

**An econometric analysis of the trade in forest products
between China and New Zealand**
(中国とニュージーランドの木材貿易に関する計量経済学的研究)

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1. Introduction

China imports forest products from a wide range of countries, and it is being criticized for the sources of forest products as some of them are from illegal logging regions. Our attention is paid to New Zealand (NZ) as a supplier of forest products to China for its success in plantation forest with an increasing capacity of providing forest products under sustainable forest management.

The objectives of this study are 1) to examine the trend of the trade in forest products between China and NZ by using official trade data focusing on roundwood and sawnwood, and 2) to clarify the mechanism of China's demand and NZ's supply by adopting an econometric approach.

2. China's demand and NZ's supply

China's demand for forest products has been increasing, and generally speaking, the demand for the NZ forest products is also increasing. China mainly imports roundwood and sawnwood, and also some paper and paperboard and pulp from NZ. In the same time, NZ's supply to China is also increasing. More plantation forests have come into the harvestable period. Because the world oil price and NZ dollar exchange rate have increased in the last several years, NZ faces difficulties in exporting its forest products. NZ is expecting to expand its export, and China is one of its target markets.

3. Estimation results

Step-wise regression method was adopted in the estimation. Tentative estimation results are shown in the following table. China's demand function (1) for NZ roundwood was estimated and it shows that the CIF price of NZ roundwood and the economic growth level have direct impacts on the demand. But the price was not significant in the NZ's supply function of roundwood to China. The production functions of roundwood (2, 3) and sawnwood (4, 5) were estimated, and the areas of forest over 26 years of age and the number of employees in logging are significant in the former, while the number of employees in sawmilling and the production of roundwood are significant in the latter.

	DW	R ²	Model	Period
(1) LRWD	1.58	0.50	31.84-4.34LPCN+0.23GDPR**	1991-04
(2) LRWP	1.27	0.92	4.37+0.37LFA+0.43LNEL	1990-04
(3) RWP	1.18	0.93	3032.49+50.07FA+1.94NEL	1990-04
(4) LSWP	1.29	0.96	-4.31+0.41LNES+0.90LRWP	1987-04
(5) SWP	1.22	0.96	-842.01*+0.16*NES+0.18RWP	1987-04

*: Significant at 5% level; **: at 10% level; Others: at 1% level.

Note
D: China's demand function;
P: NZ's production function;
RW: roundwood;
SW: sawnwood;
FA: forest areas over 26 yrs;
NEL: number of employees
in logging;
NES: number of employees in
sawmilling;
PCN: price of imported NZ
roundwood in China;

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