

THE CAUSES OF PROTECTION IN THE
JAPANESE BEEF INDUSTRY

by

Roger Edwin Lloyd

A thesis submitted in partial fulfillment
of the requirements for the degree

of

Master of Science

in

Applied Economics

MONTANA STATE UNIVERSITY
Bozeman, Montana

June 1986

APPROVAL

of a thesis submitted by

Roger Edwin Lloyd

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

Date

Co-chairperson, Graduate Committee

Approved for the Major Department

Date

Head, Major Department

Approved for the College of Graduate Studies

Date

Graduate Dean

STATEMENT OF PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a master's degree at Montana State University, I agree that the Library shall make it available to borrowers under rules of the Library. Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of source is made.

Permission for extensive quotation from or reproduction of this thesis may be granted by my major professor, or in his absence, by the Director of Libraries when, in the opinion of either, the proposed use of the material is for scholarly purposes. Any copying or use of the material in this thesis for financial gain shall not be allowed without my written permission.

Signature

Date

ACKNOWLEDGEMENTS

I wish to take this opportunity to express my appreciation to my major advisors, Dr. Merle Faminow and Dr. Mike Frank, for their time, interest and encouragement and to the rest of my graduate committee: Dr. Doug Young and Dr. Terry Anderson.

Special thanks also is expressed to my wife, Miho, for her assistance in translating the necessary Japanese documents and to my Japanese relatives for providing timely information when requested.

TABLE OF CONTENTS

	Page
APPROVAL.....	ii
STATEMENT OF PERMISSION TO USE.....	iii
ACKNOWLEDGEMENTS.....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
ABSTRACT.....	x
 Chapter	
I. INTRODUCTION.....	1
Overview.....	1
Literature Review.....	7
Effective Protection Rate	7
Economic Regulation	11
Problem Statement.....	16
Goals and Objectives	18
 II. JAPANESE BEEF INDUSTRY.....	22
Japanese Beef Consumption.....	22
Japanese Beef Production.....	33
Japan-U.S. Beef Trading Relationship.....	39
Japanese Beef Import Barriers	42
Tariffs.....	44
Quotas.....	49
Nontariff Barriers.....	57
Levies.....	59
Licenses.....	61
Standards.....	65
Summary.....	67

TABLE OF CONTENTS CONTINUED

Chapter		Page
III.	JAPANESE TRADE NEGOTIATIONS.....	70
	General Agreement on Tariffs and Trade.....	70
	Japan's Involvement in GATT.....	72
	Bilateral Trade Agreements.....	74
	Summary.....	76
IV.	JAPANESE POLITICAL DESCRIPTION- AGRICULTURE AND BEEF.....	77
	Political Structure.....	77
	Legislative Branch.....	78
	Executive Branch.....	79
	Bureaucracy.....	81
	Political Parties.....	82
	The Liberal Democratic Party- Politics and Agriculture.....	83
	Co-operatives.....	88
	Agricultural Laws and Programs.....	91
	Staple Food Control Act.....	93
	Agricultural Land Law.....	94
	Agricultural Basic Act	95
	Beef and Politics.....	99
	Ministry of Agriculture, Forestry and Fisheries.....	99
	Livestock Industry Promotion Corporation.....	100
	Wholesale Beef Price Stabilization Program.....	103
	Japan Meat Conference.....	105
	Summary.....	106
V.	THE THEORY OF PROTECTION AND REGULATION.....	109
	Tariff Equivalent Theory.....	109
	Tariff Theory.....	112
	Effective Protection Rate Theory.....	117
	Economic Regulation Theory.....	121
	Interest-Group Model.....	124
	Voter's Strength Model.....	126
	Necessary Existence Model.....	127
	Political Infiltration Model.....	128
	Income Adjustment Model.....	131
	Summary.....	131

TABLE OF CONTENTS CONTINUED

Chapter	Page
VI. THE EMPIRICAL MODEL AND RESULTS.....	134
The Empirical Model.....	134
Structural Model 1.....	140
Structural Model 2.....	141
Structural Model 3.....	142
Economic Regulation Variable Definitions.....	143
Empirical Model Summary.....	144
Results.....	145
Tariff Equivalents and	
Effective Protection Rates.....	145
Empirical Results.....	147
Structural Variables.....	150
Political Variables.....	152
Summary of Results.....	154
VII. CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS.....	158
Summary.....	158
Implications.....	160
Limitations.....	161
Recommendations for Further Study.....	163
REFERENCES.....	165
APPENDICES.....	173
APPENDIX A: Standards and Certifications for Meat Export to Japan.....	174
APPENDIX B: LIPC Specifications and Conditions for Frozen Grain Fed Beef From the U.S.A.....	180
APPENDIX C: LIPC Specifications and Conditions for Chilled Grain Fed Beef From the U.S.A.....	202
APPENDIX D: Self-Certification Procedures.....	211
APPENDIX E: Japanese Beef Grading System.....	214
APPENDIX F: Data Calculations.....	218

LIST OF TABLES

Tables	Page
1. Value of U.S. Farm Exports to Japan, 1979-1983.....	2
2. Volume of U.S. Farm Exports to Japan, 1979-1983.....	3
3. Japanese Self-Sufficiency Rates for Major Live- stock Products Measured in Final Calories.....	5
4. U.S. Trade With Japan, 1979-1984.....	7
5. Supply of Protein, Fat and Calories Per Capita Per Day in Japan.....	24
6. Japanese Per Capita Meat Consumption.....	29
7. F.A.S. Survey of Average Retail Food Prices in Selected World Capitals.....	30
8. Japanese Cross-Price Elasticities for Selected Countries...	32
9. Livestock Slaughter and Meat Production.....	35
10. Beef and Veal Imports by Origin.....	36
11. Japanese Grain Imports, 1965-1985.....	40
12. Beef Offal Imports to Japan	43
13. Live Cattle Imports to Japan.....	48
14. Japanese Beef Import Quotas.....	51
15. Japanese Licensed Beef Importers.....	52
16. Negotiated Quantities of Imported High Quality Beef, 1983-1988.....	56
17. Japan Meat Conference Levies on Beef Imported Under the Private Portion of the General Quota.....	60
18. LIPC Levies on "One-Touch" Chilled Beef Imported for Designated Stores.....	62
19. LIPC Registered Brand List.....	64
20. Cabinet Departments and Current Ministers as of December 28, 1985.....	80
21. House of Representative Election Results, 1960-1980.....	87
22. Expected Relationships Between Japanese Beef Industry Characteristics and Levels of Protection.....	123
23. Japanese Excellent Grade Beef Tariff Equivalents and Effective Protection Rates, 1963-1983.....	146
24. Empirical Results for Five Economic Regulation Models.....	149
25. Comparison of Japanese and U.S. Beef Grading Systems.....	217
26. U.S. Boneless Beef Exports to Japan, 1963-1983.....	220
27. Japanese Domestic Beef Price Adjustments, 1963-1983.....	222
28. Japanese Beef Import Price Adjustments, 1978-1983.....	223
29. Japanese Beef Import Price Adjustments, 1968-1977.....	225
30. Japanese Beef Import Price Adjustments, 1963-1967.....	226
31. Japanese Beef Import Price Adjustments, 1963-1983.....	227
32. Tariff Equivalents for the Japanese Excellent Grade Beef Industry, 1963-1983.....	230
33. Japanese Feed Cost Shares Calculations, 1963-1983.....	231
34. Effective Protection Rates for the Japanese Excellent Grade Beef Industry, 1963-1983.....	232

LIST OF FIGURES

Figure	Page
1. Per Capita Meat Consumption (Excluding Fish) In Selected Countries.....	26
2. Per Capita Beef and Veal Consumption In Selected Countries.....	28
3. Effects of Tariffs and Quotas.....	46
4. LIPC Distribution System.....	55
5. Electoral Strength of the Liberal Democratic Party.....	84
6. Outline of Nogyo.....	89
7. Tariff Equivalent Theory.....	111
8. Tariff Theory.....	113
9. Determination of the World and Japanese Beef Price.....	136

ABSTRACT

Recently, Japan's markets have received considerable attention in the United States concerning their degree of protection. This study analyzes the degree and underlying causes of protection in the Japanese beef industry from 1963-1983. The Japanese beef industry was chosen due to its high trade barrier visibility and its importance in United States-Japan trade negotiations. Effective protection rates are applied as a measure of protection. Five economic regulation models are developed as possible explanations for the level of protection. An empirical analysis is conducted to determine which model best explains actual levels of protection.

Protection in the Japanese beef industry appears to be directly related to the share of farm population and inversely related to farm income levels. This result implies that current levels of protection are likely to decrease if certain demographic trends in Japan, e.g., declining farm population and declining farm income, continue.

CHAPTER 1

INTRODUCTION

Overview

International trade is crucial to Japan's economy. For example, Japan ranks third in exports behind the United States and West Germany (Nanto). Japan's imports grew from \$8.2 billion in 1965 to an estimated \$136.9 billion in 1985. During that same period Japan's exports grew from \$8.4 billion to an estimated \$176.5 billion. The United States is Japan's most important trading partner accounting for an estimated 35.5 percent of Japan's merchandise exports and 17.1 percent of Japan's import market in 1984 (Economic Report of the President). The overall United States-Japan trade relationship has increased dramatically, rising from \$5.7 billion in 1967 to an estimated \$83.5 billion in 1984.

Japan is the largest importer of American agricultural products. In 1983 Japan purchased \$6.3 billion worth of American food and direct consumable products (Ministry of Agricultural, Forestry and Fisheries). Tables 1 and 2 list selected United States farm exports to Japan. Beef and veal, pork, and poultry made up the three largest farm export categories in terms of value and volume to Japan in 1983. Further, Japan was the leading importer of these United States commodities in terms of both value and volume.

Table 1. Value of U.S. Farm Exports to Japan, 1979-1983

Commodity	Imports from U.S. (Millions of Dollars)				
	1979	1980	1981	1982	1983
Beef & Veal	97	105	110	134	144
Pork	129	117	158	141	153
Poultry Meat	60	61	88	78	87
Corn	1276	1817	2198	1466	1936
Soybeans	1169	1248	1325	1108	1279
Wheat	613	701	732	650	635
Grain Sorghum	281	576	499	282	90
Alfalfa	15	21	20	25	22
Barley	2	22	55	36	42
Grapefruit	82	72	105	91	99
Lemons	105	83	85	83	82
Potatoes	32	37	46	48	44
Variety Meats	132	140	171	191	170
Egg Products	15	20	36	14	15

Commodity	U.S. Share of Japan's Imports (Percent)				
	1979	1980	1981	1982	1983 ^a
Beef & Veal	24	24	28	35	32 (2)
Pork	25	29	22	37	24 (2)
Poultry Meat	53	54	52	48	56 (1)
Corn	86	90	89	80	91 (1)
Soybeans	92	95	95	96	93 (1)
Wheat	56	57	57	58	56 (1)
Grain Sorghum	43	91	87	64	22 (1)
Alfalfa	34	41	46	49	36 (2)
Barley	1	9	18	18	20 (2)
Grapefruit	92	93	94	92	95 (1)
Lemons	99	100	99	99	98 (1)
Potatoes	85	91	92	92	90 (1)
Variety Meats	65	69	74	78	82 (1)
Egg Products	29	42	56	26	40 (1)

a

Numbers in parenthesis indicate the U.S. position as a supplier in 1983.

Source: Agricultural Statistics, Agricultural Affairs Office, American Embassy, June 1984.

Table 2. Volume of U.S. Farm Exports to Japan, 1979-1983

Commodity	U.S. Exports to Japan (1000 Metric Tons)				
	1979	1980	1981	1982	1983
Beef & Veal	34	33	44	53	61
Pork	32	28	40	30	34
Poultry Meat	38	43	65	55	67
Corn	10016	11823	11829	11435	13047
Soybeans	3707	4033	4001	4068	4550
Wheat	3351	3331	3364	3345	3465
Grain Sorghum	2257	3780	2904	1870	644
Alfalfa	366	374	313	425	466
Barley	14	128	0	236	303
Grapefruit	142	129	159	140	169
Lemons	101	102	117	107	120
Potatoes	44	49	51	54	53
Variety Meats	23	30	35	34	36
Egg Products	5	10	20	16	9

Commodity	U.S. Exports to Japan (Percent)				
	1979	1980	1981	1982	1983 ^a
Beef & Veal	63	61	66	75	69 (1)
Pork	38	39	46	51	55 (1)
Poultry Meat	16	13	16	20	30 (1)
Corn	17	19	22	23	27 (1)
Soybeans	18	19	18	16	20 (1)
Wheat	10	9	8	8	9 (3)
Grain Sorghum	38	47	36	31	12 (2)
Alfalfa	58	48	69	69	74 (1)
Barley	2	9	15	18	20 (1)
Grapefruit	52	45	55	54	55 (1)
Lemons	59	60	67	81	75 (1)
Potatoes	56	55	67	64	65 (1)
Variety Meats	14	15	16	15	16 (2)
Egg Products	62	63	66	83	76 (1)

a

Numbers in parenthesis indicate Japan's position as an importer in 1983.

Source: Agricultural Statistics, Agricultural Affairs Office, American Embassy, June 1984.

The bilateral trade flows between Japan and the United States are influenced by political, social and economic issues which, in turn, affect trade policies. Although more complex, flows of agricultural products from the United States to Japan can be primarily explained by the principle of comparative advantage. Comparative advantage implies that a country (or any other entity) can make itself better off by producing that commodity with the lowest cost (including the opportunity cost of the next best alternative) and then trading for more costly commodities. Use of resources in the production of a "second best" product is less efficient than their use in producing the "best" product.

Production of most agricultural commodities in Japan is less efficient and more costly than in the United States. From an economic standpoint it is to Japan's benefit to import cheaper agricultural products from the United States and devote its resources to areas in which it is relatively more efficient. By allowing resources to shift into industries with a comparative advantage, Japan's overall welfare could increase.

Japan appears aware of its "comparative disadvantage" with the United States in agricultural production. In 1983 Japan imported nearly \$21 billion worth of agricultural products while the United States with nearly twice Japan's population imported only \$16.5 billion worth. Japan's agricultural base is small compared to its population. The declining self-sufficiency ratios in agricultural commodities suggest resources are leaving the agricultural sector or are not increasing as fast as the population. Table 3 shows self-

Table 3. Japanese Self-Sufficiency Rates for Major Livestock Products Measured in Final Calories.

Commodity	Self-Sufficiency Rates (Percent)						
	1960	1965	1970	1975	1976	1977	1978
Beef and Veal	95.9	94.5	88.9	80.3	68.7	74.6	73.2
Pork	96.1	100.0	97.6	84.2	86.4	86.6	90.1
Chicken	100.0	96.2	97.7	96.8	95.6	96.0	94.2
Dairy Products	76.4	85.7	89.4	81.8	84.8	87.5	89.3
Eggs	101.3	99.8	97.4	97.0	97.3	97.0	97.2
Fish	109.6	100.4	101.9	99.2	98.9	97.5	95.3
a All Food	---	90	81	76	---	---	74
	---	(76)	(50)	(46)	---	(44)	---

a
Numbers in parenthesis indicate self-sufficiency percentage rates measured in original calories.

Source: -Coyle, William T. "Japan's Feed-Livestock Economy-Prospects for the 1980's", USDA, ERS, Foreign Agricultural Economic Report Number 177.

-Longworth, John W. Beef in Japan, University of Queensland Press, 1983.

sufficiency rates for a number of agricultural commodities as measured by final calories. Final calories (when compared to original calories) do not account for the origin of inputs into the calorie source. Since imported feedstuffs account for a large percentage of the inputs into production, food self-sufficiency rates are much lower when measured by original calories.

Japan's dependence on agricultural imports to feed its population has increased. In 1955 domestic agriculture provided 84 percent of the original calories consumed by the population. By 1980 food self-sufficiency in terms of original calories had declined to less than 50 percent (Longworth, 1983). With its large population and over half of its food needs supplied by imports, Japan is a major purchaser in international agricultural commodity markets.

Recently, Japan has gained a reputation of being highly protective of domestic industries at the expense of its trading partners. Strong political forces within the United States have been directed by the legislative branch and its constituents against certain Japanese trading policies. The general consensus in the United States is that Japan's markets are highly protected relative to other nations. Counter-strategies to Japanese trade policy under consideration by United States officials include retaliatory measures designed to make United States markets equally protected. Such proposed protectionist measures are designed to reduce the \$36.9 billion United States current account trade imbalance with Japan (Table 4). However, an increase in the protection of one country's markets may lead to a retaliatory increase in the protection of the

other country's markets. Reciprocal responses of a retaliatory nature could lead to a trade war. Among the consequences would be a reduction in the \$83.4 billion overall United States-Japan trading relationship thereby reducing gains from trade and diminishing the level of understanding between the two countries. From the perspective of trade theory, these consequences would be detrimental to both countries, who now enjoy the world's largest trading relationship.

Table 4. U.S. Trade With Japan, 1979-1984

	Commodity Flows (Millions of Dollars)					
	1979	1980	1981	1982	1983	1984
Imports	26,260	31,216	37,597	37,683	42,845	60,211
Exports	17,629	20,806	21,796	20,694	21,789	23,240
Deficit	8,631	10,410	15,801	16,989	21,056	36,971

Source: Economic Report of the President, February 1986.

Literature Review

Effective Protection Rate

In the late 1960s and early 1970s the concept of effective protection received considerable attention from international trade specialists. The basic theoretical model for effective protection was developed by Johnson and Cordon (1966). Balassa's pioneering work

in 1965 used the new theory of effective protection to compare nominal and effective tariff rates for a number of countries, including Japan. Effective protection rates differs from nominal rates in their consideration of trade barriers effects on the value-added portion of the product instead of the entire product. He excluded agricultural products due to the difficulty in computing tariff comparisons on products subject to nontariff measures. Standardized input-output coefficients for each industry were obtained from input-output tables of the individual countries. Tariffs for individual commodities were weighted and then averaged to obtain a tariff for the less detailed industry classifications. As an example, he found the effective tariff rate in 1962 to be 50.5 percent for Japanese consumer goods.

A considerable number of papers attempt to explain the empirical evidence for negative effective protection rates. In this case, the value of all production inputs (excluding the value-added) exceeds the "world" price of the product. Hence there is a negative value-added at world prices. This finding sparked some controversy with Basevi and Leith calling the concept "absurd" (Guisinger). They concluded that such negative values imply a high degree of inefficiency in the industry. However, Guisinger developed a theoretical case where negative value-added implies an "infant industry" whose initial value-added is negative but productivity gains in the future may eventually convert it to an industry with positive value-added.

