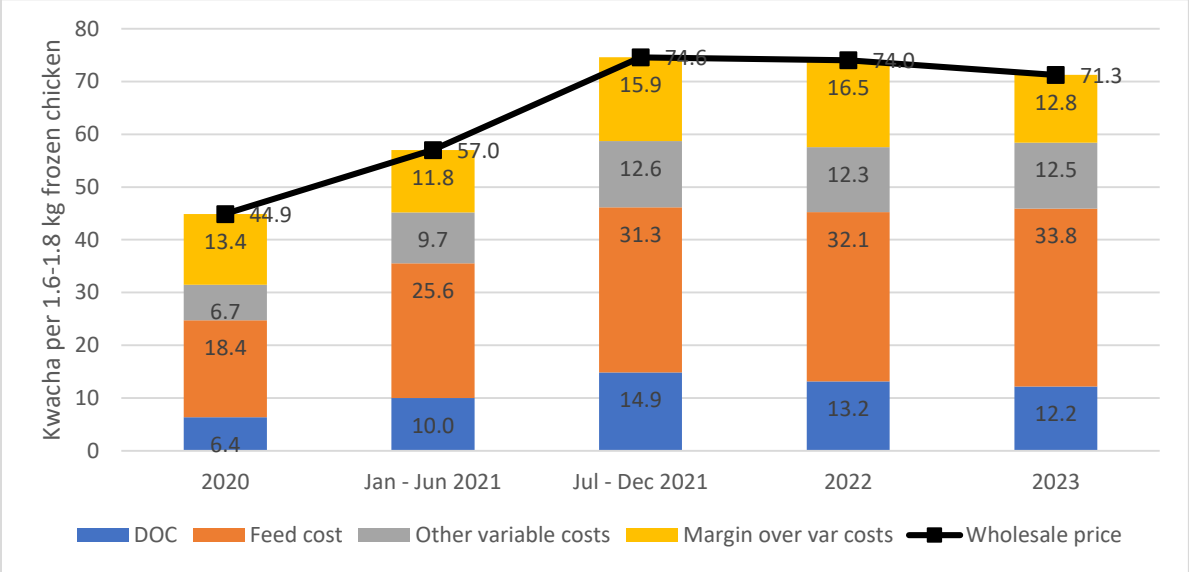
364. With respect to the processing costs, data was provided by ✂✂✂✂✂✂✂✂ at a point in time which are equivalent to ZK5.36 per kg[268] or 15% of the purchase price of the live chicken. This includes costs of collecting the live chickens, slaughtering, and packaging and freezing.

- Costs of paying for slaughtering and freezing, and transport are understated
- No return on any investment – fixed and sunk costs

365. We assess the prices of inputs and estimate of production costs against the wholesale selling prices of processed poultry products using a 1.65kg whole chicken (frozen, no giblets) as our benchmark product. The price increases in poultry from 2020 through 2021 are to a large extent related to increased prices of DOCs and poultry feed, with some increase in margins in the second half of 2021 (Figure 52). However, we need to consider the market power which appears to have been exerted in the pricing of DOCs and in feed and its constituents (reflected in the differences between high and low prices charged to different buyers).

[267] See Margin+squeeze+in+poultry+farming+in+Malawi+WP10.pdf
[268] ✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂✂

