

► Project *brief*

Thünen-Institut für Marktanalyse

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Trade and Agricultural Policy Analysis: The Poultry Sectors of Senegal and Ghana

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- **Production increased after the implementation of the import ban on poultry products in Senegal.**
- **An increase in border protection in Ghana could more than triple domestic production but might reduce meat availability for consumers.**
- **An import ban for selected countries has nearly no effect on Ghanaian producers because imports come from other countries.**
- **Reducing feed costs is a key factor to increase the competitiveness of the poultry sector in Ghana.**

Background and aims

This Project brief summarizes the fifth work package of the project “Impact of Meat and Milk Product Exports on Developing Countries” (IMMPEX). It represents a summary of the impact analysis of poultry policies in Senegal and Ghana. This report summarizes the potential effects of the main policy options in the poultry sectors of Senegal and Ghana. More specifically, we aim to empirically analyze: First the trade restriction policies in the form of a partial or complete import ban. Second, expanding the tariff wedge between feed as an intermediate product for poultry productions and poultry meat as the final product, and third, the key drivers of broiler feed costs.

Method

Given the scope of our analysis and data availabilities, we use various empirical methods at different scales; farm, meso, and macro levels. Our analysis framework constitutes of a spatial partial equilibrium model to assess the effects of feed costs on the poultry meat market in Ghana, the Modular Applied General Equilibrium Tool (MAGNET) model to evaluate feed subsidies and trade restriction policies, and a data-driven synthetic control method (SCM). Additionally, we use a farm-level analysis to capture the potential effects of each scenario on broiler farm performance.

Key findings in Senegal

A complete import ban is the main policy intervention in the Senegalese poultry sector. Our analysis carried out using the Synthetic Control Method reveals that Senegal's production of chicken meat grew more than it would have in the absence of the import ban (the gap between Senegal and synthetic Senegal in Figure 1). In line with the infant theory argument, this suggests that the ban has had a favorable effect on chicken production. Additionally, a comparison of the performance and costs of production of typical farms in Senegal and Ghana shows

that the Senegalese farms are performing better and have lower costs of production which further supports the infant industry argument.

Key findings - Trade policies in Ghana

In 2020, Ghana placed a partial ban on poultry imports from the Netherlands, Germany, Russia, and the UK due to avian influenza outbreaks. The findings show that imports of corresponding products do not change significantly due to the partial ban. The partial ban causes the export shares of US and Eastern European countries to increase in the sectors of ‘poultry meat’ and ‘eggs and breeding animals’ of Ghana. Furthermore, we simulate the effect of increasing the tariff rate on the final product to the maximum tariff that is allowed for Ghana under WTO-rules (i.e. 99 %), abolishing the tariff rate of feed products (maize), and a complete ban of poultry meat imports. The results reveal that increasing the tariff rate to 99 % and a complete ban have larger effects on the value chain and cause domestic production to increase by up to 104 % and 254 %, respectively. Due to the low tariff rate, the abolishment of tariffs for feed ingredients (maize) has almost no effect on agricultural trade or production costs and thus on the domestic production level. The study also shows that in the short term, large-scale farms are better positioned to take advantage of the tariff increase or an import ban, while small and medium farm types are expected to gradually increase their production. On the consumer side, the availability of poultry meat would be reduced with these policies.

Key findings - Agricultural policies in Ghana

The farm economic analysis identified feed costs as a significant factor in the competitiveness of the poultry sector in Ghana. In this line, we investigated the key drivers of high feed costs in conventional broiler production in Ghana and examined the possible scenarios to reduce them. We began with increasing feed production capacity which has the effect of reducing feed

prices as supply increases. The reduction in production costs will finally be passed through to the broiler industry. Specifically, doubling the feed industry capacity may lead to decreasing the chicken meat price by around 30 %. This policy provides a positive net welfare effect on the whole value chain (Figure 2). However, this policy may drive higher demand (and price) for soybean and maize which is a staple food in West Africa.

Furthermore, we investigate the effects of the feed-use efficiency proxied by the Feed Conversion Ratio (FCR). Our farm economic analysis suggests that all broiler farm types (small, medium, large) are inefficient in terms of feed use. The broilers consume more feed than they are supposed to and this contributes to high feed costs at farm level. However, improving broiler FCR has a slightly positive effect on consumers and producers at the macro level, and thus the net welfare effect on the poultry value chain remains marginal in response to this policy (Figure 2).

What policy measures can be implemented to reduce feed costs and increase production? Here, we develop a policy scenario in which we subsidize feed for poultry production. The amount of the subsidy is equal to the tariff revenue generated by imported poultry meat. Currently, Ghana levies a 35 % tariff on poultry meat imports and generates tariff revenue that could be used to support the domestic poultry industry. If the tariff revenue is used entirely as a feed subsidy, domestic production could increase as much as 221 % with prices for consumers decreasing by 24 % and an increase of poultry meat consumption by 14 %.

Conclusions

- The export restrictions like a partial ban on exports from one region, e.g. Germany or the EU would hardly reduce the imports of poultry because imports would then just be redirected to other countries (e.g., the USA or Brazil).
- A total ban or an increase of tariffs on imports could increase domestic production while it reduces the availability of poultry meat to consumers.
- Since Senegal is a member of the World Trade Organization (WTO), it will possibly not be able to maintain its ban indefinitely. Our farm-level analysis suggests that the ban should not be lifted at once but gradually. During the period of a gradual decline in protectionist measures, policymakers may need to take into account special initiatives aimed to support smallholder broiler farmers. The international community under the WTO should not push for a quick opening and support a gradual approach over a long time period. Additionally, the policy support in the poultry sector should be shifted to the feed sector for the period when the ban is lifted.
- Agricultural policies should focus more on reducing production costs which enable producers to become more competitive. Encouraging the private sector to invest in the feed may significantly reduce feed costs by increasing feed

supply. This goal can be achieved by using improved seeds; expanding the area of land under irrigation; promoting post-harvest handling practices; promoting private investment by providing low-interest rate credits.

- Ghanaian farms may reduce the costs of feed by improving their feed-use efficiency but this will require the use of good quality inputs (feed and chicks) and proper husbandry practices.

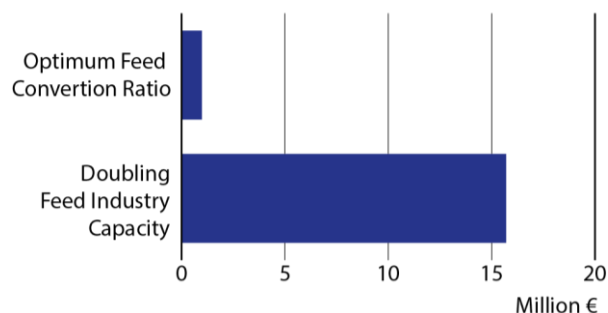


Figure 1: Net welfare effects of poultry value chain

Further Information

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