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Dairy Trade Between New Zealand and the Republic of Korea: With Special Reference to Casein

This thesis is presented in partial fulfilment of the requirements of Master of Business Studies at Massey University.

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Abstract

The purposes of this thesis were firstly, to identify and describe Korean non-tariff and tariff barriers for casein and other dairy products and secondly, to quantify how much New Zealand could gain from a liberalisation of the Korean casein trade. To do this a one-product five-nation quadratic programming model was formulated.

How Korea has become a major trading power through industrialisation, while heavily protecting agriculture is described. Measures of protection, the pressure to liberalise and the Japanese liberalisation experience are discussed.

Casein was chosen because it is the single biggest dairy commodity exported to Korea from New Zealand. The model consists of demand for casein from the major consuming countries (America, Korea and Japan) and fixed supply from the two major suppliers (New Zealand and the European Community). Various scenarios are run to gauge the effect of a drop in tariff rates in Korea and Japan and at various levels of European production.

The study concludes with the recommendation to continue pushing for liberalisation in multilateral and bilateral negotiations particularly with the European Community.

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CHAPTER ONE

Scope of the Study

1.1 Introduction

New Zealand's economy is heavily dependent on exports of agricultural products. Agricultural exports dominate New Zealand's overseas earnings and will do for many years to come. For example meat, wool and dairy products exports totaled NZ $5239.5 million in 1989[1], representing 44 percent of our total export earnings.

After the United Kingdom joined the European Community in 1973, New Zealand exporters, particularly agricultural exporters, have been under increasing pressure to find new markets for our agricultural products. New Zealand agricultural exporters have found this a very difficult task to accomplish successfully in an international environment which has politicised agricultural trade. Despite efforts through the GATT rounds and numerous bilateral consultations, agricultural exporters have only been moderately successful given that New Zealand's standard of living has fallen relative to other OECD nations.

Diversification is an important part of the strategy to ensure stable export markets and growing revenue for the agricultural sector. There has been a swing away from so-called 'traditional markets' to markets which haven't been tapped before. For instance in 1970, 30 percent of our exports went to the United Kingdom, compared to only 9 percent in 1988. By contrast, our exports to Japan[2] have grown steadily from 8 percent in 1970 to 21 percent in 1988.

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1. Department of Statistics, New Zealand Offical Yearbook 1988-89 p618 Wellington N.Z.

2. ibid., 1988-9, p608-10

With the push towards finding new markets for agricultural products there has been a growing interest in New Zealand to undertake studies of other countries' customs, consumption patterns and trade policies.

This thesis attempts to address some of these questions, with regard to New Zealand's dairy trade, particularly casein with the Republic of Korea. Casein has been choosen because it is the major dairy product traded with South Korea. The study looks at the protection levels afforded to the Korean Dairy Industry and the reasons they were originally put in place. The barriers to entry to the Korean market and measurement methods of these barriers are examined. This involves an assessment of the internal Korean distribution system for dairy products and the implications for New Zealand following changes in the domestic dairy policies in Korea.

1.2 Trade with Korea

During the last five years New Zealand-Korean trade has increased rapidly, doubling from $140 million in 1985 to over $280 million in 1989. Given the new economic environment which exists in New Zealand's market place (ie lowering of tariff rates), the question that arises is whether New Zealand dairy exports to Korea can grow in the next decade.

New Zealand's major exports to Korea are wool, tallow, aluminum, mutton, hides and skins, pulp, leather, fish and casein (see Table 1.1). These are mainly raw unprocessed goods for further processing in Korea. Growth in New Zealand exports to Korea has historically depended upon re-export. The domestic consumption of New Zealand exports to Korea is very low, but with the increasing affluence of the Korean consumer there is potential for a greater volume of exports from New Zealand. Korean exports to New Zealand include: textile yarns, woven fabrics, iron and steal and communications equipment.

Despite the fact that New Zealand's exports to the Republic of Korea totaled NZ$280 million in 1989, New Zealand exporters face a daunting array of tariff and non tariff barriers when trying to enter the Korean

marketplace. This is particularly so when dealing with dairy trade. Casein, some frozen foods and lactose have remained under control of the import surveillance system. Outright bans remain on selected dairy products.