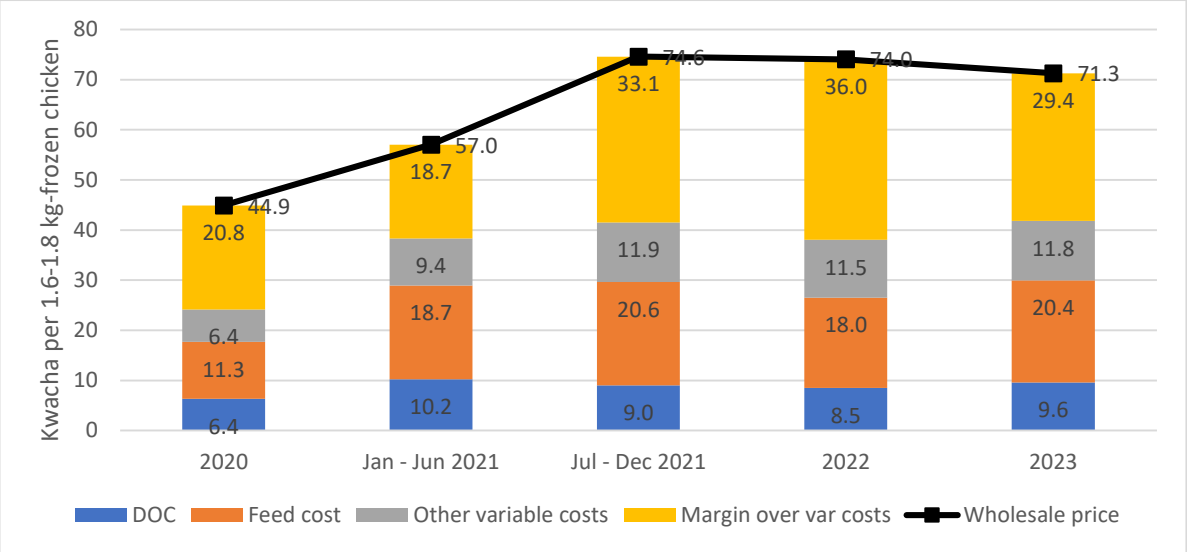
Figure 51: Price, variable costs and margins for 1.6-1.7kg frozen chicken



Source: estimated from submissions, DOC price as average charged as in Figure 24; poultry feed price is average as in Figure 30. Feed conversion ratio at 2.3 for 1kg of meat in processed whole bird, equivalent to an FCR of around 1.7 per kg of live weight. Other costs are vaccines, drugs, litter, labour and energy for broiler rearing, collectively estimated as equivalent to 7% of costs of DOC and feed. Processing is estimated as equivalent to 15% of live chicken cost (based on ✂✂✂✂✂✂✂✂). We also included 4% mortality rate to the variable cost.

366. When we consider estimates of competitively priced DOCs and poultry broiler feed, as explained above, we find costs did not increase from 2021 to 2023 and that by far the biggest contributor to higher prices of poultry to Zambian consumers is the increased margins being made by the vertically integrated poultry producers (Figure 53). The ability to earn these margins requires access to key inputs, namely breeding stock, combined with feed and the ability to slaughter. The three main firms collectively control these levels of the value chain, with ✂✂✂✂✂✂✂✂ able to track and restrain the production volumes of the main producers.

Figure 52: Price, variable costs at competitive levels, and margins for 1.6-1.7kg frozen chicken



Source: estimated from submissions[269]*, DOC price as competitive price at US$0.51 as in Figure 28; poultry feed price is computed using competitive maize and soymeal prices as in Figures 30, other feed costs. Feed conversion ratio at 2.3 for 1kg of meat in processed bird. For the other costs (vaccines, drugs, litter, labour and energy for broiler rearing) and processing costs, we used the same nominal costs derived from above . We also included 4% mortality rate to the variable cost.*

367. The excess margins can be estimated as around ZMK13 per bird from July 2021 to 2023. If this applied to poultry produced annually then it would equate to over ZMK400 million per annum.[270] Prices were more than 20% higher than they would have been without the increased margins over competitive costs.

[269] For specific/detail company calculation see figures A1 to A4 in the Annexure

[270] On the basis that 50 thousand metric tonnes of poultry meat is around 31 million chickens, and using a rough conservative estimate of the increase in the margins from 20 kwacha in 2020 to June 2021 (Figure 51), to an average of 33 from July 2021 to 2023 (Figure 51), that is an increase of 13 kwacha. It is highly conservative as it assumes that the market was characterised by competition in 2020 when this does not appear to be the case.

Findings and Concluding Observations

368. The Market Inquiry sought to understand whether markets in the Zambian poultry value chain have been working well or whether there are factors which could have been restricting, preventing or distorting competition or resulting in unfair trade. This is in line with Section 5 of the Act which mandates the Commission to, inter alia, "*review the operations of markets in Zambia and the conditions of competition in those markets; review the trading practices pursued by enterprises doing business in Zambia; act as a primary advocate for competition and effective consumer protection in Zambia; to advise Government on laws affecting competition and consumer protection; and, do all such acts and things as are necessary, incidental or conducive to the better carrying of its functions under this Act*".

