Who Benefits from Tariff Reduction by KOR-US FTA? – In the Case of Korean Orange Market

Yongho Choi, YeongSeok Yun, Sang Hyeon Lee

Korea Rural Economic Institute
(Contact Information: shlee@krei.re.kr)

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[Background]
Recently in South Korea, there have been discussions on the price of imported agricultural products. Before the KOR-US FTA enters into force, Korean government has announced that a reduction in preferential tariff by FTA lowers consumer prices and finally raises total social economic welfare including consumer welfare. However, some media and consumer civic groups argue that the implementation of FTA does not lower consumer prices of imported fruits.

[Purpose]
This paper attempts to explain why tariff reductions by FTA are not connected to a decrease in consumer prices. In particular, it investigates why the implementation of the KOR-US FTA does not have the expected effect on both consumer price of imported oranges and consumer welfare.

[Approach]
To examine the structural characteristics of orange market for each distribution stage, we first look at the trends of prices and the number of players in both import and distribution processes. Next, we construct a hypothesis that if the US orange exporters exercise mighty market power by a superior position with respect to the Korean importers (i.e. the market is under imperfect competition), tariff reductions by the KOR-US FTA can be reflected in the exporting stage’s pricing. Finally, we test the hypothesis through a regression on an exporting price equation, and we measure each agent’s economic welfare by using an equilibrium displacement model (EDM) for an imperfectly competitive market. Also, we consider an equilibrium agent’s economic welfare between market structures (imperfect competition vs perfect competition).

[Tariff Reduction Schedule]

<table>
<thead>
<tr>
<th>Year</th>
<th>Tariff for US orange imported from US</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>25%</td>
</tr>
<tr>
<td>2012</td>
<td>20%</td>
</tr>
<tr>
<td>2013</td>
<td>15%</td>
</tr>
<tr>
<td>2014</td>
<td>10%</td>
</tr>
</tbody>
</table>

[Characteristics of Orange Market]
Since 2012 (the implement of KOR-US FTA), consumer price has shown an upward trend.

⇒ The implement of KOR-US FTA does not likely lead to a decrease in orange’s consumer price.

[Market Structure]
About 90% of oranges imported to Korea come from California. About 100 companies of Korea have imported oranges from Sunkist which is a profit marketing cooperative entirely owned by and operated for 100 companies of Korea.

⇒ Orange market of Korea is likely an imperfectly competitive market.

[Price Difference between Market Structures]
In comparison of both export price and consumer price between market structures, export price (P′d) and consumer price (P′r) under imperfect competition are relatively higher than those (P′d and P′r) under perfect competition, respectively.

[Who consider tariff reductions in their pricing?]

<Tests for tariff reduction impact on pricing>
(US → KOR) Unit: USD
\[ P_{\text{fob}} = \phi + \phi_{\text{import}} + \phi_{\text{producer}} + \text{EXE} + \zeta + \left( P_{\text{t+d}} + \eta + \eta + \phi_{\text{retail}} \right) \]
In the regression on exporting price, the coefficient on tariff is statistically significant and negative.

⇒ The US orange exporters are likely to adjust their exporting price based on the schedule of tariff reduction.

(Import → Wholesale) Unit: KRW
\[ P_{\text{wholesale}} = \phi_{\text{import}} + \phi_{\text{wholesale}} + \phi_{\text{retail}} + \text{ET} + \nu \]
In the regression on distribution stage’s price, the coefficients on tariff (T) are not statistically significant.

⇒ Tariff cuts are not likely to affect the pricing of distribution stages within Korea.

[Who are enjoying the benefits from tariff reductions?]

The difference between the two models (A-B)

<table>
<thead>
<tr>
<th>Year</th>
<th>US → KOR Import → Wholesale Wholesale → Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>758.648</td>
</tr>
<tr>
<td>2012</td>
<td>153.650</td>
</tr>
<tr>
<td>2013</td>
<td>40</td>
</tr>
<tr>
<td>2014</td>
<td>17</td>
</tr>
</tbody>
</table>

Concluding Remark
If the market share of a small number of exporters is overwhelmingly large (i.e. the market is likely close to imperfect competition), exporters may determine exporting prices based on the size of tariff reduction.

In such cases, when one estimates each agent’s economic welfare under perfect competition, she may obtain an underestimated value for exporter agents’ welfare within Korea is relatively smaller in size under imperfect competition. However, the positive effect of tariff reductions on the US exporters’ welfare is relatively larger.

References to the tables and figures as needed.