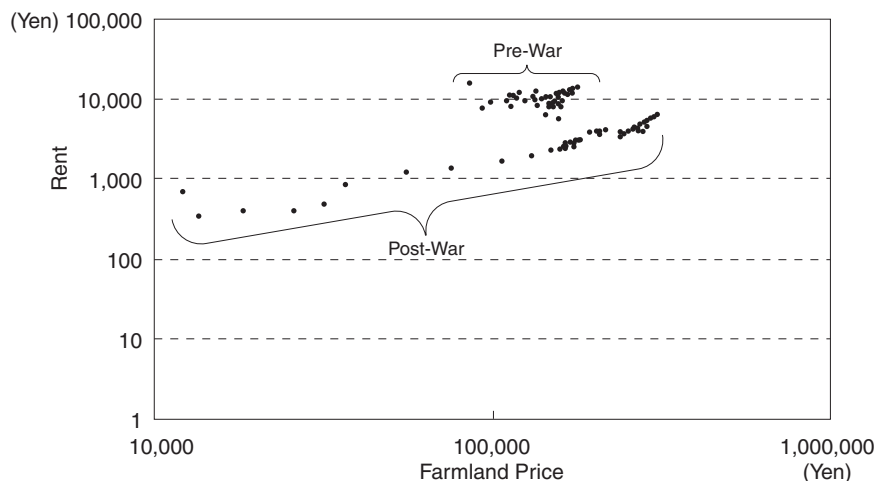


Table 3. Estimation Results of Long-run Relationship Region

Region	α	β	Adj. R^2	Adjustment Term (Year)
Hokkaido	3.626	0.924	0.885	8.33
Tohoku	5.913	0.752	0.816	6.83
Kanto	3.564	1.088	0.922	16.66
Hokuriku	5.346	0.848	0.880	10.34
Tozan	5.259	0.884	0.862	—
Tokai	5.011	0.924	0.924	8.43
Kinki	3.679	1.089	0.917	—
Chugoku	5.357	0.827	0.879	—
Shikoku	6.285	0.758	0.865	13.62
Kyushu	4.417	0.929	0.941	5.43

Notes: 1. Estimation equation is $\ln P_t = \alpha + \beta \ln R_t + u_t$. For all regions, coefficients α and β are significant at 1%.
 2. Adjustment term is year unit, and is estimated from error correction term of error correction models.
 3. "—" means blankets because of not satisfying robustness of estimation results.

**Fig. 1.** The Relationship between Farmland Prices (P) and Rents (R) (1903-2002)

Note: Both axes are expressed as log scale. Data series are deflated and the base year is 1960.

Sources: Ohkawa, K. and N. Takamatsu. "National Income", Ohkawa, K. et al (eds.) *Estimates of Long-Term Economic Statistics of Japan Since 1868, 1966*, Toyokeizai-Shinposha. Umemura, M. et al. "Agriculture and Forestry", Ohkawa, K. et al (eds.) *Estimates of Long-Term Economic Statistics of Japan Since 1868, 1966*, Toyokeizai-Shinposha. Japan Real Estate Institute. *Survey on Agricultural Land Price and Farm Rent*. Economics and Social Research Institute, Cabinet Office, Government of Japan. *Annual Reports on National Accounts*.

Studies on Trends in Agriculture and Agricultural Policy in Korea

Yasuo WATANABE

1. Objective

As the globalization of trade intensifies, there has been intensive negotiation of bilateral Free Trade Agreements (FTAs) and Economic Partnership Agreements (EPAs) in parallel with WTO multilateral trade negotiations. Following the EPA concluded with Mexico in 2004, Japan is also moving ahead with discussions with Korea, ASEAN member countries and some others.

2. Method

As Korea has been at the front of negotiating countries, MAFF asked PRIMAFF to do a study on its agriculture and policy as soon as possible. Taking this into account, PRIMAFF established a special team consisting of researchers from inside and outside the country to gather and analyze information gained by publications, websites, and study tours in Korea.

3. Outline of the results

The results of the research were as follows.

(1) Economic growth and agriculture in Korea

Korea has been attaining a rapid economic growth under industrialization since the 1960s, and has almost reached to the forefront of advanced countries. On the other hand, the share of agriculture, forestry and fisheries as part of its economy has been declining gradually. The decreased share of added value by agriculture and number of agricultural workers were mainly caused by increased agricultural labor productivity, largely attributed to total factor productivity (TFP). Although technological innovation, such as an introduction of new crop varieties and chemical fertilizers, was a major factor of increased TFP until the 1980s, the increased efficiency achieved by structural adjustment was a main reason for it since then (Table 1).