369. The Inquiry, based on the Terms of Reference (ToRs), notes market outcomes and arrangements which appear to have restricted, prevented or distorted competition, or have resulted in unfair trade. Investigations would be required to weigh up evidence and any justifications in order to make findings. In this summary we draw together concluding observations about how the markets are working and any apparent arrangements based on the information which was collated. Advice to government and public institutions will be provided where appropriate. Firms may also voluntarily opt to review conduct and make appropriate changes to ensure markets work better.

370. Zambia has excellent agricultural potential and produces the main inputs to feed, in the form of maize and soybeans. It also has major commercial breeding stock operations and exports breeding stock across Africa. However, poultry production and consumption levels in Zambia are relatively low and prices appear to be relatively high along the value chain. With the right market conditions and enabling policies, the poultry sector appears to hold significant potential for agricultural transformation, including

increased demand for crops, value addition, and employment creation. A moderate increase in production and consumption by 25–50% toward the African per capita average over five years is a possible target. While investments in breeding and feed operations reflect recognition of Zambia's favourable conditions, distortions in competition at various levels appear to be constraining growth within Zambia.

371. Observations suggest that competition and investment are linked to potential sectoral growth and broader economic benefits. An increase in poultry production aligned with Africa's average per capita consumption using the lower threshold of 25% may correspond to:

- An estimated rise in direct employment by around 20,000, based on existing figures of approximately 80,000 in commercial and small-scale poultry farming.

- A likely increase in indirect employment across animal feed production, crop farming for input supply, and related service sectors such as logistics.

- A scenario in which wholesale poultry prices decline by 20%, potentially leading to household savings exceeding ZMW500 million kwacha per annum, based on 2023 wholesale price averages and conservative consumption estimates.

372. If markets are working well, then it would be expected that these conditions for the key inputs to poultry would translate into competitive and growing poultry production in Zambia, with competitive prices for domestic consumers of poultry meat, and exports of poultry products. This is not the case.

- Production and consumption of poultry per capita in Zambia are both very low against international comparators. Consumption in 2022 was 30% less

than the average for Africa as a whole and less than one third of the world average.

- Prices for feed, day-old chicks and for poultry meat in Zambia increased over recent years (and in 2021 in particular) and are relatively high, as if Zambia was an uncompetitive producer. We have assessed prices against costs and international comparisons, to the extent possible with the available data.

- The large integrated producers have made high and increased margins over production costs.

373. It is important to recognize that there is a range of factors at work, of which competition is only one category.

374. We highlight the main observations for the poultry value chain as a whole, and then in more detail for breeding stock and poultry feed, as follows.

- There are high levels of concentration in important markets, especially in breeding stock, key feed inputs principally soymeal, in feed, as well as in abattoirs to process poultry. This is combined with licensing arrangements that appear to include exclusivity, territorial restrictions and information flows whose effects may need an investigation to establish.

- Prices have increased substantially above cost reflective levels.

- There have been higher prices for inputs (to non-integrated producers) over variable costs, while integrated producers who have breeding and related poultry feed businesses internalize the input prices.

- Changes around 2021 appear to have coincided with a merger and further increases in concentration. Efficiencies from large-scale operations and investments were to have flowed through to smaller downstream poultry producers and to consumers. Instead, the reverse occurred as prices have increased significantly along the value chain, including to consumers.

- These circumstances could increase the likelihood of tacit coordination and reduced competitive pressure, including diminished market contestability.

- We consider for illustrative purposes what would have been the costs of poultry production if the lower costs of inputs had been maintained in breeding stock and feed, and this had flowed through at stable margins to poultry. We find that wholesale prices from the second half of 2021 to 2023 were more than 20% higher than they would have been without the increased margins over competitive costs.

375. With regard to poultry breeding stock:

- Three companies (✂✂✂✂✂✂✂✂) dominate the supply of broiler DOCs in Zambia with over ✂✂✂✂✂✂✂✂ of total production. The market outcomes are not consistent with effective competition between them as prices have increased substantially and unrelated to costs.

- The higher DOC prices have negatively impacted on the costs of independent broiler producers who purchase DOCs as an input.

- Competition in the supply of DOCs is undermined by factors including concentration in the supply of parent stock essential for DOC production, common shareholders across breeding companies which can distort incentives, and apparent restrictive conditions in the supply of grandparent and parent stock, including for supply in Zambia and cross-border on sales into other countries in the region, and requirements for the provision of information.

- There are therefore inter-related arrangements which lessen, prevent or distort competition at the level of DOCs, along with unilateral market power and vertical integration. These arrangements have been reinforced by mergers in Zambia as well as in other countries which have resulted in common shareholdings.