While it is of interest to know why the volumes of dairy products exported to Korea are small, it is of even greater interest to identify the obstacles to dairy exports from New Zealand and to find ways of avoiding these obstacles.

TABLE 1.1
NEW ZEALAND EXPORTS TO THE REPUBLIC OF KOREA

	Year ending June		
	1985/86	1986/7	1987/8
	($ Millions, fob)		
Wool	35.8	60.5	38.6
Hides, skins and furskins	17.9	57.2	82.0
Aluminum	12.2	26.2	4.2
Sheepmeat	15.5	15.4	21.0
Fish	8.3	14.4	9.1
Leather	11.1	12.9	7.2
Casein	5.5	9.6	12.3
Logs	7.8	9.3	17.1
Wood pulp	8.5	9.1	40.9
Tallow	22.1	23.3	5.7
Other	22.1	23.3	30.2
Total	166.8	261.2	272.6

source : Export News 3/88 p29

1.3 Objectives of the Study

The overall objective of the study is to analyse the economic importance of the trade barriers which the Korean government has built up to protect its dairy industry. These specific objectives are to:

(1) Identify non tariff barriers in the Korean market place. This will include the study of the Korean distribution system for dairy products and its apparent inbuilt protection devices.

(2) Undertake a literature review on measurement of entry barriers, tariff theory and model development, followed by the development of a quadratic programming model of the world casein market with reference to Korean - New Zealand dairy trade. A framework will be constructed to measure the economic impacts of agricultural protection in Korea.

(3) To construct a trade model of the world casein market incorporating the major players. This is done by estimating demand and supply equations, transport and tariff costs. Through various policy scenarios changes in Korean government policy can be quantified.

1.4 Methodology

A descriptive account of Korean agricultural development, including reasons for the startling economic growth; an overview of the Korean dairy sector, measurement of entry barriers, assistance measures to agriculture, non tariff barriers and the distribution system of New Zealand Dairy Board in Korea, precedes work on actual tariff barriers.

Analysis of tariff rates and their economic impact on the world casein market will be gauged by using details on transport costs, product costs, tariff information and world market supply and demand. After the data on prices quantities, trade flows and competing products are collected a quadratic programming model is developed predicting trade flows and prices of casein. Using this information, a single product, two-region model is built to measure tariffs and transport costs. Once this is

achieved the model is extended to include the major producers and consumers of casein. In order to assess the impacts of a change in Korean tariff levels, sensitivity analyses will be undertaken. From this, various conclusions and recommendations will be made to assess the viability of increased dairy trade with Korea.

1.5 Organisation of the Study.

This study is divided into seven chapters. Chapter Two draws particular attention to reasons why the Korean government has built up the barriers in its dairy industry. This will explain why New Zealand dairy exporters have not succeeded in establishing a market in the Republic of Korea. Non tariff barriers have served as an effective barrier to entry to the Korean market. Identification and description of these non tariff barriers are documented, including factors in the distribution system which hinder foreign traders from selling products.

Chapter Three will briefly review previous literature on protectionism in trade, giving the reasons for protection and highlighting the literature and the debates which currently exist. Measurement of protection is also looked at in detail. Korean assistance to agriculture is also surveyed detailing tariff rates, rates of protection and the internal distribution system. Future liberalisation scenarios are investigated using the GATT and the Japanese experience as possible pointers.

Chapter Four formulates a partial equilibrium model which will be developed for use in estimating tariff impacts on New Zealand casein trade with Korea. A quadratic programming model is developed to estimate trade flows and prices in each country. World casein trade is modelled with Korean, Japanese, European Community, United States and New Zealand casein supply and demand equations.

In Chapter Five the specification of the quadratic programming model is detailed. A five- country one-product model is developed.

Sensitivity analysis has been carried out to assess the effect of partial removal of barriers in Chapter Six.

Chapter Seven offers some recommendations on the strategies for trade development and draws some conclusions.