Another question addressed in the literature is the possibility of input substitution when commodity prices are raised by implementation of a tariff on inputs. Anderson and Naya identified

two concepts of effective protection depending on whether the change in value-added occurs before or after substitution is allowed. The first concept uses only the free trade input coefficients whereas the second uses input coefficients for both the free trade and protected situations. Grubel and Lloyd also identified two methods of measuring the effective protection rate and concluded the one based on protected income coefficients is superior to the one based on free trade income coefficients.

Harling and Thompson approached the problem of estimating the technical coefficients differently than the usual method of using national input/output data. They used Canadian production costs in major regions of agricultural production and marketing costs for moving the product from those regions to the wholesale market. In 1975-77 they found the effective protection rate in Canadian beef production to be 28.5 percent. They concluded effective protection is substantially greater than indicated by nominal protection.

The literature is rich with theoretical development of effective protection and its shortcomings. Cordon (1966) treated non-traded inputs the same as primary factors and not as tradable inputs with zero tariffs as Balassa and Basevi. Under such a scenario, the value-added by an industry would include the value-added by non-tradable inputs. Cordon presented the argument that protection is gained by the industry providing non-tradable inputs as well as by providing primary inputs.

Basevi used the theory of effective protection to compare nominal and effective tariff rates in a number of United States industries.

Tariffs were obtained by using a weighted-average tariff rates on inputs into each individual industry. Input data were obtained by using the Standard Industrial Classification (S.I.C.) to identify different inputs specific to each industry. Aggregation of industries was necessary to achieve the industrial level listed by the S.I.C. He found the 1958 effective protection rate of the United States meat packing and canned fruits and vegetables industries to be 50 and 598 percent respectively.

In 1971 Yeats computed nominal and effective tariff rates for the European Economic Community, Japan and the United States for meat and meat products. In Japan the effective tariff protection rate for these products was 69.1 percent. He concluded that the degree of protection increases with the increase in processing level. As an example, the effective tariff protection rate increased from 155 percent to 418 percent as condensed and evaporated milk was processed into butter. This result would be of importance in negotiating tariff reductions on primary products for developing countries interested in increasing the growth of their processing industries. However, Yeats did not include any measure of nontariff barriers in his estimates of effective tariff rates. Later, Yeats (1976) computed effective protection rates for selected United States industries by using production input shares from various years. He concluded that the use of outdated production coefficients imparts considerable bias to effective protection estimates¹.

Shouda used updated input-output data and aggregate tariff rates from 1975 to compare the effective protection in a number of Japanese

industries. Specific commodity tariffs were weighted according to the proportion within the industry under consideration to arrived at a measure of protection for the entire industry. He also estimated the effective protection rate for 1987 based on tariff changes after the Tokyo Round of the General Agreement of Tariffs and Trade (GATT). He estimated the 1975 effective protection rate for agriculture as 5.5 percent when based on simple tariff averages and 9.4 when based on weighted averages.

The literature further recognizes the importance of nontariff barriers in the theory of effective protection. While some have referred to the work by the United Nations Conference on Trade and Development (UNCTAD) which lists nontariff restraints as applied to various agricultural products, most have failed to quantify the differences between tariff and nontariff barriers. Wiff extended the effective rate of protection to include trade distorting measures, e.g., quantitative restrictions, variable levies and export subsidies and domestic farm policies, e.g., indirect taxes, domestic price supports and subsidies. Hillman's discussion of nontariff barriers is useful in identifying various possible barriers and the political motives behind them.

Economic Regulation

Since the 1970's, some economists have turned their attention to applying economic theory to the subject of governmental regulation. A growing body of literature attempts to find plausible economic factors to explain the form and magnitude of government regulation. Although a

unified theory of regulation appears to be still forthcoming, knowledge about the underlying principles has steadily increased. Such knowledge has resulted in an increased interest in empirically testing the new theories. It is not the purpose of this section to include an exhaustive review of the literature on economic regulation, but a look at some of the more important works is useful.

The traditional contention was that government regulation is a means to correct market inefficiencies. The market was assumed unable, for some reason, to operate in an efficient manner. Thus, governments intervene in the marketplace to provide protection for the public. In this public interest theory, regulation was provided to compensate society as a whole from market externalities. It is assumed, of course, that the costs of providing this protection are less than the benefits gained by society. This is a somewhat idealistic and standard political explanation for regulation. However, Posner cites empirical research which tends to dispute any correlation between regulation and market inefficiencies. He lists as examples air transportation, trucking, taxi service, stock brokages and ocean shipping. He states these heavily regulated industries do not possess any intrinsic market inefficiencies which requires governmental intervention.

A fundamental change from the public interest theory was pioneered by Stigler (1971). He made the obvious (after the fact) connection between the economic principles of supply and demand and government regulation. In his private interest theory, resources are used to promote the economic interest of a homogeneous group by

demanding beneficial regulation. The government and the processes used in granting such regulation to the group defines the supply of regulation. The government supplies the power to coerce its citizens and seize money, an activity better known as taxation. A group may seek to utilize this ability of the government for its own beneficial purpose in a number of ways, e.g., direct subsidies, control of new entrants, subsidies to complements, costly regulations on substitutes and price-fixing.

The ability of interest groups to inform the government of its desires in a convincing manner constitutes the demand of regulation. Any group which can demand and receive beneficial government support through regulation receives a wealth transfer from groups unable to demand and receive a lesser form of the regulation or even prevent implementation of the regulation. This private interest theory is also known as the producer theory because producers are usually able to demand and receive beneficial regulation at the expense of consumers or taxpayers.

The strength of a group to demand and receive beneficial government regulation depends upon the costs of obtaining legislation. A substantial organizational cost is incurred when the group is large and the propensity to "free-ride" is great. A "free-rider" depends on others to provide benefits even though it is in his/her interest to aid in the capture of the benefits. As a group grows larger (all else held constant) less per capita wealth transfer is perceived and individual incentive to organize is lessened. An exception to this was noted by Stigler (1974) in which he coined the term "cheap rider".

A large interest group may have many sub-sets, each with a different perceived set of benefits. If the per capita benefits are large compared to those of the rest of the interest group, the sub-set will have the economic incentive to initiate a wealth transfer. In this case, the remainder of the group benefits more than the amount they would be willing to contribute to the wealth transfer process, i.e., become "cheap riders". In contrast to the free rider who pays nothing for the wealth transfer, the cheap rider pays less than others for the same benefits. In addition to organizational costs, an interest group has costs which must be paid in exchange for the regulation. Such costs are paid by votes or through campaign contributions.

Peltzman expanded on Stigler's theoretical foundation by formalizing a mathematical model of the public interest theory. In Peltzman's model, the objective of the regulator is to maximize net votes or achieve majority support (political wealth). The model's essential purpose is to define the limits on the interest group size necessary to achieve this objective.

More recently, Becker proposed a model of political competition among pressure groups vying for the political influence needed to determine the benefits or detriments (subsidies or taxes) to any one group. The distortions in resource use (commonly referred to as deadweight losses), as each group seeks protection, increases with the degree of protection. In this case, Becker asserted that taxpayers have an intrinsic advantage over subsidy seekers in influencing political outcomes. He contended that the pressure exerted by a group depends on the efficiency of the group in producing

the pressure, the marginal effect of additional pressure and the deadweight costs of the taxes or subsidies.

The interest group theory may be viewed as producer oriented. However, extending the rent-seeking paradigm to include economic regulation offers a new perspective. Rent-seeking refers to the economic activity of obtaining any measure which increases wealth, e.g., a protective tariff for the import competing industry. Tullock defined the costs of any protective tariff as the sum of the standard deadweight losses, the costs of using resources in inefficient production and the expenditure of resources used to exert political pressure in an effort to acquire the available rents. Kreuger extended these ideas to the competitive nature of rent-seeking in the specific economic activity of import license procurement. She found that an increase in competition increases the amount of the deadweight loss.²

The observation that rent-seeking is "the expenditure of scarce resources to capture an artificially created transfer" (Tollison, p. 578) leads one to examine Benson and Faminow's (1986) paper in which they discuss the amount of rent an interest group may expect to receive from regulation. They argued that any rents available to a group exceed the losses to consumers to the extent that rents may also be accrued by that group from owners of the factors of production. Wealth is transferred to the beneficiary of the regulation not only from consumers but also from resource owners. The benefits to a business interest group as a whole may outweigh the costs to consumers as a whole. Thus, the rent-seeking interest group has an

additional incentive to seek beneficial regulation over and above that which consumers as a whole would be willing to support to prevent such regulation.

A different approach to explaining economic regulation was taken by Niskanen, and McKenzie and Macaulay. In their bureaucratic theory approach, the key player is the bureaucrat who formulates and enforces the regulation. The amount of regulation is a function of the reward system the bureaucrat faces. The bureaucrat is rewarded by salary and nonpecuniary items, e.g., prestige and power. These rewards are assumed to be an increasing function of the size of the budget controlled by the bureaucrat. The inability of the legislative branch to completely monitor the bureaucrat increases the tendency for over-regulation.

The preceeding literature review provides a theoretical base for this study. The theory of effective protection provides one means of measuring the degree of protection of an industry. The public choice literature provides useful information on possible theories explaining the behavior of groups seeking economic gain through regulation. In this study, effective protection rates are used to identify an appropriate model explaining the level of protection in the Japanese beef industry.

Problem Statement

Is there justification for the current attitude that Japanese trading policies are highly protective? Can it be demonstrated that effective levels of protection in Japan have increased with time? Are

there identifiable political policies and institutions which are responsible for the current levels of protection? To answer these questions it is necessary to generate information on the effective protection rates, the pattern of effective protection over time, and political processes which contribute to the protection rates. Studies are needed to develop measurements of the degree of protection in markets and to identify contributing factors to the protection level. By utilizing effective protection rates, within a framework of economic regulation theory, one may be able to isolate market institutions responsible for the magnitude of the protective measures.

Agriculture is an industry characterized by protective measures which are difficult to identify and quantify. Based on the effective protection literature, a number of observations become evident:

1. Past studies have dealt mainly with effective protection for entire industries. Few studies have concentrated on examining specific commodities.
2. The use of national input-output data requires the aggregation of a number of specific industries which then requires some sort of a weighted tariff average.
3. The agricultural sector has largely been ignored and when included, did not pertain to specific agricultural commodities.
4. There appears to be a lack of studies on effective protection for specific Japanese agricultural commodities.

With a greater understanding of protection and its causes within the Japanese beef industry, negotiated reductions in protection levels and improved trading positions may be possible. In addition to these positive aspects, a greater understanding will reduce trade friction between the United States and Japan and help prevent the occurrence of trade wars. This study is a small attempt to address some of these issues.

Goals and Objectives

The scope of this study is limited to the Japanese beef market. The major goal of this study will be to develop a model of political behavior explaining the causes of protection in the Japanese beef industry. The following objectives of this study include:

1. Identify the Japanese beef market structure, market participants and relevant political decision makers, and barriers to trade.
2. Calculate tariff equivalents of the trade barriers and generate a time series of effective protection rates from 1963-1983 for the Japanese beef industry.
3. Conduct an empirical analysis to determine the contributing factors to the effective protection rate and develop a political protectionist theory to explain variations in the effective protection rate.

These objectives are developed in succeeding chapters. Chapter II considers the Japanese beef market. Aspects of past and current

levels of consumption are identified and the role of domestic and imported beef is examined. A close look is given to the Japanese-United States beef trading relationship. The chapter concludes with an examination of barriers to beef imports. Emphasis is placed on the examination of tariffs, quotas and nontariff barriers. Chapter III outlines Japan's participation in the General Agreement of Tariffs and Trade (GATT) and the resulting implications to nontariff barriers in the beef trade.

Chapter IV discusses Japan's agricultural trade policies. Politics are highlighted in their relationship to agriculture and to the implementation of laws and programs affecting agriculture. Policies and organizations which specifically affect the beef industry are described.

Chapter V develops four economic theories and related models necessary for the fulfillment of this study's objectives. A theory of tariff equivalents is developed to aid in accurate estimations of the effective protection rates. The general theory of tariffs is applied to analyze the possible effects of all trade barriers. The theory of effective protection is developed for use in determining the effective protection rates of the Japanese beef industry. These rates will be used to identify existing components within a number of competing paradigms on the theory of economic regulation. Five models and their possible relation to the Japanese beef industry are presented.

Chapter VI develops the empirical model and discusses the estimates of the tariff equivalents and effective protection rates for the Japanese beef industry. The results of an empirical analysis

of these levels of protection are presented. Certain characteristics of the beef industry structure are included as explanatory variables in this analysis. Chapter VII concludes the study with a summary, implications, limitations and suggestions for further research.

Notes

1. Production coefficients are the fraction of an input which goes into production of the final product.
2. A general survey of the theory of rent-seeking and a nice summary of the papers cited above can be found in Tollison. For a short summary of five competing paradigms in the area of economic regulation, see Benson and Faminow (1986).

CHAPTER II

JAPANESE BEEF INDUSTRY

An understanding of the Japanese beef industry is aided by a close look at its underlying structure. Increased understanding is necessary to ensure complete consideration of relevant factors contributing to the protection of this industry. This chapter will examine Japanese beef consumption and the role of domestic and imported beef in the Japanese demand for beef. Barriers to beef imports will be identified and described.

Japanese Beef Consumption

Historically, the Japanese were not a meat-eating people. The consumption of meat (other than seafood) was prohibited by the infusion of the Buddhist philosophy. During the Meiji Restoration period enormous changes in the economic as well as social and political structures occurred. The Japanese began to become "modernized" and to acquire a level of technological expertise equal to their European and American counterparts. Along with technology they began to acquire other aspects of western culture, including certain dietary components.

The diet began to change noticeably with the increased contact with western eating habits during the Occupation after World War II. By the mid-1950s, the Japanese diet had experienced a rapid inclusion

of livestock products. Although rice, fish, vegetables and soybeans were still an indispensable part of the Japanese diet, there was a marked trend away from starchy foods toward higher protein foods, e.g., meat and fish. Table 5 shows increases in amounts of meat, eggs, dairy products, fish, fat and calories consumed daily from 1960 to 1980. Consumption of meat showed the greatest increase, increasing almost 560 percent from 1960 to 1980.

The reasons for these dietary changes are three-fold. First, Japanese growth in real disposable income has paralleled Japan's rapid economic growth in commerce and industry. Real GNP grew at more than ten percent per year almost every year from 1950 to 1973 and at an average of 5.4 percent from 1960 to 1980. Such increases in personal wealth enabled the Japanese to diversify their eating habits by consuming more expensive and preferred types of food. Second, the availability of both domestic and imported foods had been heightened by international trade and a modern transportation system. Third, eating habits had been changed due to a shift in population from rural to urban areas. The move to urban areas was accompanied by a change in life-style which facilitated greater consumption of convenience foods and less of the more traditional foods requiring time-consuming preparation. For example, toast and eggs have replaced the traditional breakfast of miso soup, natto (fermented soybeans), fish and rice.

Even though dietary habits are changing toward greater consumption of livestock products, meat consumption in Japan lags far behind that of any other developed country. However, Japan's

Table 5. Supply of Protein, Fat and Calories Per Capita
Per Day in Japan

Year	Sources of High Quality Protein (Grams)				Fat (Grams)	Total Calories
	Meat	Eggs	Dairy Products	Fish		
1960	1.7	2.2	1.7	15.6	29.1	2,290
1965	3.5	4.0	3.0	16.4	40.5	2,411
1970	6.0	5.2	4.0	16.6	52.5	2,478
1975	8.5	4.9	4.2	18.1	60.4	2,466
1980	11.2	5.1	4.9	17.9	70.1	2,512
Percent Increase (1960 - 1980)						
	559%	132%	188%	14.7%	141%	9.7%

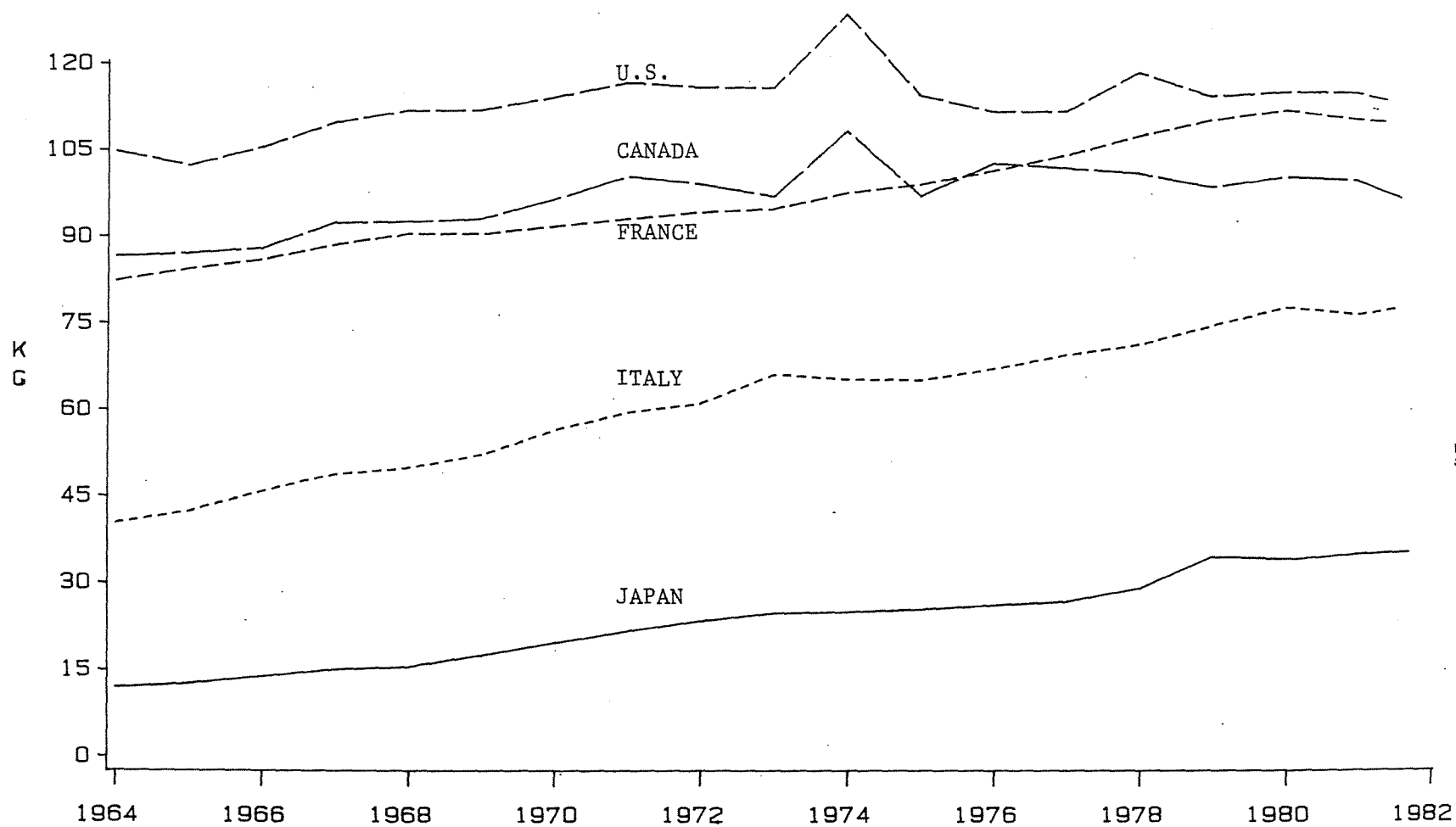
Source: Longworth, John W., Beef in Japan, University
of Queensland Press, 1983.

consumption of livestock products has greatly increased in percentage terms. In relative terms, the Japanese consume small quantities of these products (Figure 1).