376. With regard to poultry feed and its main constituents:

- Supply of poultry broiler feed is concentrated with the largest three producers accounting for over ✂✂✂✂✂✂✂✂ of supply. In addition, these producers are integrated or associated with the largest suppliers of DOCs.

- Prices of poultry broiler feed have increased substantially and in excess of estimates of competitive costs.

- The supply of some important inputs, especially soymeal or soy cake, is concentrated, and the prices of the main feed inputs have differed very substantially by customer, within Zambia and in export markets. This raise concerns as to whether the differential pricing is the result of distortions to competition or whether there are cost-based justifications (e.g., transport or transaction costs).

- Sales into some export markets at low prices appear to have reduced supplies available in Zambia which have the effect of sustaining higher prices. There are also question marks on the destinations recorded for substantial export volumes in some years.

- Other studies have pointed to the main soybean and sunflower crushers through the association having had a role in monitoring exports and in the allocation of permits for exports (see Kaonga et al. 2023). The responses did not enable the inquiry to assess this.

- The sector's reliance on maize and soybeans as feed inputs underscores the importance of stable supply chains and links from agriculture to value-added products. Observations point to the relevance of feed source diversification, improved storage infrastructure, and mechanisms that could address price volatility. Enhancements in maize and soybean production through better

seed varieties and agronomic practices are also seen as contributing factors toward ensuring feed security within the poultry industry.

377. Appropriate and well-aligned policies are critical for the effective development of value chains and for supporting smallholder farmers as well as small and medium-sized enterprises (SMEs) at various levels of production and distribution. These policies should operate in tandem with competition law and its enforcement mechanisms to promote fair and inclusive markets, ensuring that small-scale producers are not disadvantaged or excluded. Where certain market conditions hinder effective competition, remedial action may be pursued under the existing provisions of the Competition and Consumer Protection Act.

378. Given the cross-border implications of the ✂✂✂✂✂✂✂✂ and the potential to substantially lessen competition within the COMESA region, the COMESA Competition Commission (CCC) has both the mandate and jurisdiction to intervene. The contractual provisions particularly those involving information flows, exclusivity conditions, and territorial restraints, pose risks of market foreclosure, barriers to entry, and reduced intra-regional trade, all of which directly contravene the objectives of the COMESA Competition Regulations. The CCC could:

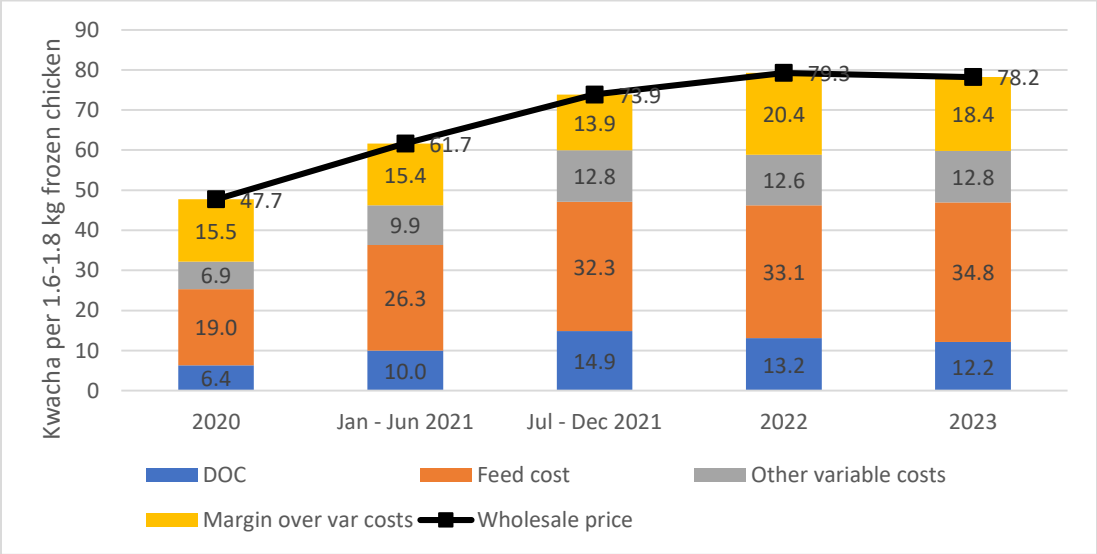
a) Assess the Anti-Competitive Nature of the Exclusive Supply and Territorial Agreements pertaining in the region. The ✂✂✂✂✂✂✂✂, which ✂✂✂✂✂✂✂✂, ✂✂✂✂✂✂✂✂ sales to specified markets, may be creating unjustified barriers to inter-state trade and limiting market access for alternative breeders and poultry businesses in other COMESA Member States. The Commission should determine whether these restrictions are justifiable under competition law or if they have the object or effect of distorting regional trade.

