



The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

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)

Selected Poster prepared for presentation at the Southern Agricultural Economics Association's 2016 Annual Meeting

San Antonio, Texas, February 6-9, 2016

Copyright 2016 by Yongho Choi, YeongSeok Yun, and Sang Hyeon Lee. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

Introduction

[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 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 compare each agent’s economic welfare between market structures (imperfect competition vs perfect competition).

Tariff Reduction Schedule

Korean government imposes preferential tariff (Mar.–Aug.) for fresh oranges imported (HS code: 080510). Korea is implementing the following schedule of tariff reduction on oranges imported from the US.

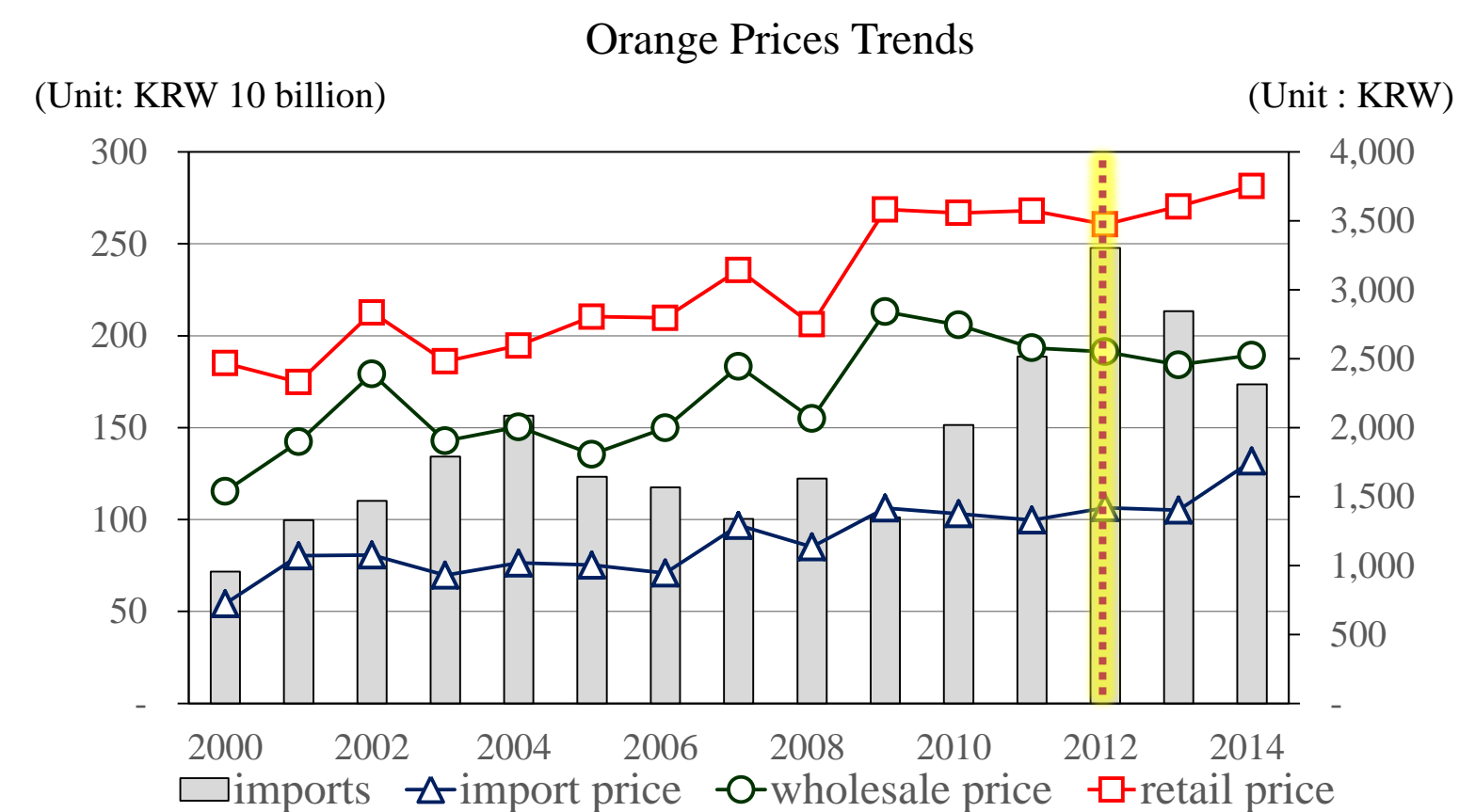
		2011	2012	2013	2014
Tariff for oranges imported from US	Mar. to Aug.	50%	30%	25%	20%
	Jan. to Feb., Sep. to Dec.	50%	50%	50%	50%

Characteristics of Orange Market

[Orange Prices Trends]

Since 2012 (the implement of KOR-US FTA), comsumer price has shown an upward trend.