One factor which inhibited the increase of meat consumption in Japan was the traditional reliance upon marine products as a source of protein. Deprived of large agricultural land resources, the Japanese turned toward the sea for most of their food needs. Sea products such as fish, shell fish and whale comprised approximately 75 percent of all animal protein intake in 1960.¹ Recently this percentage has decreased to around 50 percent reflecting the decrease in relative importance of marine products as sources of protein. This gradual shift away from fish and toward greater meat consumption can be attributed to higher costs of obtaining fish and to a demographic shift within Japanese society. Rachman, Wheeler and Marsh point out that the tradition which inhibits expansion of protein consumption has become less decisive in urban areas where higher income classes are concentrated.

Estimated income elasticities indicate that meat consumption is more positively responsive to a change in income than is fish consumption (Coyle). Previous studies indicate that the beef, pork and poultry are income elastic (greater than one) and fish is income inelastic (less than one) (Coyle). Therefore, the consumption of beef, pork and poultry is expected to increase faster than the consumption of fish as income increases.

Beef consumption in Japan has increased but at a lesser rate than other livestock products. In comparison to other countries,



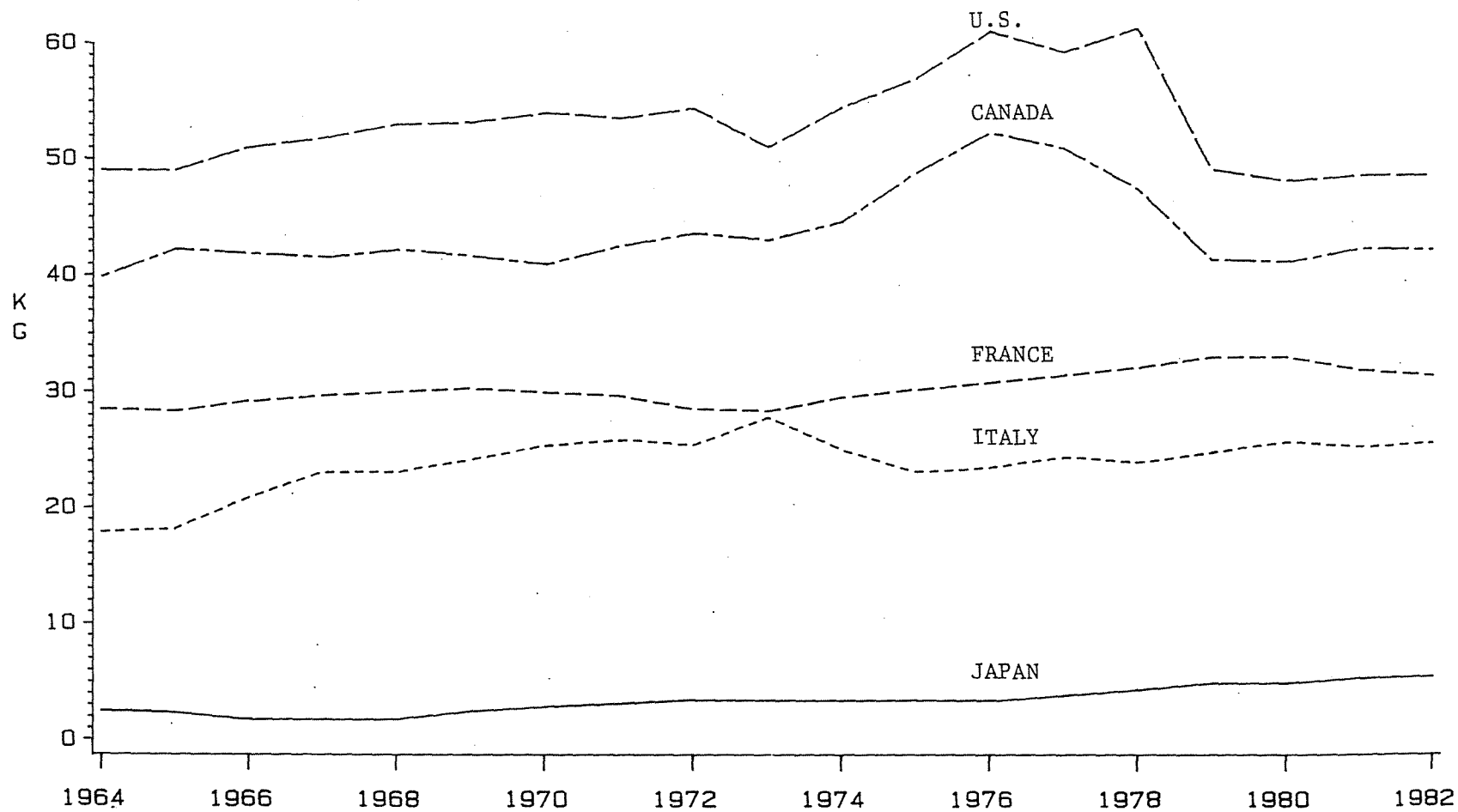
Source: Organisation for Economic Co-operation and Development, Food Consumption Statistics, 1964-1978 and 1973-1982, Paris 1981 and 1985.

Figure 1. Per Capita Meat Consumption (Excluding Fish) in Selected Countries, 1964-1982

Japan's per capita beef consumption is relatively low (Figure 2). Annual per capita beef consumption increased 192 percent from 1960 to 1980, but in comparison, pork consumption increased 638 percent and chicken consumption increased 1825 percent (Table 6). The factors contributing to the magnitude of the own-price and cross-price elasticities are the major reasons contributing to the smaller increase in beef consumption.

Own-price elasticity refers to a change in quantity demanded for a product when the price of that product changes. Usually this value is negative, which indicates less of the product will be purchased as the price increases. Previous studies suggest that the own-price elasticity of beef in Japan ranges from -1.3 to -1.8 (Hayami). Hayami concluded that an estimate of -1.5 is "reasonable". Although the own-price elasticity of beef, pork, poultry and fish are negative, beef and fish are the only meats whose real prices have increased during the latter half of the 1970's. Since the prices of these products have increased, it is expected that the quantity demanded will decrease (all other factors held constant). The real price of pork and poultry have actually decreased during this same period. This could account for the greater increase in consumption of pork and poultry compared to beef and fish. Beef in Japan is expensive when compared to other countries. In November 1985, the price of one kilogram of sirloin steak in Tokyo was \$30.45 compared with \$8.80 in Washington, D.C. (Table 7).

Use of cross-price elasticities is a means to examine the change in quantity demanded of a product when the price of another product



Source: Organization for Economic Cooperation and Development, Food Consumption Statistics, 1964-1978 and 1973-1982.

Figure 2. Per Capita Beef and Veal Consumption in Selected Countries, 1964-1982

Table 6. Japanese Per Capita Meat Consumption

Year	Commodity (Kilograms)					Total
	Beef	Pork	Chicken	Other	Whale	
1960	1.2	1.3	.4	.5	1.6	5.0
1961	1.2	2.1	.8	.4	1.9	6.4
1962	1.3	2.7	1.0	.5	2.4	7.9
1963	1.6	2.3	1.2	.7	2.0	7.8
1964	1.8	2.6	1.4	.8	1.9	8.5
1965	1.5	3.1	1.6	.7	2.1	9.0
1966	1.3	4.1	2.0	1.0	2.0	10.4
1967	1.2	4.6	2.4	1.1	1.8	11.1
1968	1.4	4.3	2.6	1.3	1.4	11.0
1969	1.8	4.4	3.3	1.4	1.3	12.2
1970	2.0	4.7	3.8	1.1	1.5	13.1
1971	2.3	5.1	4.3	1.6	1.3	14.6
1972	2.4	5.6	4.7	1.5	1.2	15.4
1973	2.3	6.4	5.1	1.4	1.0	16.2
1974	2.5	6.5	5.1	1.6	1.1	16.8
1975	2.5	6.5	5.2	1.7	.9	16.8
1976	2.7	7.7	5.8	1.7	.7	18.6
1977	3.0	8.3	6.5	1.8	.7	20.3
1978	3.3	8.7	7.1	1.7	.5	21.3
1979	3.4	9.6	7.5	1.6	.4	22.5
1980	3.5	9.6	7.7	1.2	.4	22.4

Source: Coyle, William T., "Japan's Feed-Livestock Economy: Prospects for the 1980's", U.S.D.A., F.A.S., Economic Report Number 177, February 1983.

Table 7. FAS Survey of Average Retail Food Prices in Selected World Capitals, November 1985
(U.S. Dollars per Kilogram)

ITEM	BERN	BONN	BRAS- ILIA	CAN- BERRA	LONDON	OT- TAWA	PARIS	ROME	TOKYO	WASH. METRO
Steak, sirloin, boneless	22.40	8.32	3.18	5.13	11.39	5.88	9.47	8.19	30.45	8.80
Roast, pork, boneless	8.44	3.95	3.36	3.36	3.90	4.62	5.24	4.97	7.93	4.67
Broilers, Whole	2.61	1.79	1.00	2.33	2.38	1.58	3.76	3.18	3.85	1.78
Eggs, large, dozen	2.81	.91	.43	1.29	1.52	.94	1.07	.93	1.51	1.06
Butter	7.87	3.28	2.51	2.44	2.82	4.11	3.66	3.48	7.88	5.07
Cheese, Cheddar, Emmenth.	7.92	5.28	2.72	3.53	3.44	6.87	6.29	5.92	5.91	6.28
Milk, whole, liter	.75	.42	.24	.44	.53	.85	.55	.59	.94	.50
Oil, cooking, liter	2.74	1.12	.68	1.83	1.52	1.52	1.96	1.09	1.96	2.78
Potatoes	.58	.21	.32	.40	.33	.14	.50	.28	1.19	.64
Apples	1.31	.86	1.30	.69	1.03	1.58	1.00	.85	1.77	1.41
Oranges	1.19	.97	.21	.83	1.44	1.42	1.04	1.02	1.44	1.39
Flour	.96	.51	.24	.68	.37	1.15	.78	.36	.86	.57
Rice	1.52	1.22	2.83	.71	1.20	1.88	1.56	1.12	1.82	1.01
Sugar	.66	.74	1.87	.49	.66	.33	.78	.73	1.30	1.04
Coffee	9.51	9.14	3.97	8.07	8.51	6.12	7.23	7.84	16.68	7.52
Total	71.27	38.72	24.86	32.22	41.04	38.99	44.89	40.55	85.49	44.52

Source: United States Department of Agriculture, Foreign Agricultural Service, Weekly Roundup, December 18, 1985.

changes. Japanese cross-price elasticities as reported by Coyle for different meat products are given in Table 8. The cross-price elasticities between beef, pork, poultry and fish are positive except for the cross-price elasticity of beef and fish. The positive values indicate that beef, pork and poultry are substitutes. The one negative value between beef and fish could indicate that a complementary relationship exists between these two products. This value indicates that the consumption of beef, in some manner, is directly related to the consumption of fish. Such a relationship does not seem plausible. Another possibility accounting for the negative cross-price elasticity is that an increase in the price of fish will lower the income of consumers to such a degree that the quantity demanded of beef will decrease. An income effect which is dominant over the substitution effect hardly seems likely when expenditures on fish constitute only 3.8 percent of the total Japanese household consumption expenditures (Kester). This explanation can also be discarded. The answer to this phenomena could be in the definition of the commodity "fish". Fish consumed in Japan covers a wide range of quality, from expensive high quality tuna to lower quality Horse Mackerel and Flat Fish. Substitution occurs to a great extent between fish of varying quality and price. Therefore, data which use aggregate fish prices are suspect and should not be used to draw conclusions.

Japanese per capita daily caloric intake and protein ingestion is increasing, with the largest increase occurring in the consumption of meat. Among meat sources of high protein, the consumption of pork and poultry have increased the most, while beef and fish have increased at

Table 8. Japanese Cross-Price Elasticities For Selected Commodities

<u>Commodity</u>	<u>Cross Elasticity With Respect to Price of:</u>	<u>Cross^a Elasticity</u>
Pork	Beef	+1.02
Poultry	Beef	+1.04
Fish	Beef	-0.20

a

Estimated by Kester as Reported by Coyle.

Source: Coyle, William T. "Japan's Feed-Livestock Economy: Prospects for the 1980's", U.S.D.A., E.R.S., Foreign Agricultural Report No. 177, February 1983.

a lesser rate. Even so, Japanese consume more fish than beef, pork and poultry combined. Such reliance on marine products appears to be changing and the potential for greater reliance on meat as a protein source is becoming more significant.

Kester found that the law establishing a 200 mile fishing zone off coastal countries adversely affected Japan's catch of marine products.² The uncertainty over source and price of marine products has encouraged Japan to seek more stable sources of protein. Hence, the Government of Japan instituted a program of protection of its livestock sector to support a domestic source of protein. The opportunity also exists for the Japanese to expand imports of meat and livestock products to provide the protein lost from the decline of their fishing industry.

Japanese Beef Production

In a country slightly larger than Montana, Japan has only 14.8 percent of its land suitable for agriculture. Of that, only 1.4 percent is suitable for pasture. Agricultural conditions in Japan are not conducive to beef production. In the past, a shortage of large areas for beef production coupled with the Buddhist prohibition of eating meat, produced an agricultural sector and country with little emphasis on beef production and consumption. As mentioned previously, beef production along with the rest of agriculture experienced a rapid change due to the Meiji Restoration which both changed dietary requirements and increased disposable income.

Beef production (in carcass weight) increased from 208,634 metric tons in 1965 to 492,624 metric tons in 1983 (Table 9). As large as this increase is, the increase in output in the pork and chicken sectors is even larger. Beef production is relatively inefficient and unable to match domestic demand. Hence, imported beef is increasingly important in satisfying domestic beef demand (Table 10).

The inability of the Japanese beef sector to increase efficiency and output is the result of many factors. The effects of a large population, small amounts of suitable pasture land and the Agricultural Land Law of 1952 resulted in an average farm size of 2.7 acres in 1979 (Yamaji). Urbanization and reforestation have resulted in a decrease in the total cultivated land area. The Agricultural Land Law limited farm land ownership between .3 to 3 hectares (.74 to 7.4 acres) and restricted renting and leasing of farmland.³ Even with later relaxation of these restrictions the average Japanese farm is quite small relative to the average farm size in the United States.

The beef industry is also constrained by its inability to procure an efficient supply of feeder cattle. Beef animals that were the by-product of draft labor provided a good source for several years, but with further mechanization this source became limited. Scarcity of land and difficulties of transforming traditional beef operations into large scale cost efficient feeder operations are probably the main reasons for the lack of an efficient supply of feeder cattle to ensure profitable beef production (Hayami).

Table 9. Livestock Slaughter and Meat Production

Year	Category					
	All Adult Cattle		Wagyu		Dairy	
	Head	Carcass Weight (MT)	Head	Carcass Weight (MT)	Head	Carcass Weight (MT)
1965	915,893	208,634	687,569	158,403	228,324	50,231
1966	655,309	149,547	459,675	106,508	195,634	43,039
1967	602,273	153,794	373,035	99,992	229,238	53,802
1968	628,480	170,550	350,093	98,766	278,387	71,784
1969	830,253	226,733	454,416	128,081	375,837	98,652
1970	986,015	269,492	540,212	150,947	445,803	118,545
1971	1,029,829	289,748	544,490	158,881	485,339	130,867
1972	1,086,840	313,442	524,951	158,360	561,339	155,081
1973	805,901	244,194	318,167	101,354	487,734	142,839
1974	983,300	315,449	320,395	108,389	662,905	207,061
1975	1,143,089	348,821	406,121	130,361	736,968	218,460
1976	947,203	295,380	400,598	129,142	546,605	166,238
1977	1,106,578	357,838	439,863	148,187	666,715	209,651
1978	1,198,134	400,756	491,930	169,187	706,204	231,569
1979	1,185,934	399,601	432,519	150,012	753,415	249,589
1980	1,187,039	415,837	374,147	134,044	812,892	281,794
1981	1,321,689	468,294	368,764	134,398	952,925	333,896
1982	1,355,307	478,705	387,636	139,350	957,399	335,784
1983	1,388,206	492,624	445,121	157,894	933,214	331,231

Source: Ministry of Agriculture, Forestry and Fisheries, Livestock Bureau, The Meat Statistics in Japan, Japan, 1985.

Table 10. Beef and Veal Imports by Origin

Year	Imports (MT)				TOTAL
	U.S.A.	AUSTRALIA	NEW ZEALAND	OTHER	
1965	7	7,774	2,569	463	10,813
1966	36	9,345	3,293	819	13,493
1967	8	9,938	2,393	1,454	13,793
1968	41	10,031	2,298	1,133	13,503
1969	97	15,062	3,081	383	18,623
1970	362	20,123	2,511	231	23,227
1971	507	36,959	4,004	101	41,571
1972	647	52,712	3,870	390	57,619
1973	9,527	107,271	9,464	962	127,224
1974	7,712	42,356	2,929	607	53,604
1975	3,545	37,109	3,512	757	44,923
1976	11,864	77,025	4,639	705	94,233
1977	7,330	72,055	3,903	1,259	84,547
1978	13,026	78,173	7,800	1,865	100,864
1979	24,672	101,268	3,510	2,342	131,792
1980	23,674	93,614	3,991	2,673	123,952
1981	27,543	87,071	6,148	2,884	123,646
1982	32,079	86,099	3,645	871	122,694
1983	37,728	91,043	7,734	1,037	137,542
Percent of Total					
1975	7.9	82.6	7.8	1.7	100
1976	12.6	81.7	4.9	.8	100
1977	8.7	85.2	4.6	1.5	100
1978	12.9	77.5	7.7	1.9	100
1979	18.7	76.8	2.7	1.8	100
1980	19.1	75.5	3.2	2.2	100
1981	22.3	70.4	5.0	2.3	100
1982	26.1	70.2	3.0	.7	100
1983	27.4	66.2	5.6	.8	100
Percent Increase (1965-1983)					
	538,871	1071	201	124	1172

Source: Ministry of Agriculture, Forestry and Fisheries, Livestock Bureau, The Meat Statistics in Japan, Japan 1985.

