ANALYZING COLLECTIVE TRADE POLICY ACTIONS IN RESPONSE TO CYCLICAL RISK IN AGRICULTURAL PRODUCTION

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Although studies have shown that these insulating trade policies have had nontrivial effects on the world price surge and welfare (Götz, Dijkstra, and Nievieisky, 2016; and Lefert and Weiscott, 2015), some of previous studies focus on identifying causal relationship between price spike and collective trade policy actions in response to cyclical shock in a specified conceptual framework. For this reason, the study is motivated to develop a specified conceptual framework to theoretically examine the causal relationship between price and collective trade policy actions in response to cyclical risk.

3. Effect of Import Incentive on Price and Trade Flow

As equation (3) shows, the optimal base price is independent of cyclical and policy variables. Therefore, the effects of collective trade policy actions in response to cyclical risk on price and trade can be theoretically examined by equations (1) and (2), respectively, given the base price which is determined by market preference of n number of countries in the world economy.

THEORETICAL EXAMINATION

1. Effect of Cyclical Shock on Price and Trade Flow

Now, let us examine the effect of a cyclical shock on price and trade flow by differentiating equations (1) and (2) in terms of $i$,

$$\frac{\partial p_i}{\partial \lambda_i} = \frac{\alpha_i}{\sum \alpha_j} \left( \frac{\partial X_{ij}w}{\partial \lambda_i} \right)$$

Equation (4) shows a negative relationship between $p_i$ and $\lambda_i$. As a result, a decrease in agricultural productivity in exporting country $i$ decreases price in importing country $j$. Equation (5) shows that a negative relationship between $X_{ij}$ and $\lambda_i$. As a result, this study can confirm that a decrease in agricultural productivity in exporting country $i$ decreases trade flow from exporting country $i$ to importing country $j$.

2. Effect of Export Restriction on Price and Trade Flow

The effect of an export restriction implemented by exporting country $i$ on price and trade flow can be examined by differentiating equations (1) and (2) in terms of $\eta_i$ as follows:

$$\frac{\partial p_i}{\partial \eta_i} = \frac{\alpha_i}{\sum \alpha_j} \left( \frac{\partial X_{ij}w}{\partial \eta_i} \right)$$

Equation (6) shows a positive relationship between $p_i$ and $\eta_i$. As a result, an export restriction implemented by exporting country $j$ increases the price in importing country $i$ and decreases the price in exporting country $j$. Equation (7) shows a positive relationship between $X_{ij}$ and $\eta_i$. Therefore, export restriction implemented by exporting country $j$ increases trade flow from exporting country $j$ to importing country $i$.

CONCLUSION

The results of this study offer the following conclusions. First, the cyclical shock in agricultural productivity can cause price spikes in international agricultural and food markets. Second, following collective trade policy actions in response to the shock will worsen food price spikes and trade flow.

REFERENCES