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



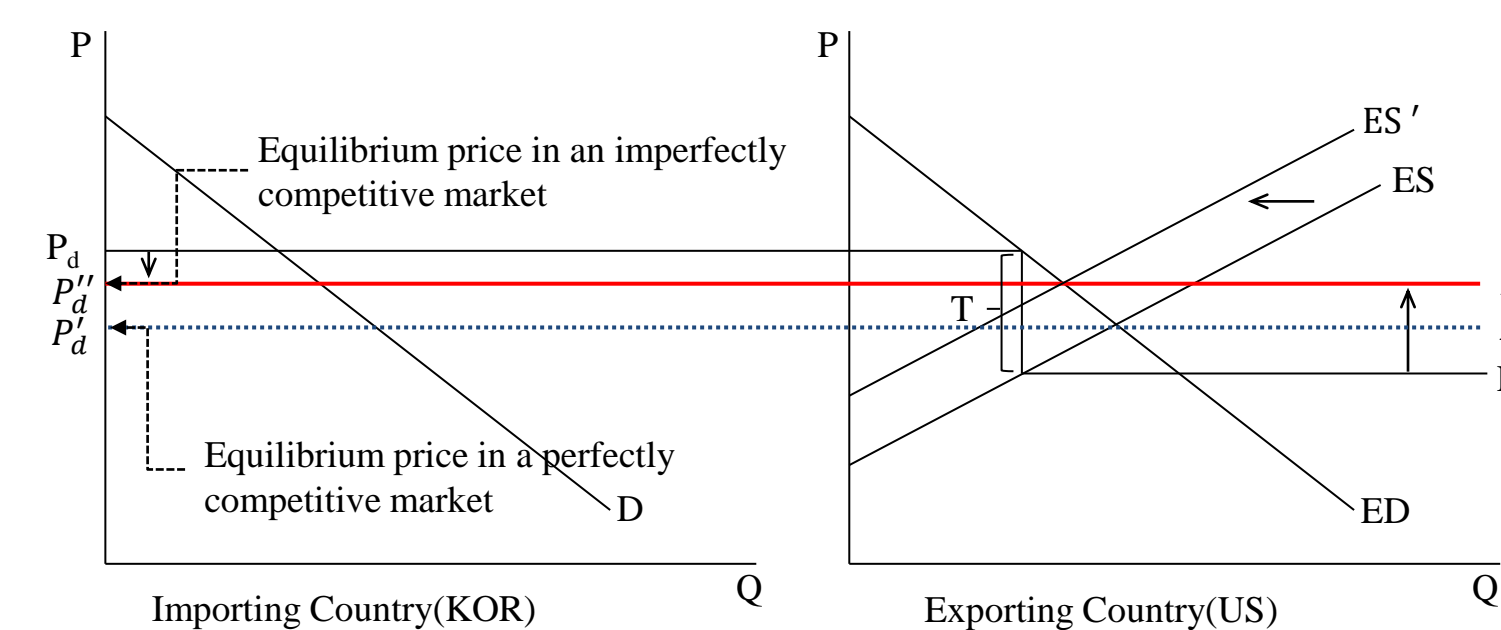
[Market Structure]

About 90% of oranges imported to Korea come from California. About 100 companies of Korea have imported oranges from Sunkist which is a not-for-profit marketing cooperative entirely owned by and operated for about 6,000 growers in California and Arizona.

⇒ 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_x'') under imperfect competition are relatively higher than those (P_d' and P_x') under perfect competition, respectively.



Analysis

[Who consider tariff reductions in their pricing?]