Farmers in Japan are characterized as either full or part-time farmers. Of the nearly 5.5 million farm households⁴ in 1984, 13.5 percent were classified as full-time farm households and 15.4 percent were classified as earning their main income from farming. A large number of families are engaged to some extent in agriculture. However, in comparison, the number of full-time families which depend upon agriculture for their main source of income is quite small. Scarcity of land and small farm size exacerbates this phenomena. The attractiveness of higher paying urban jobs along with a desire to live in a rural setting contribute to the large number of part-time farm households whose main income is earned off the farm.

The number of farm households in 1984 which received more than 80 percent of their total cash receipts from beef cattle was 38,090 or 0.85 percent of the total number of farm households. The overwhelming majority of farm households are not engaged in the serious production of beef cattle. As a result, the average herd size of beef cattle per farm in 1983 was 7.6 animals. However, the trend appears to be fewer beef farms and larger average herd size. Beef cattle production is small in terms of value as well as numbers when compared to other agricultural output. In 1983 it comprised only 3.33 percent of the gross agricultural output.

The breed of the traditional Japanese cattle --Wagyu-- is considered indigenous to Japan. The Wagyu, consisting of four commercial breeds, has declined in relative importance in beef production.⁵ In 1983 the dairy sector contributed 67 percent to Japan's domestic production of adult cattle for beef. Beef production

(carcass weight) increased 136 percent for all adult beef cattle from 1965 to 1983. Dairy carcass production increased 559 percent in this same time period (Ministry of Agriculture, Forestry and Fisheries). Culled dairy cows and dairy steers are the most important source for animals in Japanese beef production. However, from the perspective of the dairy farmers, the sale of dairy steer calves and culls for beef production is not a large percentage of their gross agricultural income. Dairy farmers realize only 10-20 percent of their income from the sale of these animals.

Beef production can be divided into three groups. The first group consists of farmers who breed and produce calves for sale to the second group. This second group purchases calves for fattening and finishing in a feedlot operation. The third group are producers who do both. As expected, there are cost trade-offs for each group. The first group has low feed costs, due to on-farm sources of feedstuffs, but high labor costs. On the other hand, feedlot operators have higher feed costs. A Ministry of Agriculture, Forestry and Fisheries' survey in 1983 showed the total secondary cost (total cost plus capital interest and land rent costs minus income for by-products) for fattening young steers as 739,617 Yen/head (\$3120.75).

Original livestock cost (cost of purchasing the feeders) had the largest share of the total cost with 50.3 percent. Feed and labor contributed 34 and 10.3 percent, respectively. Small pasture areas and a limited feed grain production capacity requires that feed grains and roughage be imported. Domestically produced cattle feed now constitute only 30 percent of the feed requirements with the remainder

coming from foreign suppliers. Table 11 illustrates the large increase in Japanese imports of corn, barley and millet since 1965. Such dependence upon imported feed for beef production lowers the self-sufficiency rates when viewed in terms of original calories. A comparison of the self-sufficiency rates for all food production measured in original calories and final calories was given in Table 3. A large variation in self-sufficiency rates occurs when the origin of the inputs as well as the product itself is taken into consideration.

Japan-United States Beef Trading Relationship⁶

The United States is not the leading beef exporter to Japan. Its share of the market in 1983 was 27.4 percent compared with a 66.2 percent share for Australia. These two countries together with New Zealand accounted for 99.2 percent of the market in 1983 (Table 10). The United States has increased its percentage of the total market at the expense of all other market participants, especially Australia and New Zealand. From 1975 to 1983 the United States increased its market share from 7.9 percent to 27.4 percent while Australia's and New Zealand's shares decreased from 82.6 to 66.2 percent and 7.8 to 5.6 percent, respectively.

The United States is Japan's main supplier of high quality frozen beef; a product for which Japan has recently shown increased demand. Japan requires that high quality beef come from grain fattened cattle of no more than thirty months of age. These cattle must have been fed a ration consisting of not less than 70 percent grain for 100 days or more. The average intake of feed must be 9 kg. per day. United

Table 11. Japanese Grain Imports, 1965-1985

Year	Quantity Imported (1000 MT)									
	Barley		Oats		Corn		Sorghum		Millet	
	US	Total	US	Total	US	Total	US	Total	US	Total
1965	243	531	1	13	1,946	2,887	1,555	1,704	0	0
1966	235	558	1	18	2,096	3,837	2,309	2,651	0	0
1967	99	581	1	23	2,096	4,582	1,986	2,478	0	0
1968	9	639	0	44	2,558	5,287	1,800	2,500	0	0
1969	6	703	1	101	4,536	5,975	1,948	3,228	0	0
1970	0	858	2	18	3,402	5,173	2,553	4,159	0	0
1971	0	913	4	210	2,303	5,416	1,149	3,553	0	0
1972	91	1,245	62	141	5,191	6,881	2,665	3,612	0	0
1973	12	1,308	23	16	6,978	8,210	3,199	4,345	0	0
1974	83	1,546	6	134	5,439	7,388	2,176	4,015	0	0
1975	39	1,649	2	153	5,397	7,879	2,316	3,771	0	39
1976	100	1,733	5	160	7,554	8,874	2,684	4,984	0	58
1977	84	1,773	11	155	7,771	9,717	2,404	5,165	0	49
1978	46	1,460	31	163	8,655	10,936	2,091	5,153	0	64
1979	51	1,365	3	204	10,652	12,052	3,974	4,538	5	53
1980	265	1,506	0	154	12,934	13,879	2,725	3,036	0	47
1981	351	1,470	3	98	10,473	13,261	2,439	2,969	0	51
1982	179	1,280	1	84	12,774	14,486	993	2,711	0	50
1983	427	1,604	1	97	14,260	14,485	1,259	4,175	6	45
1984	200	1,665	1	137	11,400	14,000	2,410	4,625	6	50
1985		1,550		125		14,980		4,600		45

Note: Year is from July-June through crop year 1978 and from October-September from crop year 1979.

Source: U.S.D.A., F.A.S., Report P82.

States beef graded choice and prime automatically meet these requirements.

Australia has the capability to produce grain fattened beef of high quality but the majority of Australian beef is fattened on pasture. Australia's market share of Japanese imports, when compared to its overall market, is not large enough to justify developing a large fed beef industry since there appears to be no domestic market to receive the excess. Their product is a leaner type of beef which does not meet the Japanese demand for a more marbled, high quality type of beef. The Australians also appear to have had some quality control problems and difficulty in maintaining product uniformity.

The United States product more closely matches the Japanese demand and as a result virtually all frozen high quality beef comes from the United States. Bilateral trade negotiations under the Multilateral Trade Negotiations (MTN) framework in 1978 expanded quotas for importation of this beef. This agreement was extended in 1984 and called for a gradual increase each year in the quota until it reaches 58,400 metric tons per year by Japan Fiscal Year 1987. Although this is a global quota which can be filled by any country, the United States will probably benefit the most since the majority of high quality beef originates from the United States.

No discussion on the United States share of the Japanese beef market can be complete without mention of types of beef which are exempt from the Import Quota System and, therefore, can be imported relatively barrier free. Japanese consider liver, tongue, heart, the diaphragm (hanging tender) and outside skirts as offal. Therefore any

amount may be imported under the Automatic Approval System. Offal is subject to an ad valorem tariff which will be reduced to 15 percent by 1987. The diaphragm and outside skirts are especially versatile cuts of meat in the Japanese beef market and importation of this meat along with other offal has increased considerably since 1975 (Table 12).

The United States share of the offal market increased from 24 percent in 1975 to 78 percent in 1982. Of the 56,393 tons of offal imported in 1982, diaphragms comprised about 85 percent. Offal imported from the United States in that year actually exceeded the quantity of non-offal beef imported from the United States. Including the value of both beef and offal exported from the United States to Japan, the United States share exceeds 50 percent of the market. Such a rapid increase in the importation of barrier-free beef offal (especially diaphragm meat from the United States) has restricted the increase in the beef import quota at the expense of non-United States suppliers. Such a situation could have serious implications for the domestic price policy and beef trade policy in Japan. A large dependence on offal in supplying the beef demand may result in a decrease or a slower increase in import quotas in an effort to protect domestic producers.

Japanese Beef Import Barriers

The government of Japan has implemented a number of trade barriers to limit importation of foreign agricultural products. The trade barriers encountered by imported beef limit the quantity imported to the extent that the domestic Japanese beef producers are

Table 12. Beef Offal Imports To Japan

Year	Importing Country				Total
	Australia	New Zealand	U.S.A.	Others	
Quantity (MT)					
1975	6,538	2,516	3,204	954	13,212
1976	10,405	3,863	9,277	1,432	24,977
1977	11,534	3,619	21,466	2,214	38,836
1978	11,801	3,577	33,398	2,875	51,651
1979	10,696	3,404	31,347	3,030	48,477
1980	9,476	3,052	36,700	2,594	51,822
1981	7,395	2,872	41,012	2,612	53,891
1982	6,716	2,531	44,166	2,980	56,393
Market Share (Percent)					
1975	49.5	19.0	24.4	7.1	100
1976	41.7	15.5	37.1	5.7	100
1977	29.7	9.3	55.3	5.7	100
1978	22.8	6.9	64.7	5.6	100
1979	22.1	7.0	64.7	6.2	100
1980	18.3	5.9	70.8	5.0	100
1981	13.7	5.3	76.1	4.9	100
1982	11.9	4.5	78.3	5.3	100

Source: Longworth, John W., Beef in Japan, University of Queensland Press, 1983.

afforded considerable protection against the relatively more efficient foreign producers. These barriers may be listed under such well-known categories as tariffs and quotas as well as the nebulous and "catch-all" category of nontariff barriers (NTBs). Strictly speaking, quotas are considered nontariff barriers. However, since quotas are the main barrier to Japanese beef imports, they will be considered separately from other NTBs.

Tariffs

The agricultural industry in Japan was a primary concern of the Japanese government following the end of the Pacific War. When governmental control was returned to the Japanese by the Occupation Authority in 1950, efforts were made to regulate international agricultural trade to protect and stimulate the domestic agricultural industry. The people of this country devastated by war turned back to agriculture as a basic industry to provide food and jobs. By 1954 agriculture had improved to such an extent that controls were relaxed and only a 10 percent ad valorem tariff remained as the sole barrier on beef. This tariff continued until April, 1964 when it was replaced with the present ad valorem tariff of 25 percent. This tariff is imposed on all imported fresh, frozen, chilled and boiled beef and has not been changed in any of the MTN rounds or bilateral trade negotiations held since it was instituted.

In addition to the 25 percent tariff, the Japanese beef industry is also protected by quotas. The presence of both a tariff and a quota theoretically means one is redundant. In Japan's case the quota is

probably the most important factor restricting imports, thereby making the 25 percent tariff largely redundant.

Consider Figure 3 which depicts hypothetical domestic supply and demand curves for Japan. A 25 percent tariff raises the price of beef in Japan above the world price P_w to P_t . The corresponding difference between domestic supply and demand at price P_t is filled by imports of the amount I_t . Total revenue collected by Japan is equal to .25 of I_t or the area USHI. A quota less than the amount of I_t imposed at the same time as the 25 percent tariff, will restrict imports to the quantity I_q . The resulting tariff revenue of DEMO is less than USHI by the amount equal to the areas of MIHO and DESU. The tariff distributes the profits gained from the differential between the world price and the domestic price away from the holders of the quota to the Government of Japan.

The tariff, DEMO, collected by the government is revenue to organizations allocated the quota. In particular, the LIPC which controls about 80 percent of the total quota, could use this additional revenue in its programs to modernize the domestic beef industry. One reason put forth by Longworth (1983) for the presence of the unnecessary tariff is that the Ministry of Finance, which collects the tariff revenue, feels that elimination of the tariff would signal to the world that beef imports are controlled entirely by quotas. This might indicate that the Government of Japan has no intention of liberalizing future beef imports. Such an argument seems invalid when one considers that a tariff reduction would signal a more liberalized policy toward beef imports. The Government of Japan seems

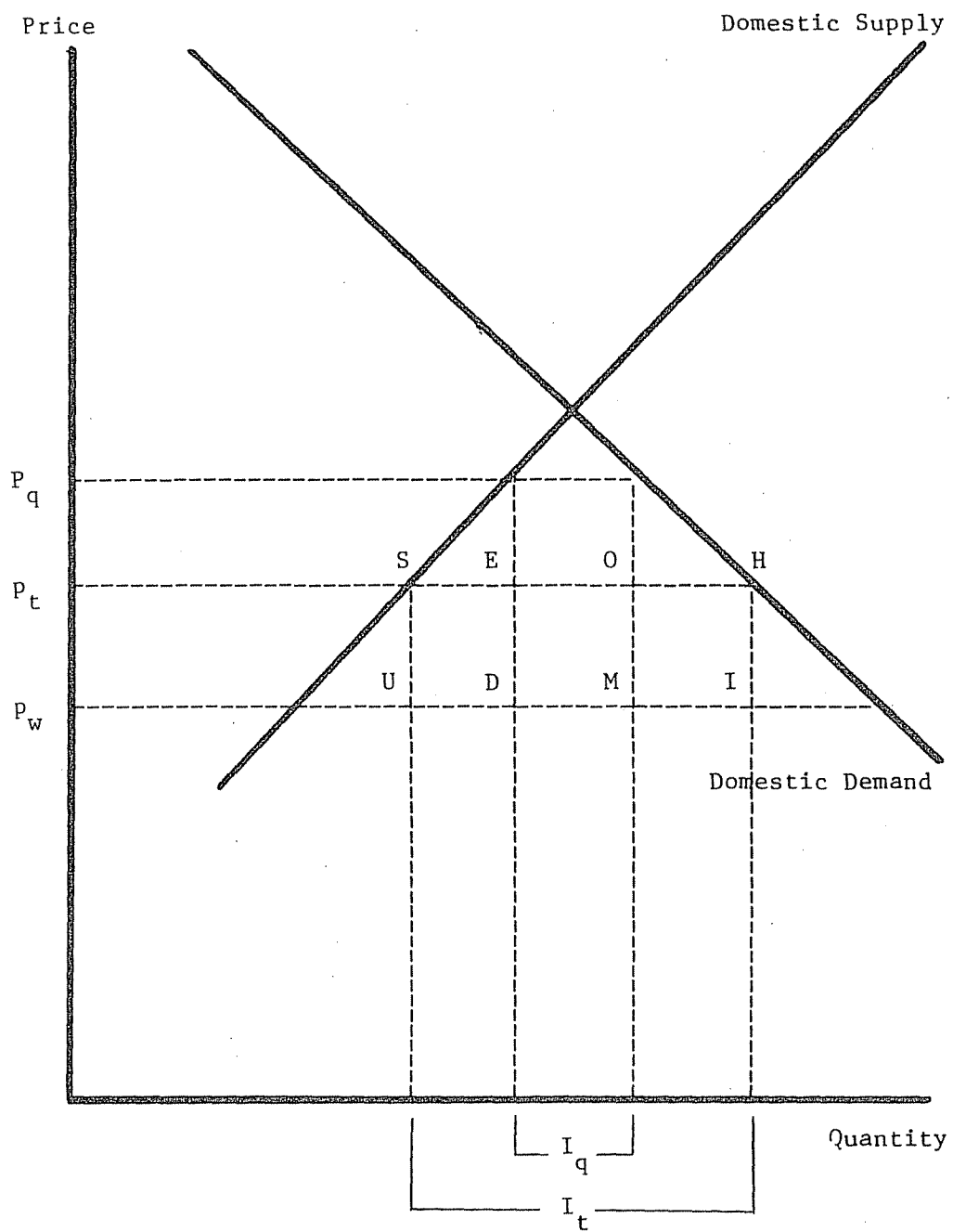


Figure 3. Effects of Tariffs and Quotas

to consider the presence of the tariff as a valuable bargaining chip for future trade negotiations in response to foreign demands for more liberalized beef imports. However, a bargaining chip which has no intention of being played, as seems to be the case with the beef tariff which has never decreased since its inception in 1964, may cease to be useful.

Unlike the beef tariff, the tariff on beef offal has been subject to negotiations. As the result of recent MTN agreements, the tariff is scheduled for reduction to 15 percent by 1987 (Japan Tariff Association). This reduction in the trade barrier could result in an increase of beef offal, perhaps at the expense of beef imports.

Live cattle imports are a relatively small portion of all beef imported into Japan. Even though there are no quantitative restrictions on live cattle imports, their importation is limited mainly by two factors. First, strict quarantine requirements together with a lack of quarantine facilities are the primary factors restricting imports.⁷ Second, a high tariff of 75,000 Yen (\$316 in 1984) is placed on non-breeding cattle over 300 kg. The tariff for non-breeding cattle under 300 kg. is 45,000 Yen (\$190 in 1984). However, there is a tariff-exempt quota established each year for feeder cattle. In 1982 a total of 5,107 head of live cattle were imported (Table 13). The majority of these were imported as feeder cattle. Importation of slaughter cattle decreased substantially from 1981 to 1982, probably due to both an increase in the price of cattle in exporting countries and a decreased demand. A small number of animals are imported for breeding purposes in the beef and dairy

Table 13. Live Cattle Imports to Japan

Year	Number Imported (Hd)				Total
	Dairy Breeding Stock	Beef Breeding Stock	Feeder Cattle	Slaughter Cattle	
1976	850	320	838	2,366	4,374
1977	1,020	484	377	5,331	7,212
1978	1,674	514	3,283	3,461	8,932
1979	1,546	302	10,056	3,362	15,266
1980	616	331	9,703	3,800	14,450
1981	323	461	9,635	3,649	14,068
1982	117	465	3,679	846	5,107

Source: Longworth, John W., Beef in Japan, University of Queensland Press, 1983.

industries. Overall, the relative number of live cattle imported does not appear to have a significant impact on the Japanese beef market. For this reason imports of live cattle are not considered in this study.

Quotas

After the Occupation Authority's release of control in 1950, the Japanese Government closely regulated trade, including agriculture. By 1954 certain industries had improved to the extent that Japan adopted an Automatic Approval foreign exchange control system. This allowed imports of certain agricultural commodities such as beef and animal feedstuffs without prior approval. The adoption of the Automatic Approval system stimulated beef imports to such an extent that in 1958 beef imports were again restricted, but this time under the Fund Allocation foreign exchange control system. This system imposed quotas in terms of value rather than quantity to protect domestic producers. One result was the encouragement of low quality beef imports since importers sought to increase profits by importing the largest quantity of beef allowed. Consequently, the Fund Allocation system was abolished in 1964 and replaced by the current import quota system which limited physical quantities.