Table 1. Growth Accounting in the Sector of Agriculture, Forestry and Fisheries in Korea

Fiscal Year	Growth Rate of Labor Productivity	Growth Rate of TFP	Contribution of Capital Equipment	Contribution of Land Equipment
1953-02	4.03	3.11	0.37	0.55
1953-60	0.72	0.68	0.48	-0.43
1960-70	3.68	2.98	0.41	0.28
1970-80	1.71	1.51	0.21	-0.01
1980-90	6.96	5.27	0.25	1.44
1990-02	5.91	4.24	0.54	1.13

Notes: 1. Time and education level are not taken account into labor input.

2. Contribution of capital equipment and land equipment means growth rate multiplied by distribution rate.

3. TFP means "Total Factor Productivity".

(2) Agricultural production and policy in Korea

Korean agricultural production has been showing a consistent growth based on the value of the Gross Agricultural Product until 2002, when it decreased for the first time against the previous year. In Korea, the main agricultural policy target was changed toward environmentally friendly farming from enhancing competitive farming starting in the mid 1990s. Although agricultural productivity has grown rapidly, Korean farm household income has declined compared with urban office workers. Now, therefore, its main agricultural policy target is shifting to income.

(3) Vegetable production and trade in

Korea

Since the 1980s, Korean vegetable production has increased rapidly, attributing to fruit-vegetables grown in facilities. Although there is a large deficit in agricultural trade, Korea has a surplus in agricultural trade with Japan. Japan imports 90% of all fruit-vegetables exported from Korea. On the other hand, vegetable imports from China have increased rapidly after trade liberalization. The vegetable trade between China, Korea and Japan looks like a domino effect (Fig. 1).

List of Research Members

Kiyofumi Ishihara, Kayoko Kubo, Yoshihisa Aita, Toshitaka Katsuki, Shigenori Kobayashi, Michio Higuchi and Gyunghee You

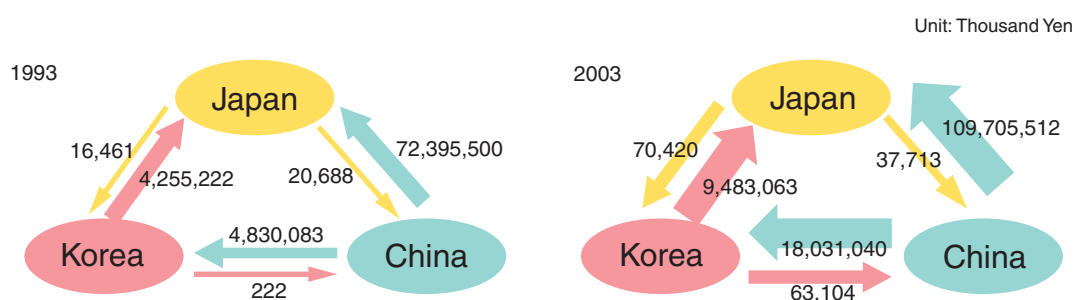


Fig. 1. Trade Flow of Vegetables between Japan, Korea and China

Source: Data Base of Korea Trade Association, "Trade Statistics" Ministry of Finance, Japan

The Quantitative Analysis of the North American BSE Outbreak on the Japanese and World Beef Markets

Atsuyuki UEBAYASHI

1. Objective

The purpose of this article is to present a quantitative analysis of the impact of the outbreak of Bovine Spongiform Encephalopathy (BSE) in Canada and in the US on the world beef market, using the AGLINK model, which is a global partial equilibrium model for agricultural products, developed by the Organization of Economic Cooperation and Development (OECD).

2. World Beef Market Overview

The pattern of beef trade has changed substantially since the outbreak of BSE, in Canada in May 2003 and in the US in December 2004, because many beef-importing countries immediately established an import ban on Canadian and US beef. This has led to a shortage of supply of beef in the global market

and in individual domestic markets, which consequently has increased the price of beef.

There is no single world beef market, i.e., the world beef market is already divided into two groups. One is the Foot and Mouth Disease (FMD)-free market, and the other is the non-FMD-free market. FMD does not damage the health of people — it only affects the health of animals. However, FMD damage rapidly destroys the value of livestock. Therefore, FMD-free countries banned imports of beef and pork from non-FMD free countries. Many pacific countries, such as Japan, the US, Canada, Australia, New Zealand, and Korea are FMD-free countries, whereas the European Union (EU) and Latin American countries are non-FMD-free areas.

Before the outbreak of US BSE, Japan relied on the US for a large part of its beef supplies. In 2003, Japan produced 495 thousand tons of beef, and imported 824 thousand tons, of which, 382 thousand tons were imported