b) Examine the Extent of Market Foreclosure and Supply Limitation. The Commission should evaluate whether ✂✂✂✂✂✂✂✂ conduct including the requirement for ✂✂✂✂✂✂✂✂ sales and the ✂✂✂✂✂✂✂✂ amounts to foreclosure of ✂✂✂✂✂✂✂✂, potentially consolidating a ✂✂✂✂✂✂✂✂ across the region. Such vertical restraints could be considered exclusionary and anti-competitive.

c) Scrutinize Information Sharing Provisions for Coordinated Effects. The Commission should investigate whether the ✂✂✂✂✂✂✂✂ to ✂✂✂✂✂✂✂✂ enables coordinated market behaviour, which could amount to hub-and-spoke collusion. The collection of ✂✂✂✂✂✂✂✂ may eliminate independent decision-making and facilitate indirect coordination between competitors.

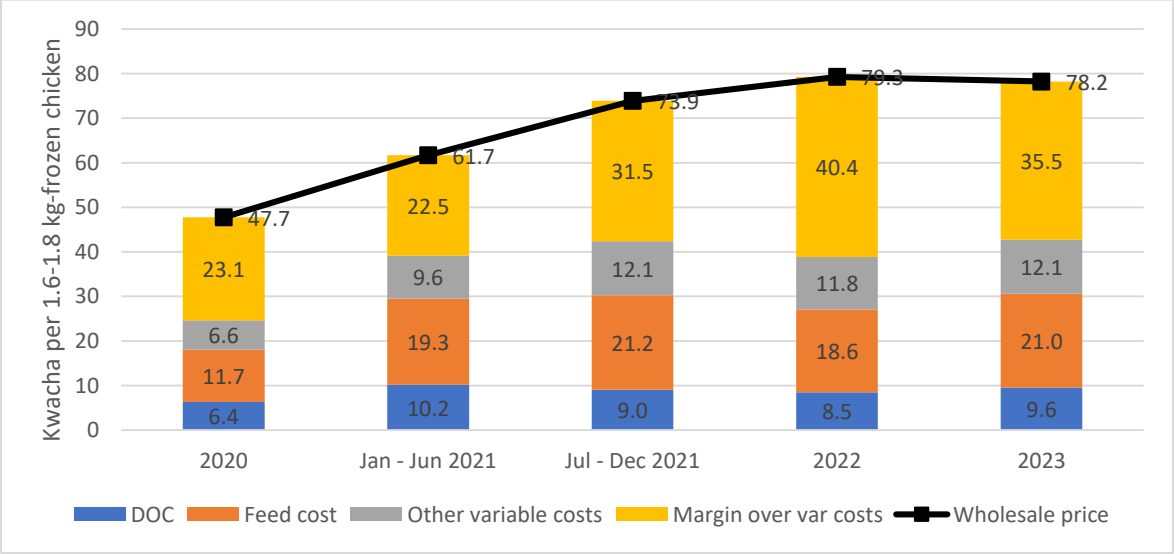
Annexure Cost build-up of processed whole bird chicken