Actual quota tonnage for beef is determined by the Ministry of Agriculture, Forestry and Fisheries (MAFF) after consultations with the Ministry of International Trade and Industry (MITI) and the Livestock Industry Promotion Corporation (LIPC) (United States Meat Export Federation, 1984). The Japanese beef quota has expanded greatly

over the years and the allocation of it to specified organizations has become increasingly complex (Table 14).

There are two main categories of quotas, General and Special. The General Quota is divided among the LIPC and private concerns. The LIPC has steadily increased its proportion of the General Quota until it now receives around 90 percent on a regular basis. Subsequently, the proportion received by private concerns has decreased.

The LIPC has four available means of fulfilling its quota. First, the LIPC acts as the merchant and requests competitive bids on specific quantities and cuts of beef directly from importers licensed to import beef into Japan. Licenses are obtained from the MITI. As of March 1983 there were 36 companies authorized to import beef (Table 15). These companies request competitive bids from foreign suppliers. The LIPC then purchases the beef from the importers with the lowest price and holds it in storage for later sale.

The second procedure is the "one touch" system. This system is now used exclusively to supply imported beef to stores within the Designated Stores Program. Participating stores and associations within the Designated Stores Program are authorized by the LIPC to import a specified quantity of beef. These stores are either "super-stores" operated by companies or co-operatives which are assigned the right to import beef directly by the LIPC or are operated by one of five retail meat associations. These associations are allocated part of the LIPC's quota based on regional population and consumption levels. These retail stores in turn contact the licensed importing companies, which solicit bids from foreign suppliers. The LIPC

Table 14. Japanese Beef Import Quotas

YEAR	GENERAL QUOTAS (MT)		SPECIAL QUOTAS (MT)				
	LIPC	Private	Hotel	Okinawa	School Lunch	Cooked Beef	Total
1958		3,000					3,000
1959		3,000					3,000
1960		4,200					4,200
1961		3,000					3,000
1962		3,000					3,000
1963		5,000					5,000
1964		3,000					3,000
1965	600	9,500					10,100
1966	5,000	5,000					10,000
1967	6,000	13,000					19,000
1968	2,738	18,000				700	22,138
1969	5,000	17,000	500			700	23,200
1970	12,000	12,200	500			700	25,400
1971	22,000	14,000	500			700	37,200
1972	57,500	14,000	1,000	4,330		1,000	77,830
1973	146,000	14,000	1,000	6,455		2,000	169,455
1974	a	a	a	5,650		a	5,650
1975	69,900	5,100	1,000	5,500	1,000	2,500	85,000
1976	71,000	9,000	1,000	5,500	3,000	7,000	96,500
1977	73,000	7,000	2,000	5,200	2,200	3,100	92,500
1978	86,500	8,500	3,000	5,600	3,000	5,400	112,000
1979	105,600	10,900	3,000	5,800	2,500	6,700	134,500
1980	106,800	12,200	3,000	5,850	2,250	4,700	134,800
1981	99,900	11,100	3,000	5,850	2,250	4,700	126,800
1982	107,280	11,920	3,000	5,850	2,250	4,700	135,000
1983	112,680	12,520	3,000	5,850	2,250	4,700	141,000
1984	119,880	13,320	4,000	5,850	2,250	4,700	150,000
1985	127,980	14,220	4,000	5,800	2,250	4,700	159,000

Note: A new quota was announced by MAFF entitled "Demand Development Quota" for instigation in the second half of JFY 1985. This 800 ton quota will be used to facilitate imported beef production.

a

Quotas were suspended between February 1974 and January 1975.

Source: - Longworth, John W., Beef in Japan, University of Queensland Press, 1983.
- USDA, FAS (Personal communication).

Table 15. Japanese Licensed Beef Importers^a

Company	
C.Itoh & Co., Inc.	Mitsubishi Corporation
Itoman Inc.	Sumitomo Shoji Co.
Kanematsu-Gosho Co.	Tokyo Maruichi Shoji Co.
Singapore Trading, Inc.	Nissho-Iwai Corp.
Zenchiku, Inc.	Yuasa Trading Co.
Daimaru Kogyo Corp.	Nichimen Co., Ltd.
Toshoku, Inc.	Okura & Co., Inc.
Tomen, In.	Rasa Trading & Co., Inc.
Nichiryō, Ltd.	Toho Bussan & Co.
Nichiku, Inc.	Shibamoto, Inc.
Nichirei Corp.	Azabu Food, Inc.
Nozaki, Inc.	Japan Food, Inc.
Nomura Trading & Co.	Fujita, Inc.
Marubeni Corporation	Hoei Trading Co.
Meidiya & Co., Ltd.	Tokyo Arugasa, Inc.
Mitsui & Co.	Pacific Overseas, Inc.
Kumiai Boeki (Unico-op), Inc.	Teijin K.K.
Taiyo Bussan & Co.	Tokyu Trading, Inc.

^a

As of March 18, 1983.

Source: LIPC, Denver, Personal Communication.

monitors the entire process from the initial price agreements to the inspection of the beef. The LIPC acts as the financial intermediary which pays the importer the agreed amount and receives the agreed revenue plus a levy from the retail company. The licensed importers deliver directly to the Designated Stores Program participants thereby reducing the risk taken by the LIPC.

The third major means available to the LIPC for importing beef is the "modified tender" system. Under this system user groups or organizations (usually Zennikuren) which are allocated a share of the LIPC's quota submit tenders to the LIPC specifying the quantity and quality of beef desired. The LIPC purchases the beef on their behalf from the lowest priced licensed importer and sells it to the end user at their highest offer price. This system was instigated in an attempt to establish a match between domestic demand and imported beef.

The fourth means by which the LIPC can fulfill its quota is the "Simultaneous Buy and Sell" system. This system was announced by the LIPC on January, 1985 following the August, 1984 Japanese-United States Beef Agreement. Under this system, the LIPC announces to user associations the maximum quantity that they can offer for that particular tender. The total quantity imported under this system can not exceed 10 percent of the LIPC's allocated quota. Chilled beef is excluded in this system. The user associations negotiate with foreign suppliers on items such as price, amount, specifications and type of beef. After trade conditions are established, bids are tendered to the LIPC by the users and the licensed importer on the purchase and

selling price respectively. If the user bids a purchase price above a set floor price and the importer bids a selling price below a set ceiling price, the tender will be accepted and notices issued on buy/sell awards. There are thirty-six price bands depending on the type and cut of beef. (See Figure 4 for a summary of these four systems.)

Within the General Quota is a global high quality beef category. This beef can originate from any country, but the specifications favor United States beef since the U.S.D.A. grades of Prime and Choice automatically meet the requirements. It is a misconception that there is a separate high quality beef quota. Agreements stipulate the minimum amount which will be imported under already established quotas. To the extent that the United States fills this beef category, other countries have less of the General Quota available to them. Intense negotiations concerning beef and citrus trade between the United States and Japan and the resulting agreement in April 1979 (see Destler and Sato for a detailed account) increased high quality beef imports under the General Quota by 3,300 metric tons per year until 1984. In April 1984 the agreement was extended to increase the quantity from 6,900 metric tons per year to 58,4000 metric tons by March 1988 (Table 16).

The Private Quota consists of approximately 10 percent of the General Quota and is administered by the Japanese Meat Conference on behalf of MITI and MAFF. The Japanese Meat Conference usually allocates 7 percent of the General Quota to Zennikuren to be imported as private table beef and the remaining 3 percent to the Japan Ham and

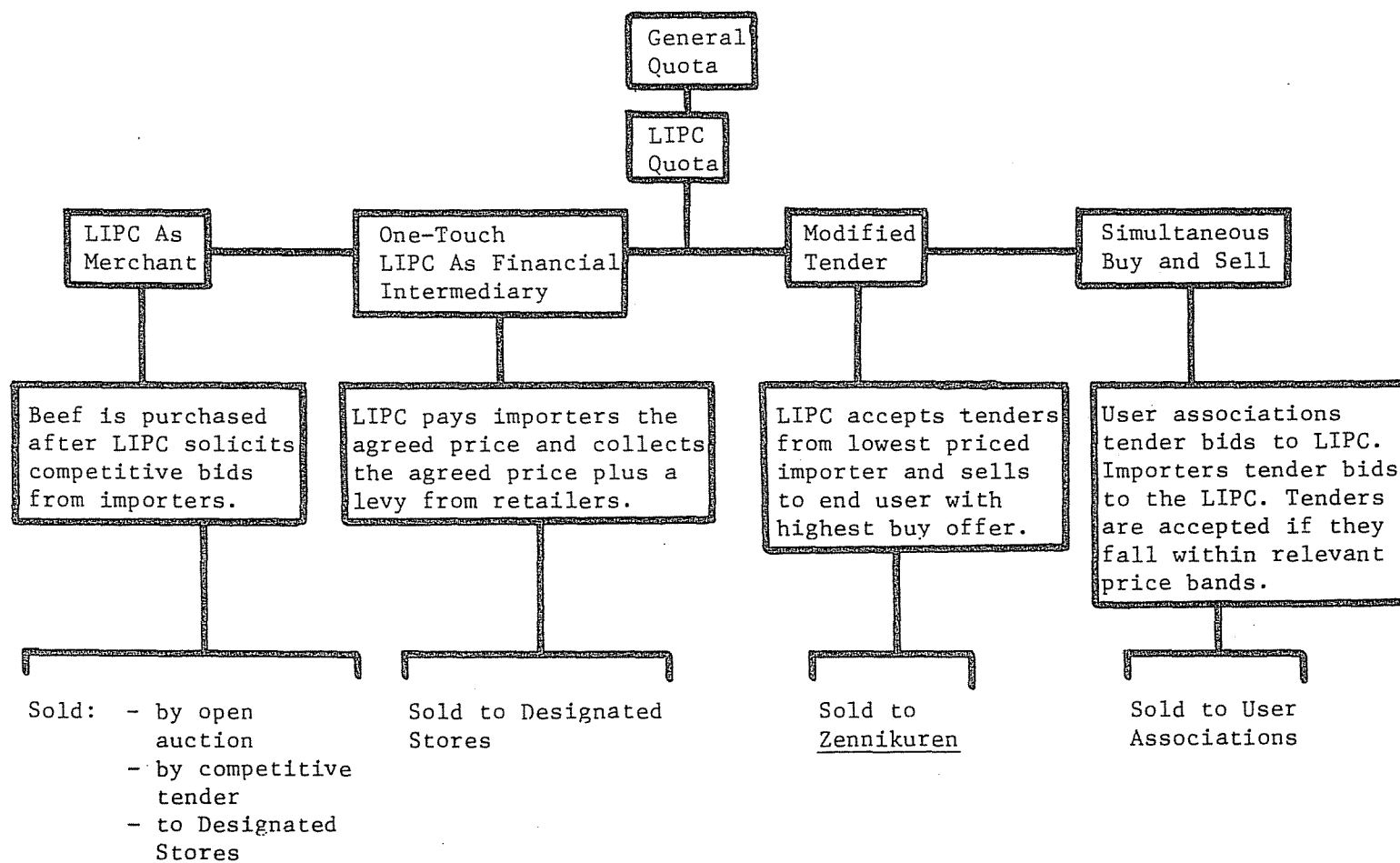


Figure 4. LIPC Distribution Systems

Sausage Manufacturers Co-operative Association and the Japan Meat Canners Co-operative Association. These companies arrange for their imports through licensed importers.

Table 16. Negotiated Quantities of Imported High Quality Beef, 1983-1988

Japanese Fiscal Year	Beef Imports (MT)
1983	30,800
1984	37,700
1985	44,600
1986	51,500
1987	58,400

The General Quota consists of around 90 percent of beef imported to Japan. The remaining 10 percent is distributed under four Special Quota categories: Hotel, Okinawa, School Lunch and Cooked Beef. Since it is argued that these quotas do not influence wholesale beef prices, their administration is not under the LIPC as part of LIPC's price stabilization scheme (see Chapter IV). Unlike the General Quota, the Special Quota is not global and specific supplying countries may

be designated. The Hotel quota is administered by the Japan Meat Conference which assigns it to the Japan Meat Purveyors Association which deals with the Japan Hotel Association. The Okinawa quota is imported by the Importers and Users Association for use only in Okinawa. The School Lunch quota is assigned by MITI and MAFF to the Japan School Lunch Association which supplies the meat to the national school lunch program. The cooked beef quota is a "catch-all" category containing beef supplied to ships, aircraft, United States military bases and boiled beef.

Nontariff Barriers

Nontariff barriers (NTBs) are governmental practices, excluding tariffs, which inhibit the entry of imports and which do not apply equally to the domestic equivalent of the import (Hillman).⁸ NTBs may include: (1) measures that limit the quantity of imports, such as quotas; (2) subsidies to domestic producers in the importing competing industry; (3) measures which indirectly limit imports by increasing their costs; and (4) direct subsidies to exporters.

The General Agreement on Tariffs and Trade (GATT) participants during the 1962-67 Kennedy Round negotiations and the 1974-79 Tokyo Round were successful in negotiating the reduction of tariffs for a number of agricultural products. The decreases in the more visible types of trade barriers, such as tariffs, have led to increased use of other less obvious trade barriers. Nontariff barriers have become more prevalent in most countries and have become an increasingly important hinderance to trade (Hillman). Historically, NTBs have been

more or less ignored by members of GATT in their negotiations. However, they are now recognized as important components of the negotiation process. Since agricultural imports are especially vulnerable to NTBs, an attempt was made by an agricultural committee set up in GATT after the Kennedy Round to inventory all NTB measures affecting agricultural imports of the major trading countries.

This increased awareness of agricultural NTBs does not necessarily mean they are easy to overcome. It is a political reality that nations will seek some degree of control and protection over their own economy. Continued trade liberalization may force governments to seek new methods of protection. These methods will most likely take the form of NTBs.

Resolving tariff issues has been relatively straight forward when compared to NTBs. Because nontariff barriers are difficult to identify and measure, they do not lend themselves as easily to bargaining at GATT negotiations as do tariffs. If a government grants trade concessions in the form of tariff reductions but relies more heavily upon NTBs as substitutes for concessions, the resulting barriers could be very difficult to negotiate. Often NTBs take the form of visible barriers with stated goals, but whose real purpose of restricting trade remains hidden. It is also very difficult to negotiate NTBs whose stated goals differ from their real intention.

The purpose of such barriers may be to protect domestic industries from foreign competition. Such measures can assure the domestic producers a share of the domestic market. There are three basic forms of such NTBs. One form increases the price of the

imported product in the Japanese market. Less imported product is then purchased, allowing domestic producers a larger share of the domestic market. The second form subsidizes domestic production by lowering production costs or increasing the price received by domestic producers. This again allows the domestic industry to compete more effectively with imports. One other method by which domestic producers can gain an increased market share is through government procurement and state-trading enterprises which discriminate against the purchase of foreign products in favor of domestic products.

Japan uses a number of NTBs to aid in their implementation of its agricultural policy, including policy directed at the beef industry.

Levies. Certain types of beef imported under portions of the General Quota and Special Quota are subject to a levy according to the cut of meat (Table 17). This levy is payable by the licensed importer to the Japan Meat Conference and is based on a fixed amount rather than an ad valorem basis. The funds received are used for the promotion of domestic livestock production and for the modernization and development of meat marketing (United States Meat Export Federation, 1980).

Levies are also collected by the LIPC on that portion of the General Quota used only for chilled beef purchased under the "one touch" system and used in the Designated Stores Program. Under this operation the LIPC assigns a portion of its quota to organizations and companies involved in the Designated Stores Program. These groups contract with the licensed importer for the type and quality of beef

Table 17. Japan Meat Conference Levies on Beef Imported Under the Private Portion of the General Quota

Levy on Chilled Beef (Yen/Kg)					
Cut of Meat	From 3/1/79	From 7/1/79	From 8/1/81	From 8/16/82	From 1/1/83
Boneless					
Full Sets	520	300	440	310	200
Forequarter cuts	390	230	380	270	175
Hindquarter cuts	620	360	480	340	220
Bone-in					
Carcass	360	210	310	220	140
Forequarters	270	160	270	190	120
Hindquarters	430	250	340	240	155
Frozen Beef (Yen/Kg)					
	From 11/1/77	From 10/15/78	From 3/1/79	From 7/1/79	From 1/1/83
Boneless					
Full sets	550	470	410	230	170
Briskets and fore- quarter cuts from boner cows	510	440	380	210	155
Hindquarter cuts	670	580	510	280	210
Shin, shank, oxtail	390	330	290	160	120
Manufacturing beef	350	300	260	150	110
Bone-in					
Carcass	390	330	290	160	120
Forequarters	360	300	270	150	110
Hindquarters	420	360	310	170	130

Source: Longworth, John W., Beef in Japan, University of Queensland Press, 1983.

needed. The LIPC collects a fixed levy based on the importer's contract price (Table 18). The levies vary according to broad categories of the cut of beef and have varied considerably through time in response to the variation between the domestic wholesale price and the import price. This levy encourages importation of high value in comparison to low value chilled beef for use in the Designated Stores Program since the relative levy per unit value is smaller.

The LIPC also collects a levy or adjustment surcharge under the "modified tender" system of imports. Under this system the end user, Zennikuren, handles all details of the negotiations with the licensed importers, except quantity. The quantity is specified by the LIPC. The LIPC then purchases the beef (on behalf of Zennikuren) from the licensed importer with the lowest price and sells it to Zennikuren at its highest offer price. The difference is the adjustment surcharge. Ideally, this should allow the LIPC to maximize its profits by collecting all of the available profit margin. However, such a condition could inspire collusion between the importers and Zennikuren. Collusion may result in an agreement to decrease the difference between the selling and purchase price since both would benefit financially. An agreement to decrease the difference would lessen the LIPC's collections and make more funds available for distribution among the importers and Zennikuren.

Licenses. The Government of Japan creates a nontariff barrier by requiring all importers of beef to be licensed. Discretionary allocation of a limited number of import licenses limits the flow of

Table 18. LIPC Levies on "One-Touch" Chilled Beef Imported for Designated Stores

Levy on Chilled Beef (Yen/Kg)					
	From 5/1/81	From 6/1/81	From 7/20/81	From 10/1/82	From 1/1/83
Boneless					
Full sets	250	200	150	30	90
Forequarter cuts	220	175	130	25	80
Hindquarter cuts	275	220	165	35	100
Bone-in					
Carcass	175	140	105	20	60
Forequarters	155	120	90	15	55
Hindquarters	190	155	115	25	70

Source: Longworth, John W., Beef in Japan, University of Queensland Press, 1983.

beef into Japan. This creates costs in addition to those already imposed by the constraint of imports through quotas. All beef imported into Japan must come through one of thirty-six companies (Table 15). All products, including beef, imported into Japan must be imported under one of the following licensing methods necessary to obtain foreign exchange: Automatic Approval, Automatic Import Quota or Import Quota. Under Automatic Approval, a license is issued free of charge by authorized banks and the product can be imported without further hinderance. The Automatic Import Quota licenses are similar to the Automatic Approval licenses but are issued by the MITI. With the Import Quota system, a license is obtained by first receiving a quota certificate from the MITI. The potential importer presents the certificate to an authorized foreign exchange bank along with a foreign exchange application which in turn issues an import license. Once an importer has received the certificate it has four months to apply for foreign exchange and receive the license. The license is valid for six months (Longworth, 1983).