<Tests for tariff reduction impact on pricing>

(US → KOR) Unit: USD

$$P_{fob} = \alpha + \beta Q_{export} + \gamma P_{producer} + \delta EXR + \epsilon O_p + \xi P_{wFOB} + \eta T + v$$

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

$$P_{wholesale,t} = \pi + \rho P_{import,t} + \sigma P_{imp,t-1} + P_{wholesale,t-1} + \tau T + v$$

(Wholesale → Retail) Unit: KRW

$$P_{retail,t} = \phi + \kappa P_{wholesale,t} + \lambda P_{retail,t-1} + \mu T + \omega$$

In the regressions on distribution stages’ price, the coefficients on tariff (T) are not statistically significant.

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

	US → KOR	Import → Wholesale	Wholesale → Retail
T	-0.574**	758.648	-153.650

<EDM for Imperfectly Competitive Market>

$$1) EP_{fob} = \eta_{Q_{ex}P_{fob}}EQ_{ex} + \eta_{P_pP_{fob}}EP_p + \eta_{EXR_{fob}}EEXR + \eta_{O_pP_{fob}}EO_p + \eta_{P_{wFOB}P_{fob}}EP_{wFOB} + \eta_{TP_{fob}}ET$$

$$2) EP_{cif} = R_{P_{fob}P_{cif}}EP_{fob} + R_{I.F.P.cif}EI.F.$$

$$3) EP_m = EP_{cif} + ET' \text{ where } (ET' = dT/(1 + T))$$

$$4) EP_w = R_{P_mP_w}EP_m + R_{M_wP_w}EM_w$$

$$5) EP_r = R_{P_rP_r}EP_w + R_{M_rP_r}EM_r$$

$$6) EQ_d = \eta_{P_rQ_d}EP_r + \eta_{P_sQ_d}EP_s + \eta_{IQ_d}EI$$

$$7) EQ_{ex} = EQ_d$$

Equations (1)-(7) comprise the rates of change ($EY = d\ln Y$), elasticities ($\eta_{XY} = d\ln Y / d\ln X$), price ratios for each variable ($R_{XY} = Y/X$). In the model, endogenous variables are EP_{fob} , EP_{cif} , EP_m , EP_w , EP_r , EQ_d , and EQ_{ex} , and exogenous variables are $EEXR$, EP_p , EO_p , EP_{wFOB} , ET , $EI.F.$, ET' , EM_w , EM_r , EP_s , and EI .

To examine the pure effect of tariff reductions on welfare, the rates of change for all exogenous variables, except the rates of tariff change (ET and ET'), have the value of zero.

✓ In EDM under perfect competition, $ET = 0$ because tariff reductions are not reflected in export pricing.

Results

[Who are enjoying the benefits from tariff reductions?]

Tariff cuts commonly boost economic welfare for all agents, of course except government, in the two different EDMs. Compared to the results under perfect competition, the positive effect of tariff reductions on all 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.

Welfare Changes from Imperfectly Competitive Market Model (A)					
(Unit: KRW 100 million)		2011-2012	2012-2013	2013-2014	2014-2015
Tariff changes		50% → 30%	30% → 25%	25% → 20%	20% → 15%
Korea	Total	24	-10	-17	-21
	Consumer	150	46	35	21
	Government	-223	-82	-75	-56
	Wholesaler	40	9	7	4
	Retailer	56	17	17	9
US	Exporter	160	86	89	77

Welfare Changes from Perfectly Competitive Market Model (B)					
(Unit: KRW 100 million)		2011-2012	2012-2013	2013-2014	2014-2015
Tariff changes		50% → 30%	30% → 25%	25% → 20%	20% → 15%
Korea	Total	116	38	34	23
	Consumer	214	80	67	49
	Government	-233	-85	-78	-58
	Wholesaler	56	15	14	10
	Retailer	79	28	32	22
US	Exporter	47	25	20	17

The difference between the two models (A-B)					
(Unit: KRW 100 million)		2011-2012	2012-2013	2013-2014	2014-2015
Tariff changes		50% → 30%	30% → 25%	25% → 20%	20% → 15%
Korea	Total	92	48	51	45
	Consumer	63	33	32	29
	Government	-10	-3	-3	-2
	Wholesaler	16	6	7	6
	Retailer	23	12	15	12
US	Exporter	-113	-61	-69	-61

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 welfare and an overestimated value for consumer welfare.

Therefore, the changes on consumer’s price and welfare realized by the implementation of FTA can be different from the ones the government has expected.