Figure A1: ✂✂✂✂✂✂✂✂ price, variable costs and margins for 1.65kg frozen chicken



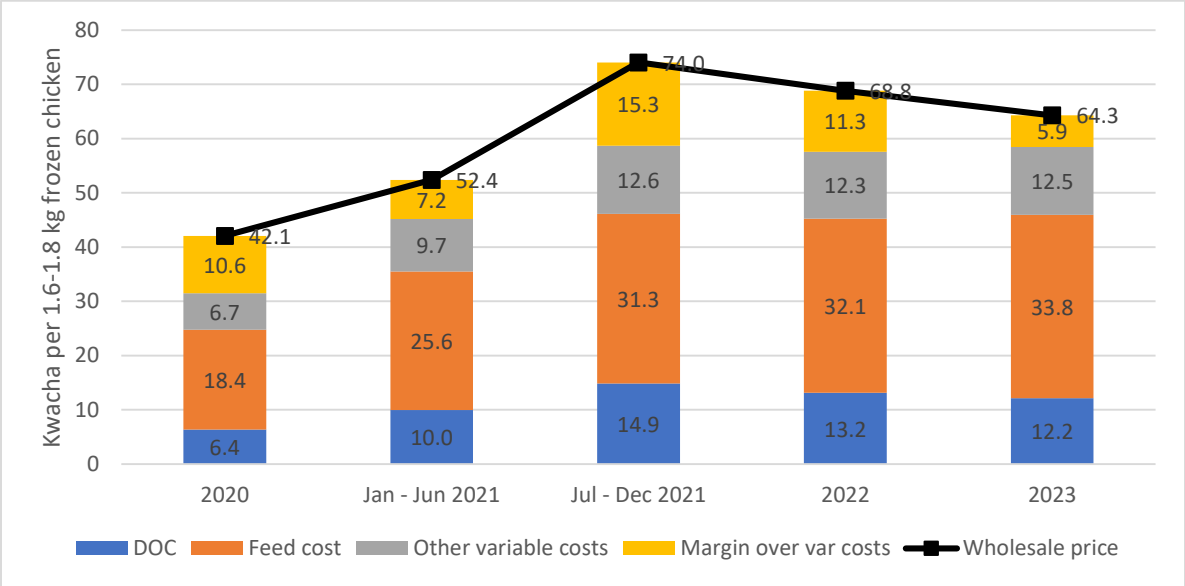
Source: ✂✂✂✂✂✂✂✂

Figure A2: ✂✂✂✂✂✂✂✂ price, variable costs at competitive levels, and margins for 1.65 frozen chicken



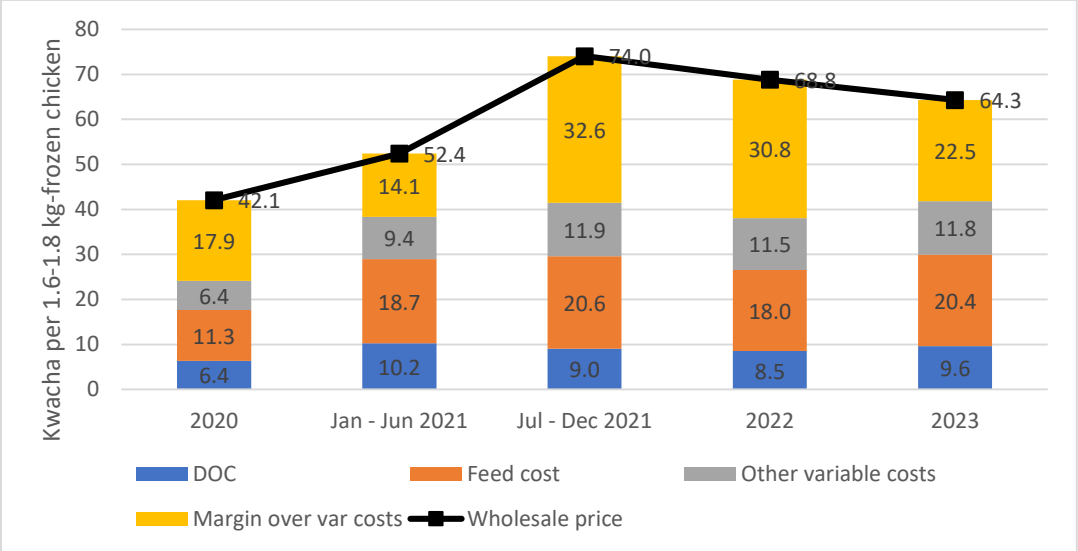
Source: ✂✂✂✂✂✂✂✂.

Figure A3: ✂✂✂✂✂✂✂✂ price, variable costs and margins for 1.6kg frozen chicken



Source: ✂✂✂✂✂✂✂✂.

Figure A4: ✂✂✂✂✂✂✂✂ price, variable costs at competitive levels, and margins for 1.65 frozen chicken



Source: ✂✂✂✂✂✂✂✂.

ADDENDUM Ex post assessment of the ✂✂✂✂✂✂✂✂

Introduction