The LIPC erects a nontariff barrier to trade with a preferred brand list, e.g., those companies from which it will only accept imported beef (Table 19). Licensed importers must purchase the beef from foreign suppliers on the list if they want a part of the LIPC trade. Foreign suppliers must be on the list if they want to sell beef as part of the LIPC quota. A United States supplier may apply for status on the preferred brand list if the following requirements are met: ⁹

Table 19. LIPC Registered Brand List ^aUnited States

All-State Packing Company	MacDonald
B.S.I.	Monfort
Bringgold	National Beef
Bruss	Nebraska Boxed Beef
Champion Boxed Beef	Neesvig Purveyors
City Foods	Orange Packing Company
DPM	Packerland
Dubuque	Shenson
E.A. Miller	SIPCO
Excel	Spencer
Glencourt	St. Helen's
Golden Eagle Foods	Sterling Beef
Harris Ranch Beef	Stock Yards Packing
I.B.P.	Top of Indiana Beef
John Morrell	Val-Brand
Kansas Packing Company	Washington Beef
Keim's Bestever	Western Beef Processors

Canada

Canada Packers	Global Meat Products
Centennial	Lucerne Foods Ltd.
Erie Meat	Montagne
ES-KO	Premier Cut
Gainers	Tender-Lean Beef

^a

As of December 27, 1985.

Source: LIPC, Denver, Personal Communication.

1. The applicant must own a slaughtering, fabrication or portion control plant.
2. The plant owned by the applicant must have a currently authorized USDA establishment number.
3. The applicant must not have committed any serious offense against LIPC's buying conditions in the past.

New members to the preferred brand list may encounter another barrier which restricts the sale of beef. A company new to the list may find it very difficult to "break into" the beef export market if it does not have any Japanese contacts or a reputation in dealing with the Japanese. Acceptance on the list is no guarantee of being chosen to sell beef in the Japanese market. The licensed Japanese import trading companies prefer to deal with established packers which have previous experience in the Japanese market. A new member on the list may find no Japanese trading company willing to assist him in entering the Japanese beef market.

Standards¹⁰ The requirement that imports meet certain standards may be considered a nontariff barrier if the standards are not applied equally to domestic producers or if the enforcement of the standards vary with changing domestic conditions. A standard imposed only on an imported product increases its price by the costs of compliance. Obviously such costs are not incurred by domestic producers.

A standard may become a nontariff barrier to trade when its enforcement is uncertain. Political and administrative interpretation

of the standard may increase or decrease the severity in which the standard is enforced. A company whose product had been shipped and then denied import access because of an unexpected change in the interpretation of the standard will be less likely to take a future risk in shipping to that market. The end result is that imports are curtailed.

The problem of standards which are NTBs has been recognized in Multilateral Trade Negotiations (MTN) and efforts have been made to eliminate them. The USDA in the "Report of Agricultural Concessions in the Multilateral Trade Negotiation" reports on the Agreement of Technical Barriers to Trade conceived in the Tokyo Round of GATT which addresses the subject of standards. This agreement stipulates that national standards be based, when possible, on international standards. It also calls for governments to provide advanced public information concerning proposed regulatory changes in standards.

Grading certification requirements for beef imported into Japan are considered NTBs. A report by the United States Meat Export Federation (1980) claims grading certification is probably the greatest trade barrier facing the United States in the exportation of high quality beef to Japan. The costs associated with the understanding and compliance of the standards are considered by many United States beef exporters to be a major exclusionary factor of the Japanese beef market¹¹. (See Appendices A-C for a detailed discussion of these standards as they apply to the United States).

All beef imported from the United States must be inspected and graded by the U.S.D.A. for compliance with the certification and

inspection procedures or else must have undergone a self certification procedure (see Appendix D). The extra handling, trimming, grading and compliance costs associated with the certification process increases the cost of the exported beef. This cost is incurred by the United States exporter and not by the LIPC or licensed import trading companies. At the same time, domestic beef producers in Japan are spared this extra cost because of a voluntary grading system. The grading operation in Japan, although financed mostly by the government, is not an official governmental program. Grading is entirely at the discretion of the seller and is limited by a shortage of qualified graders. The proportion of Wagyu carcasses graded in 1983 was 36.6 percent and that for dairy carcasses was 47.8 percent (MAFF). (For more details of the Japanese grading system see Appendix E). The application of a different and more costly system of grading and certification for imported beef favors the Japanese beef producers by adding to the cost of their competitor's product.

Summary

This chapter reviewed the Japanese beef industry in terms of historical background and present production. Conditions which have contributed to increased consumption of beef were identified. Japanese consume more beef than is produced domestically. The difference is supplied by imports. The beef import system in Japan was described and controlling organizations were identified. A number of barriers which restrict the importation of beef were discussed. These barriers are erected to provide protection to the domestic beef

producers. By understanding the institutions which contribute to the degree of protection, factors influencing the political determination of protection will be easier to identify.

Protection of the Japanese beef industry is a volatile issue in international politics. Importing countries are constantly putting pressure on Japan to decrease beef import barriers. The following chapter outlines the framework for negotiation of barrier reductions and some of the more recent agreements as they apply to beef.

Notes

1. Consumption of whale has declined drastically due to intense international pressure.
2. This law gives national control in coastal waters over fishing resources and regulates foreign fishing up to a limit of 200 nautical miles. In essence the law altered the historical common property status of the ocean to include more private ownership of the resource.
3. See Chapter IV for further explanation of this law.
4. A "farm household" is a household farming more than .1 hectare in eastern Japan and more than .05 hectare in western Japan and whose sales of agricultural products exceeds 100,000 Yen.
5. These four breeds are Japanese Black, Japanese Brown, Japanese Polled and Japanese Shorthorn.
6. The increase in interest toward the Japanese beef market has been accompanied by an increase in publications devoted to this subject. However, comprehensive works are still rare. Much of the remaining chapter draws its descriptive information from the works of Longworth and the publications of the LIPC.
7. Japanese cattle are free of major cattle diseases such as Foot-and-mouth, Bovine brucellosis, Bovine tuberculosis and Bovine pleuro-pneumonia.
8. Quotas are traditionally included under this definition but they have already been examined separately due to their extensive impact on the Japanese beef market.
9. Information on the LIPC's preferred brand list was obtained from the LIPC Newsletter, January 23, 1985.
10. Standards are regulations for product specification in areas such as health, safety, quality, size, packaging, labelling and marking.
11. The U.S. Meat Export Federation offers a \$1000 Technical Short Course to beef exporters interested in the Japanese market to assist in the understanding of the requirements.

CHAPTER III

JAPANESE TRADE NEGOTIATIONS

Factors determining barriers to trade and hence which determine levels of protection are partly influenced in the international arena. It is in the interest of exporting countries to have free access to other country's markets. An importing country must achieve a balance between countries vying for open market access and internal producers pressing for protected markets. Through negotiation, trade barriers may be reduced or eliminated. This chapter outlines the structure of General Agreement on Tariff and Trade (GATT) which is used in the process of trade negotiations. Also examined are some of the more recent trade concessions made by Japan in the area of reducing beef import barriers.

General Agreement on Tariffs and Trade

The General Agreement on Tariffs and Trade (GATT) is a structure which participating countries have formed to facilitate the discussion and resolution of international trade conflicts. As such, it is a framework whereby international trade relations can be conducted in an orderly manner. Under GATT, countries establish detailed international agreements on import and export policies. These negotiations, which usually include many countries bargaining for

favorable trade policies are termed Multilateral Trade Negotiations (MTN).

As of March 1981, there were eighty-five signatories of GATT, two countries who had agreed provisionally and thirty countries who awaited ratification by their governments. There are three primary objectives of GATT: (1) to provide an orderly framework for the definition of international trading relations, (2) to provide a system of rules and codes of conduct which makes it difficult for individual countries to take unilateral action and (3) to provide a framework for the progressive elimination of trade barriers (Greenaway).

GATT's structure contains thirty-eight Articles which are divided into four fundamental parts. Part I lists the basic obligations of signatories. Part II outlines the criteria of fair trade practices, lists general rules for custom valuation and sets forth areas where import barriers are allowed. Part III deals with internal rules for amending GATT, and trade specifically with less developed countries is addressed in Part IV.

The 1973-79 Tokyo Round of MTN is the most recent in a series of negotiations held under the auspices of GATT. The initial round of negotiations was the 1948 Geneva Round. It was followed by the 1949 Annecy Round, 1951 Torquay Round, 1955 Geneva Round, 1960-61 Dillon Round and the Kennedy Round of 1965-67. The earlier rounds were concerned almost entirely with tariff reductions. During the Kennedy Round, nontariff barriers (NTBs) were recognized as an impediment to trade. Even more emphasis was placed on NTBs during the Tokyo Round. During previous rounds, concessions were made mainly on tariff issues.

However, it was discovered that countries were willing to make certain tariff concessions but intended to replace them with the more difficult to negotiate NTBs.

Even though recognized, NTBs are difficult to identify, rationalize and quantify. This is especially so in the agricultural sector due to its highly perishable nature of the products and susceptibility to grading and certification procedures. It was not until after formal negotiation processes that the true importance of NTBs and the role they play was recognized. This problem began to be addressed more seriously during the Tokyo Round.

GATT rules specifically limit the use of NTBs. These rules were strengthened and expanded by a series of "codes of conduct" written specifically for NTBs. Of greatest significance to agriculture were the codes of subsidies and standards. The Subsidies Code prohibits the use of export subsidies to displace another country from world export trade and in "undercutting" another country's prices. The Standards Code requires all signatories of GATT to make known in advance any proposed changes in product standards and specifications. This allows time for any interested trader to comment on the proposed changes before they are adopted.

Japan's Involvement in GATT

Japan became a signatory of GATT in 1955 and participated in the Kennedy and Tokyo Rounds of MTN. Until this time, all of Japan's agricultural imports were quantitatively restricted. Such restrictions are allowed under GATT Article XII which states

restrictions are allowable under balance-of-payment justification. These quantitative restrictions were progressively lifted until 1963 when Japan became an Article XIII country under GATT (this allows for non-discriminatory administration of quantitative restrictions). At this point Japan's remaining import quotas on agricultural products were termed "residual restrictions" as required by GATT. "Residual import restrictions" are quotas which are in place at the beginning of negotiations and have been imposed without any wavers granted by the GATT signatories. Wavers, obtained by getting a two-thirds majority vote in favor, allow a country to legitimately impose quotas which would otherwise be prohibited.

During the Kennedy Round (1963-67) of MTN, Japan made trade concessions of 270 agricultural, forestry and fisheries items. These concessions represented a reduction in 23 percent of all agricultural products imported in 1964. Tariffs were reduced on 90 of these items by an average of 53 percent. Japan reduced the number of agricultural, forestry and fisheries items controlled by import or residual import quotas from 103 items to 75. This reduction of items under the quota system continued past the end of the Kennedy Round and by 1972 only 26 items were still subjected to control.

In 1973 Japan was crudely reminded of its dependence on foreign imports for its domestic food supply. At that time the United States suspended all soybean exports including those to Japan. This, along with the 1972 U.S.S.R. crop failure and the OPEC oil shock, further reminded the Japanese of its vulnerability to the actions of foreign

politicians. This may have resulted in an increase in Japanese domestic agricultural protectionism during the 1970's.

Even with intense domestic political pressure to protect its domestic agriculture, Japan participated in the Tokyo Round (1973-79) of MTN and agreed to a number of agricultural trade concessions. Tariffs were cut by an average of 35 percent on 150 agricultural items and import quotas increased for 4 agricultural commodities, including beef and oranges. These two commodities, even though constituting a minor portion of the United States-Japan agricultural trade, have been singled out by the United States as representing the unfairness of the closed Japanese markets. The United States was able to bring extreme pressure upon the Japanese to make trade concessions in spite of the fact the Japanese government also faced strong domestic political pressure to the contrary.

Bilateral Trade Agreements

During bilateral trade agreements with the United States in 1977 and 1978, conducted within the framework of the Tokyo Round, Japan agreed to gradually increase the import quantity of high quality beef. Japan agreed to increase the annual importation of beef from 16,800 metric tons in 1978 to 30,800 by Japan fiscal year 1983 (April 1983-March 1984). This agreement did not increase the overall quota of beef imports, but only shifted the amount of non-high quality beef into the high quality category. The existing beef import quota system was not altered. This action favored the American beef exporter over the Australian and New Zealand producers. Even though the beef

quantity could be filled by any country, virtually all United States beef entering Japan is high quality while that of other major exporters is of lower quality beef.

Japan agreed to import 4000 metric tons of beef skirts on an annual basis and will cut its tariff on internal organs and tongues of bovine animals from 25 percent to 15 percent by 1987. The tariff on fresh, chilled or frozen bovine meat remained at 25 percent. It is interesting to note the total value of Japan's trade concessions (not just agriculture) to the United States as a result of the Tokyo Round was an estimated \$1,161,000,000 over an eight year period based on 1976 trade values; that of United States trade concessions to Japan was \$0 (U.S.D.A.).

Following the Tokyo Round, the United States and Japan held a series of bilateral negotiations and GATT Article XIII consultations in an effort to reach a similar understanding on citrus and 13 other agricultural categories as that reached previously on beef. The April 1982, July 1983 and September 1983 meetings culminated in an April 1984 understanding on these items plus a new agreement to replace the one on beef which expired April 1, 1984. Prime Minister Nakasone's Market Opening Measures package of April 27, 1984 announced various actions which would improve market access for these products. The United States signed the agreement on August 14, 1984. This agreement called for a gradual increase of 27,600 metric tons of high quality beef imports up to an annual import quantity of 58,400 by 1987. Again, such increases favor American beef producers who enjoy an almost exclusive access to Japan's high-quality beef market. Also,

like the agreement in 1978, the amount of the overall beef quota remained unaffected. The quantity of beef must come out of existing quotas.

Recently on July 30, 1985, in response to protectionist measures considered by the United States, Prime Minister Nakasone announced the Outline of the Action Program for Improved Market Access. The program's three year aim was to achieve a degree of openness in Japan's markets that exceeded international standards. The Action Program covers specific measures to improve market access in six areas: Tariff reductions, import quotas, standards/certifications and import procedures, government procurement, financial and capital market, and services and the promotion of imports. Tariffs on 36 agricultural and fishery products will be reduced by more than 20 percent or eliminated, although beef is not among them. The effects of import quota increases and changes in standards/certification procedures on agricultural trade are yet to be seen.

Summary

This chapter has examined the role of GATT in the reduction of trade barriers and also a number of trade agreements by Japan pertaining to beef. It appears that Japan has been influenced by other countries to provide a more open access to its markets, including beef. The following chapter examines some of the Japanese internal policies and organizations which exert force in an effort to limit open market access and provide protection to domestic beef producers.

CHAPTER IV

JAPANESE POLITICAL DESCRIPTION-
AGRICULTURE AND BEEF

As with most developed countries, Japan's determination and implementation of farm policy is heavily dependent upon political factors. Before policy is determined it must pass through a complex political structure of interconnected government ministries, councils, associations, committees and meetings. It is, thus, instructive to first examine the nature of the Japanese political system and specifically, the relationship between agriculture and politics. The Japanese political structure, in general, is first described. Further, a number of major agricultural laws and programs are discussed, along with those specific to beef production.

Protection of Japanese agricultural sectors is provided by the political system through a number of governmental organizations. By understanding the system and identifying those organizations with the power to influence protection, one may then become more aware of the underlying factors influencing decisions of protectionism.

Political Structure

The basis for the government in Japan is the New Constitution written under supervision of the Supreme Command of the Allied Power in 1947. The government is basically a parliamentary democracy whose structure closely resembles the British system.

However, the actual working of the political machinery is in great contrast to that of the British parliamentary system and the system in the United States, with a more centralized decision-making process.

Legislative Branch

Japan's legislative structure is a bicameral parliamentary system called the Diet. Members are elected to fill the parliamentary seats in the House of Representatives (the lower House) and the House of Councillors (the upper House) by an electoral constituency system. The number of seats in the Diet assigned each electoral district was first established by the 1947 Constitution and was based upon the number of eligible voters in the district. The House of Representatives consists of 511 seats elected from a total of 130 districts, each one electing from three to five representatives. The term of office for members of the House of Representatives is four years.

The House of Councillors¹ consists of 252 seats; 100 elected by the country as a whole acting as one electoral district and the remaining 152 seats elected from districts which correspond to the 47 prefectures in Japan. The term of office for members of the House of Councillors is six years with elections for half the members taking place every three years (Warshaw). Each district elects from two to eight representatives, depending upon population.

Legislation becomes law upon passage by a majority vote of those present in both legislative bodies. Each house elects its own presiding officer who in turn appoints members to serve on committees.

Committee positions can be expected to be filled in the same proportion as the strength of the ruling party in the house.

Executive Branch

The executive power is vested in the Cabinet which in turn is responsible to the Diet. The head of the Cabinet is the Prime Minister who is designated from among members of the Diet, and specifically from the House of Representatives if there is disagreement with the House of Councillors. The Prime Minister appoints the ministers of the fourteen Cabinet ministries and may remove them as he chooses (Burks). It is common for a Prime Minister to reshuffle his Cabinet ministers midway through his term. The most recent reshuffling took place by Prime Minister Nakasone on December 28, 1985 (The Japan Times). The Cabinet has at present fourteen ministries and twenty-one ministers. (See Table 20 for the names of the ministries and their ministers.)

The Prime Minister's main duties in representing the Cabinet are to submit bills to the Diet, report to the Diet on national and foreign affairs and supervise various executive branches. The cabinet's main duties include managing foreign affairs, concluding treaties and preparing the budget (Warshaw). Constitutionally, the Prime Minister and his cabinet are to function as an executive committee for the Diet.

In actual policy implementation, the Cabinet is all-powerful in deciding administrative policy (Burks). The Cabinet drafts and presents bills to the Diet where they are cleared by the appropriate

Table 20. Cabinet Departments and Current Ministers as of
December 28, 1985

DEPARTMENT	MINISTER
Prime Minister	Yasuhiro Nakasone
Justice	Seigo Suzuki
Foreign	Shintaro Abe
Finance	Noboru Takeshita
Education	Toshiki Kaifu
Health and Welfare	Isamu Imai
Agriculture, Forestry and Fisheries	Michio Watanabe
International Trade and Industry	Michio Watanabe
Transport	Hiroshi Mitsuzuke
Posts and Communication	Bunsei Sato
Labor	Yu Hayashi
Construction	Takami Eto
Home Affairs	Ichiro Ozawa
State	Masaharu Gotoda
	Yoshihide Mori
	Masumi Esaki
	Raishiro Koga
	Koichi Kato
	Wataru Hiraizumi
	Yohei Kono
	Heihaihiro Yamasaki

Source: The Japan Times, Vol. 26, No. 3, January 18, 1985.

committees headed by and consisting of a majority of members from the ruling party. The bills are then voted on and passed by the same majority of the Diet which elected the Prime Minister in the first place. Party-line voting within committees, the Diet and the Cabinet ensures the ruling party a majority of votes (Stockwin). The ruling party who controls the legislative process from committee through the Diet is thus in a position to enact legislation favorable to its interests.

Bureaucracy

The bureaucracy works closely with politicians and much of the legislation is formulated by it on behalf of the executive branch. The bureaucracy also provides a source for the nation's future politicians and leaders. Once retired, a bureaucrat may run for public office or join a major corporation as an advisor. Bonds formed as a bureaucrat may continue into retirement and aid the ex-bureaucrat in representing his new employer. If a retired bureaucrat runs for office, the prominence in political circles necessary for success may already be present. The presence of bureaucrats in these positions enhances their influence and makes them an important part in the political process.

Most ex-bureaucrats who become politicians run as conservatives, especially as Liberal Democrats. In 1973, 20-30 percent of the Diet seats held by the LDP were ex-bureaucrats (Japan Cultural Institute). Individually, these politicians, with their former bonds within the

bureaucratic system, may hold a greater influence over policy formulation than their colleagues who are not ex-bureaucrats.

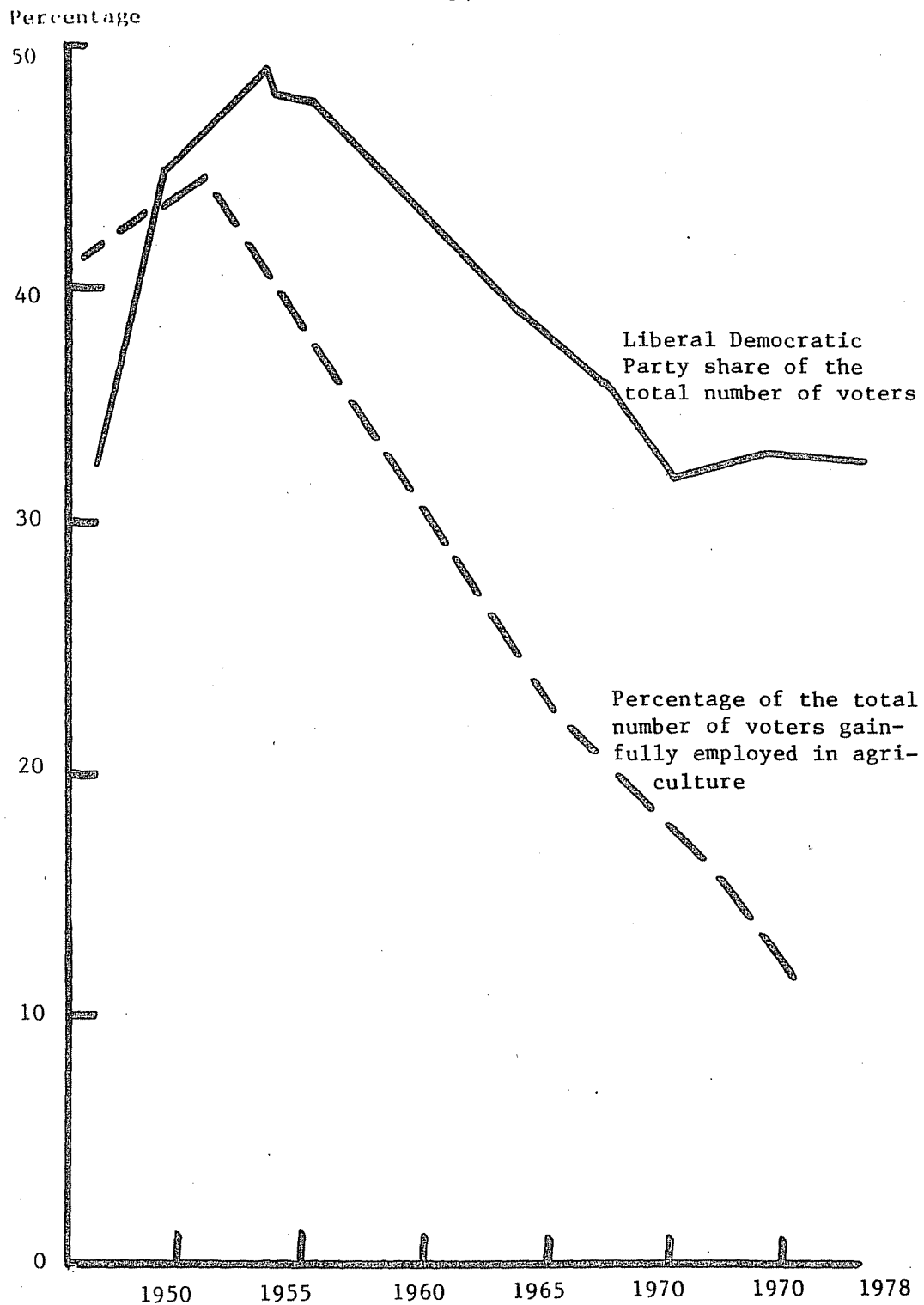
Political Parties

The Liberal Democratic Party (LDP) has been the ruling party in the Japanese government since its inception in 1955. Its inception was the result of a combination of the Liberal Party and the Democratic Party. Despite its name, the LDP is generally considered a conservative party. The opposition parties to the LDP are the Japan Socialist Party (JSP) which is the major opposition party, the Komeito (Clean Government Party), the Democratic Socialist Party (DSP), the Japan Communist Party (JCP) and the New Liberal Club which recently broke away from the LDP.

The ruling party exerts strong political influence within the Japanese political system. The current ruling party (the LDP) holds a majority in both houses of the Diet and therefore holds political power over the fate of legislation. Since the Prime Minister and Cabinet ministers are of the same political persuasion as the ruling party and party-line voting is common, it can be concluded that the LDP maintains effective control over policy formulation. With such enormous influence and importance, a closer look at the LDP, its power base and its connection to agriculture is necessary in any discussion of politics and agricultural policy in Japan.

The Liberal Democratic Party- Politics and Agriculture

A major aspect of the LDP's political foundation rests in rural agricultural communities. Although it has urban supporters, the LDP, unlike other national parties, finds its greatest relative strength in rural constituencies. The LDP is basically a conservative party and thus gains support from the rural areas which have relatively more conservative sentiments (Baerwald). A high correlation exists between the percentage of electoral votes received by the LDP and the percentage of those gainfully employed in agriculture (Figure 5). However, since 1950 when the agricultural population reached its peak, the trend has steadily declined. After 1950, the attractiveness of urban jobs and urban life caused rapid migration from rural to urban areas. Along with urbanization came an erosion of the support the LDP traditionally gained from rural areas (Emmerson). This corresponds to a steady decline in the share of electoral votes received by the LDP. The bottom was reached in 1976 when the LDP barely received a majority of the electoral seats in the House of Representatives, and then only by enlisting the support of independent party members. This also corresponds to the time when the flow of population from rural to urban areas slowed. It must be pointed out that the 1976 election was highly influenced by the Lockheed bribery scandal which resulted in the arrest of Prime Minister Tanaka, the LDP's most powerful political figure. Since the election of 1976, the LDP's position has improved with an increase in number of seats in the Diet.



Source: Castle, Emery and Hemmi, Kenzo. U.S.-Japanese Agricultural Trade Relations, 1982.

Figure 5. Electoral Strength of the Liberal Democratic Party

One important fact regarding the LDP is that it has always won a higher proportion of seats in the Diet than electoral votes. The solid support of the rural areas allows the LDP to gain a disproportionate amount of influence in the Diet. Surprisingly, the more heavily populated areas are unable to compete with the rural areas in electing Diet members. The rural areas, even with their declining population, have an advantage over urban areas in the election of Diet members of their choice. The reason for this anomaly lies in the electoral constituency system which heavily favors rural districts in the election of parliamentary seats to the Diet. The number of seats for each electoral district in both houses was established in proportion to the number of eligible voters in the districts just after World War II. At that time the number of voters per elected Diet member were approximately equal. In subsequent years the large scale population migration from rural to urban areas resulted in a larger number of elected Diet members per rural voter than urban voters. Attempts were made to rectify this disparity in voting power with the addition of new seats in the House of Representatives in 1966, 1972 (due primarily to the return of Okinawa to Japan) and 1975 (Stockwin). However, the number of new seats were too few to stop the increase in the voting power of the rural voters.

This disparity implies that the rural area's representation in the Diet has not declined in proportion to the decline in rural population. The political influence of rural communities on a per capita basis has increased and political pressure in excess of voting strength is exerted. Since this influence is reflected in the support

of the LDP, the increase in rural voting strength can be seen by comparing the share of LDP members elected to the House of Representatives with the share of LDP's votes received. Table 21 indicates that the LDP has been able to attain a majority of Diet seats with a minority of total votes. Other reasons for the stronger political influence of rural areas over urban areas is the higher voting rate of the rural areas and the presence of a larger number of rural or semi-rural districts (Burks).

Due to the support of the rural community, the election of a disproportionate number of LDP Diet members, relative to votes, is possible. It is not surprising that the LDP places a low priority on revising the present electoral seat allocation system, since its political influence is dependent upon the high degree of strength which rural communities provide; a degree of strength which is enhanced by the electoral system. If this strength is eroded by policies of the LDP deleterious to the rural community or by a restructuring of the electoral system, one can expect a major shift in the power structure and a resulting shift in policy. However, since the Diet has control over the electoral law, as long as the LDP has a majority it is unlikely any adjustment will occur (Baerwald).

The LDP exercises influence in agricultural policy through the LDP Comprehensive Farm Policy Research Committee and the LDP Agriculture and Forestry Sub-committee. These committees are the arms of the LDP which meet with MAFF officials in consultation and deliberation of bills submitted by the administrative branch.

Table 21. House of Representatives Election Results, 1960-1980

Election	Election Percentages by Party							
	LDP		JSP		DSP		JCP	
	Diet Seats	Votes	Diet Seats	Votes	Diet Seats	Votes	Diet Seats	Votes
1960	63.4	57.6	31.0	27.6	3.7	8.8	.06	2.9
1963	60.7	54.7	30.8	29.0	4.9	7.4	1.1	4.0
1967	57.0	48.8	28.8	27.9	6.2	7.4	1.0	4.8
1969	59.2	47.6	18.5	21.4	6.4	7.7	2.9	6.8
1972	55.2	46.8	24.0	21.9	3.9	7.0	5.9	8.5
1976	48.7	41.8	24.1	20.7	5.7	6.3	3.3	10.4
1979	48.6	44.6	20.9	19.7	6.3	6.8	7.6	10.4
1980	55.6	47.9	20.9	19.3	6.3	6.6	5.7	9.8

Source: PHP Laboratories. "The Data File: Read the Present Movement" (in Japanese), 1985.

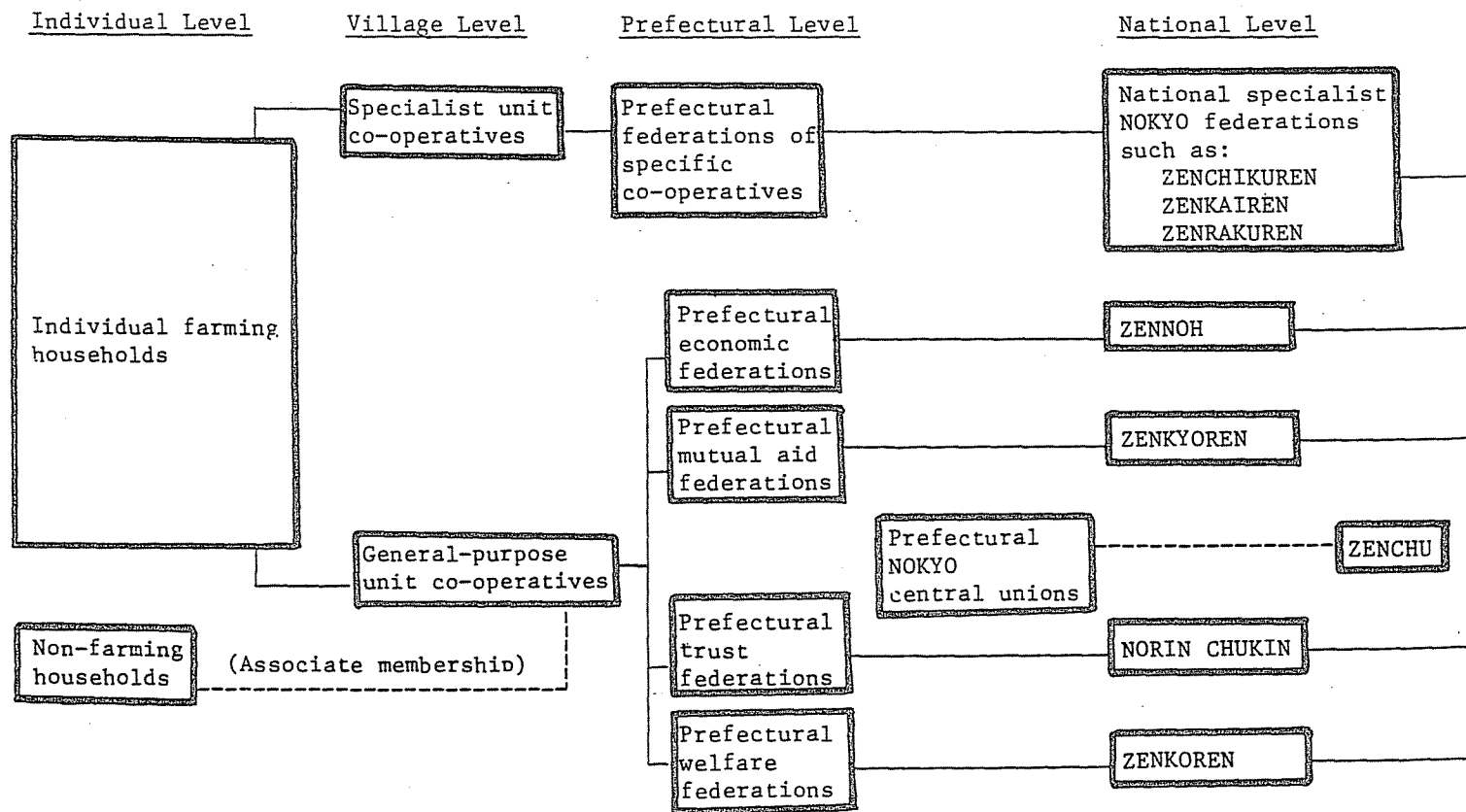
Reaching a general consensus at this stage alleviates arguments and discussions later and thus facilitates passage of bills.

Co-operatives

The preceeding section established that the LDP owes its political existence to the rural community and must be responsive to its rural constituencies. The Japanese co-operative structure is one by which the power of the rural community is transferred to the upper reaches of the government where agricultural policy is determined.

Japanese agricultural producers have developed a system of co-operatives called nokyo. This word is an acronym for Nogyo Kyodo Kumiai (Agricultural Co-operative Associations). This system developed with the 1947 restructuring of farmer organizations through passage of The Agricultural Co-operative Association Law (Burks). The purpose of the restructuring was to make co-operative organizations more democratic at the farmer level by reducing government involvement. It has achieved the purpose of becoming more democratic but it has remained an organization through which the government can continue to administer programs and disseminate information.

The heart of the nokyo structure lies in the tankyo or village co-operative. Virtually every farm household has at least one family member who is a member of a tankyo. Non-farm households may also join by becoming associate members. Increasing co-operative membership has helped compensate for the declining membership of farmers caused by the migration from rural to urban areas (see Figure 6 for an outline of nokyo).



Source: Longworth, John W., Beef in Japan, University of Queensland Press, 1983.

Figure 6. Outline of Nogyo

The co-operatives are organized on village, prefectural and national levels. These co-operatives may be commodity or service specific or general in nature. Zennoh is an example of a general co-operative which handles merchandising activities of a number of commodities representing many tankyo.

Since the village, prefectural and national co-operatives are not allowed direct political influence, Zenchu (The National Central Union of Agricultural Co-operatives) was established in 1954 as the political voice behind nokyo. Through Zenchu, farmers lobby the Diet and are able to exert their political influence.

The co-operative structure is an effective means by which the government can reach down to the grass-roots level. It is also a structure in which the agricultural community can entrench people favorable to their cause in position of power. A politician may rise through the ranks of the co-operative structure, gaining experience and ability in the process. By supporting higher political figures in their programs and political maneuvering, individuals may further increase political strength. In time, election to a senior position in the nogyo and later even to the Diet is possible. The local rural associations of candidates over an extended period of time provides the personal connections necessary to be elected (Stockwin). Once elected to the Diet, individuals are in a position to use the co-operative structure in reverse by utilizing aspiring young politicians to support favored programs at the grass-roots level. Diet members are therefore very concerned about the results of local elections and

tend to use their past co-operative connections to support candidates favorable to their party's position.

If elected to the Diet, a member's position within nokyo does not end but may continue to rise. Organizational and political skills plus connections gained in political ascent, enable one to better serve the interests of the rural community where the political career originated. The extent to which the Diet member can use the structure for favorable influence is determined by how well the cause of rural constituents has been championed. A member who can show a record of procuring high price supports and government subsidies for constituents is in a position to consolidate political positions by achieving a strong rural base.

The use of the co-operative structure provides the means by which the rural community is linked to the government and through which it is able to exercise its disproportionately greater political strength. In a society such as Japan where group activity is highly valued, associations such as the rural co-operatives have effectively made political demands and influenced the political system (Langdon). The LDP has managed to maintain this link with the politically powerful rural community and as a result has remained the ruling political party for the past three decades.

Agricultural Laws and Programs

Throughout its long history, Japan has been an agriculturally oriented country. In fact, during its feudal period which ended in 1868, wealth was measured in terms of rice, and land was measured in

roku or the amount of rice consumed annually by one person (approximately 150 kg). The Japanese people are very aware of their agricultural heritage. Japan's history, traditions and cultural achievements are deeply steeped in and influenced by agriculture.

With the beginning of the Meiji Era in 1868, Japan came out of its self-imposed feudalistic sleep with a vengeance. The country did an abrupt shift in national policy and began to acquire foreign technical knowledge in an effort to catch the rest of the world in industrialization and economic growth (Beasley). Agriculture and other economic industries benefited from modernization with increased productivity. However, there was a net flow of resources out of the agricultural sector. Agriculture's contribution of wealth generated much of the savings used for investment during this period. Whether this contribution of landlord savings was the result of accumulated wealth diverted into other resources or from the increase in productivity is uncertain. However, there is little doubt that the contributions of agricultural wealth and labor to industrial development were important factors in contributing to the rise of Imperial Japan in the period prior to the Pacific War (Beasley). After the war, Japan's economy was in shambles and people returned to rural areas and agriculture as a means of subsistence.

Agricultural laws and programs enacted after the war were undoubtedly influenced by the condition of the country at that time. The country experienced food shortages and high unemployment following the war. Kosaka states, "Hunger was one of the commonest and most remembered experience of the Japanese people immediately following

the war" (Kosaka, p.14). The rest of this section examines three of the most important laws enacted after the war which have affected agriculture.

Staple Food Control Act

Governmental control over staple foods was exercised prior to World War II. A system of indirect controls was enacted after the 1918 Rice Riots by the Rice Act of 1921. This allowed the government to control imports and to establish a buffer stock in order to control the supply and price of rice. A more direct method to control the price of rice was used during and after the Pacific War through the Staple Food Control Act enacted in 1942.

The stated purpose was "to control food and to carry out the adjustment of supply and demand and prices and also to control distribution in order to secure food for people and to ensure stability in the national economy" (Egaitsu). This law gave the government total control over the distribution of such staple foods as rice, wheat and potatoes. The government purchased these foods from producers and sold them to consumers. Prices paid and received were to be determined independently. Controls were relaxed in the early 1950s because of an increase in agricultural production. However, the government still buys and sells wheat and rice. Because rice farmers are ensured stable prices well above production costs, over-production of rice became prevalent after 1965. Today rice is the only agricultural commodity in which Japan has a self-sufficiency rate of 100 percent or greater.

Agricultural Land Law

The New Constitution of 1947 almost entirely eliminated the feudalistic tenant-landlord relationship. The land reverted back to individual owners, thus making the farmer the residual claimant. This encouraged entrepreneurial behavior and increased the incentives for more efficient production. Land reform was accomplished during the years after the war by governmental purchase of land and subsequent resale to tenants. Land reform was officially set forth in the 1952 Agricultural Land Law whose objective was to facilitate and protect the ownership of land for people who worked it. In addition the law provided for: (1) transfer of ownership and tenant rights to farmland on an approval basis, with ownership granted only to those cultivators of more than .3 but less than 3 hectares; (2) prohibition of land ownership by nonresident landowners (resident landowners were also to be prohibited from owning tenant land exceeding 1 hectare); and (3) rent to be paid in fixed amounts in money with its maximum to be prescribed by ordinance (Egaitsu). This law restricted the farmer's freedom in selling and renting their land for fear of a return to the exploitation by landlords experienced in the feudal period.

The initial magnitude of the size limitation reflected labor productivity at the time of land reform but is probably a hinderance to expansion with increased labor productivity. Yamaji, writing in 1979, estimated the average farm size at 1.1 hectares (2.7 acres). He states that even with the relaxation of the land leasing restrictions,

the average farm size has remained relatively the same. This is due to continued restrictions of the law and the increase in numbers of part-time farmers who view the increasing value of their farmland as a valuable asset. Yamaji claims the law is disregarded in many instances and full-time farmers actually work substantially larger areas of land. He also claims that land is held tenaciously not only as an asset but because past appropriations by the government generate fear of reoccurrence. The law did supply the means by which the displaced urban workers could find gainful employment. Agricultural production increased but not to the extent as to alleviate the food shortage. Grains and rice had to be imported until 1950.

Agricultural Basic Act

Expansion of the agricultural sector was achieved in the decade of 1950-1960. However, in comparison with the rest of the economy the standard of living in rural areas did not keep pace with urban areas, even though relative prices of agricultural products increased (Talbot and Kihl). A more rapid increase in the labor productivity of the urban areas increased the income and standard of living to a level above that of the rural areas. Agricultural labor experienced low marginal labor productivity and rising opportunity costs. This raised the question of the feasibility of a large agricultural labor force. During this decade, world food supplies were large and the importance of the law began to be questioned. Domestic production began to be viewed in light of the opportunity cost of domestic non-agriculture and of imported food.

Along with the higher real disposable incomes of the urban worker and a change in living style came a revolutionary change in diet. Consumption of rice, the traditional staple food, began to be replaced by consumption of flour based foods. Demand for agricultural products became more diversified and the amount of livestock products (such as meat, eggs and dairy products) as well as fruits and vegetables became more prevalent in the diet (Yamaji). Such changes within the country and agricultural sector were the basis for the enactment of the Agricultural Basic Act of 1961.

The primary objective of this law was the strengthening of the rural sector by assisting in the formation of a new generation of self-reliant farmers. Its stated purpose was threefold: (1) increase the level of rural incomes until a more equitable balance is achieved with that of the non-agricultural sector; (2) increase marginal productivity of farm labor through an efficient allocation of factors of production; and (3) decrease rice production in response to the increased demand for more diversified agricultural products. An underlying intention of this legislation was to increase farm size and consolidate land ownership (Egaitsu).

The law succeeded in establishing parity between agricultural and non-agricultural income and was partially successful in diversifying agricultural production in livestock, vegetables and fruits. The livestock industry benefited greatly and livestock output increased dramatically after 1961 (Longworth, 1983). However, production of animal feedstuffs did not keep pace and actually declined until now the livestock industry depends heavily on imported feedstuffs. The

law was unsuccessful in reducing rice production and in consolidating land ownership. In fact the number of part-time farmers actually increased and rice production still resulted in a surplus.

This surplus was depleted in the mid-1960s when drought reduced rice production and spot shortages were felt in the country. The intent of the law was ignored during this time and the government intervened to increase the support price of rice to encourage production. Production increased, in response, and rice was again in surplus. A revision of the Agricultural Basic Act under the Comprehensive Agricultural Plan in 1969 renewed the original emphasis on replacing rice production with production of more diversified agricultural products. The plan reduced surplus rice stocks until the "food shocks" of 1973.

Poor world production and rising world prices occurred at the same time as the United States imposed a worldwide oilseed export embargo. Although the embargo did not last long and total United States oilseed exports to Japan were not reduced, it raised concern about the reliability of the United States as Japan's main supplier of food (Castle and Hemmi). In addition, the OPEC "oil shock" caused an upheaval in Japan's economy. National agricultural policy again changed from an emphasis on decreased rice production and on income parity back to an emphasis on self-sufficiency and stimulation of rice production and consumption. Rice production increased but its consumption decreased until stocks of rice again began to accumulate in 1977. Agricultural policy once again reverted back to the original intent of the Agricultural Basic Law in 1978.

Despite the "on again or off again" agricultural policy there has been a steady diversification away from rice and toward livestock, fruit and vegetable production. However, the Agricultural Basic Act has failed to solve the underlying problem of Japanese agriculture. Problems such as over-production of rice, decreases in grain self-sufficiency, high land prices and high costs of production may be traced to the large number of part-time farmers; each cultivating a small area of land. Also responsible may be governmental support prices and intervention in the market. Governmental support prices increase the value of land by increasing the opportunity costs of other resources of production. Economic theory predicts that market intervention, such as that experienced by Japan in the 1960s and 1970s, may result in the observance of such phenomena.

The major source of income for the part-time farmer is from off-farm sources. The marketing of farm produce, usually rice, provides a source of additional income which raises total income above average. These people are often unwilling to invest the time and take the risks of expansion and crop diversification which full-time farmers may be willing to do. Rice remains the dominant crop because cultivation techniques are well known and government assistance ensures a stable price well above production costs. The government creates incentives for increased productivity through subsidies and uses diversion payments to control total production. The objective in this, as claimed by Emmerson, is political: to win rural support for the LDP. Japanese agriculture is characterized by an over production of rice and a majority of farmers who derive their income

from off-farm sources. In 1983, 71 percent of all farm households earned their main income from other jobs (MAFF, 1983).

Beef and Politics

The beef industry in Japan is a relatively small industry despite vigorous encouragement by the Japanese Government. Beef contributes little to Japan's total of internationally traded products. Yet when protection arguments are discussed among exporters and Japan, beef (and also oranges) invariably heads the list. Even with beef's minor overall importance, its high degree of protection makes it stand out as a symbol of Japanese protectionism. Beef has become a relatively volatile issue for Japan. Its effects are widely felt from the individual beef producer up the political structure into the highest places of government and into the international arena.

It is useful to examine the Japanese governmental institutions which assist in the determination of beef policy.

Ministry of Agriculture, Forestry and Fisheries

The Ministry of Agriculture, Forestry and Fisheries (MAFF) is one of thirteen government ministries whose primary function is to represent the nation's agricultural interests. Its annual budget is 8-11 percent of the total national budget and is controlled by a few dozen senior bureaucrats (Talbot and Kihl). These bureaucrats, according to Talbot and Kihl, wield almost absolute power in the formulation and implementation of Japan's food and agricultural policies. They belong, for the most part, to the LDP. To the extent

that policy formulation is influenced by these senior bureaucrats who belong to the LDP and who represent rural interests, the LDP has considerable influence on agricultural policy. The LDP then becomes the policy formulator and the MAFF functions as the administrator and policy implementator.

Beef policies do not originate completely with the MAFF, but reflect input from many sources. Cooperation between various other ministries are necessary to ensure smooth implementation and operation of policy measures. The MAFF consults the Ministry of International Trade and Industry (MITI) in setting beef import quota levels and with the Ministry of Finance (Japanese Customs Service) in establishing standards and certification procedures for beef imports and also for collection of custom duties.² As with all large governmental agencies, the MAFF has problems in coordination of its policies with other ministries and in conflict of policies between commodity groups. The MAFF has available to it numerous agencies, corporations, councils, associations and conferences whose primary concern is that of providing information and influential input about beef issues.

Livestock Industry Promotion Corporation³

The Livestock Industry Promotion Corporation (LIPC) is a quasi-government economic corporation attached to the MAFF. It was established in 1961 by the MAFF under Chikuanho (Law Concerning Price Stabilization of Livestock Products, Law No. 183). Its main purpose was to administer price stabilization and deficiency payment schemes

for livestock products. In addition, it was charged with handling funds for modernization and development of the livestock industry. Today, LIPC's duties relating to beef as set forth by law are: (1) price stabilization of livestock products through the purchase, sale and storage of domestic and imported beef; (2) direct subsidization or investment in designated assistance projects; and (3) promotion of demand for livestock products (LIPC, 1983).

In matters concerning beef, the LIPC became empowered to buy and sell imported beef with a 1966 amendment (Law No. 130) to Chikuanho. By including beef under Chikuanho, the government of Japan hoped to stabilize the price of beef. The intent was to restrain the upward movement in beef prices. However, there was no provision to cope with a drop in the price of beef (other than to stop selling imported beef). Such a drop in the price of beef occurred in the period of December 1973 to February 1974 and the government suspended established import quotas in an effort to stabilize prices. Eventually 40,000 tons of the original 90,000 ton quota was cancelled. The beef import market was temporarily closed from January 1974 to June 1975. The Japanese beef producers (expressed through Zenchu) sought to extend the powers of the LIPC to achieve a more effective price stabilization program. Chikuanho was again amended in 1975 (Law No. 26) to include certain grades of beef as being designated products (Humphrey). By this designation, the LIPC was authorized to use the purchase, exchange, sale and storage of domestically produced beef (as well as imported beef) for the purpose of price stabilization. Its function in the purchasing, storing and selling of imported beef was

also enhanced by this amendment (LIPC, 1983). It is important to note that the LIPC has never had to use its power to purchase, store or sell domestic beef for price stabilization purposes. The Government of Japan, through MAFF, sets a price stabilization zone and it is the function of the LIPC to maintain domestic beef prices within this zone. The LIPC can control the quantities of beef on the wholesale market through the purchase and sale of imported beef. The price stabilization program and its administration is a key factor in the determination of beef imports and in the protection of Japanese beef producers.

The LIPC is in the position to collect a sizeable portion of the differential between the price of imported beef and the domestic wholesale price. With these profits the LIPC assists the livestock industry with subsidies or by providing direct investment in designated assistance projects with the objectives of: (1) improving farm operations; (2) rationalizing livestock production and distribution; and (3) adjusting the supply-demand balance of livestock products and stabilizing their prices. Funds for these uses can be received by agricultural co-operatives, small and medium business co-operatives, organizations with direct or indirect consumer participation and public utility corporations (LIPC, 1983).

To promote the retail sale of imported beef at reasonable prices, the LIPC has implemented the Designated Stores Program. It has designated some 2,300 retail stores to sell imported beef at a 20 percent discount. The LIPC assists the stores in advertising and promotion of the program. The retail stores allocated the right to

sell imported beef are "super" stores owned by co-operatives or companies designated to sell "one-touch" beef, specialty meat stores and retail members of Zennikuren. The total percentage of imported beef reaching the Japanese consumers through this distribution system is small compared to the total. Once in the distribution channel the imported beef is homogeneous with the domestic product. The opportunity of participating stores to sell imported beef at standard retail prices attracts criticism of the program.

Wholesale Beef Price Stabilization Program

One of LIPC's main responsibilities is the administration of the Wholesale Beef Price Stabilization Program. The key component of this program is the establishment of floor and ceiling prices. A zone is established for two types of wholesale beef carcasses: second grade Wagyu steer and second grade dairy steer. The floor and ceiling prices are established by a formula. This formula incorporates data on past farm-gate prices, production costs and statistical estimation results on historical trends in wholesale carcass price variations. Within the calculations is a certain latitude in which to "massage" the data to yield more politically acceptable results if they are desired.

Through the enactment of Law No. 130 in 1966, the Government of Japan gave power to the LIPC to repress the upward price of beef by the buying and selling of imported beef. In 1975, the LIPC, through Law No. 26, received power to include domestically produced beef for price stabilization purposes. The concept is economically straight

forward. If wholesale beef prices are rising from increased demand or decreased supply, the LIPC can sell imported beef to increase the supply on the market, thus lowering the price. If prices are declining, the LIPC can halt the sale of imported beef. The volume of imported beef released on the market is determined by the domestic supply and demand situation. Its price is set by open tenders from wholesalers or in public wholesale market auctions.

Theoretically, the beef that LIPC has at its disposal to release on the market may come from four different sources: (1) stocks of imported beef that have already been purchased by the LIPC; (2) foreign producers who have beef on hand to export on short notice; (3) stocks of domestically produced beef that have already been purchased by the LIPC; and (4) stocks held voluntarily by farmer co-operatives whose storage costs are subsidized by the LIPC. In reality only the first two options have been used by the LIPC. The last two have never been used by the LIPC since the start of the price stabilization program in May 1975 (Longworth, 1983). Price adjustments within the specified zone have been accomplished entirely through the purchase and sale of imported beef.

The LIPC has developed the concept of "aged beef" to facilitate the amount of imported beef readily available for use in price stabilization. Beef chilled at its origin is allowed to age (mature and become tender) on its voyage to Japan. Upon arrival it is frozen and stored in freezers until market conditions necessitate its release. This allows the LIPC to maintain on hand large stocks of readily available imported beef. The LIPC is then in a better

position to stabilize wholesale beef prices by relying on these stocks rather than on the two month process of landing imported beef into Japan.

Japan Meat Conference

Important links between the commercial interests in agriculture and the government (MAFF) exist in organizations known as shadan hojin or "juridical person" organizations. These primarily are organizations established for consolidating their specific industry goals, reaching an industry wide consensus on policy matters and lobbying the government and decision makers for passage of legislation advantageous to this policy. Officially independent of government, many of these organizations receive funding from MAFF and are often staffed by ex-MAFF officials. One organization of this kind worth noting in a discussion on beef is the Japan Meat Conference. Represented on the Japan Meat Conference is Zennikuren, meat processors, the four national nokyo federations, wholesale meat market companies and licensed meat import trading companies. Such a wide variety of represented interest groups makes the job of policy discussion and conflict resolution difficult. Its role is to represent all areas of the meat trade (including beef) and to initiate, campaign and lobby for advantageous legislation. It also fulfills the task assigned by MAFF and MITI of allocating the private portions of the general beef import quota and administering the hotel and air catering quotas. The Japan Meat Conference is empowered to collect levies on these quotas on a fixed amount per kilogram

rather than on an ad valorem basis. Different levies are assigned to chilled and frozen beef depending on broadly defined portions of the carcass.

Summary

This chapter has discussed the Japanese political system and its relations to agricultural policy. It was suggested that the ruling LDP and the rural system of co-operatives combine to make the agricultural sector well represented in the Diet. The agricultural sector wields strong political power in matters concerning agriculture.

Historically, Japan has been an agriculturally orientated country. Three major laws encompassing the basic structure of agriculture have attempted to recognize the importance of a solid agricultural base. On matters concerning beef, a number of governmental organizations and programs are designed to provide input into the decision-making process on beef legislation. The MAFF was identified as a governmental organization which has the ability to provide protection to the beef industry. The wholesale beef price stabilization program, administered by the LIPC, contributes to the determination on the quantity of imported beef.

With a better understanding of the political structure and actors in the political process which have influence in decisions concerning protectionist measures within the beef industry, one is in a position to identify underlying characteristics responsible for protection levels. The following chapter outlines several theories

used in this study to determine the level of protection in the Japanese beef industry. The next chapter also condenses the information gained in this chapter to provide a basis for five theories which offers explanations of the political-economic structure within the Japanese beef industry.

Notes

1. Reischauer states the power of the House of Councillors is clearly subordinated to that of the House of Representatives.
2. A more detailed explanation of beef quotas appears in Chapter II. Description of standards and certification procedures are contained in Appendices A-D.
3. Descriptive information about the LIPC, Wholesale Beef Price Stabilization Program and the Japanese Meat Conference draw heavily from publications of the LIPC and Longworth.

CHAPTER V

THE THEORY OF PROTECTION
AND REGULATION

An understanding of several economic and economic regulation theories is necessary to evaluate the current level of protection in the Japanese beef industry. Tariff equivalents are used in this study to measure the effects of all protective trade barriers. These measures are then combined with the theory of effective protection to determine a more accurate measure of the effective protection in the industry. Several political-economic models are developed to provide information on how certain characteristics of the Japanese beef industry might influence these effective protection rates. Hence, the tariff equivalent theory provides the basis for the dependent variable in the subsequent empirical analysis whereas the economic regulation theory is the basis for choosing various explanatory variables.

Tariff Equivalent Theory

In this study, a tariff equivalent is defined as the percentage difference between domestic producer price and world market price. The world price is the border price for imports before imposition of protective barriers.

Protective barriers take many forms. Some, such as nontariff barriers, are very difficult to quantify. However, effects of protective barriers can be quantified by the differential between the

price of the product on domestic markets and the price on the world market. Protective barriers limit the import quantity and increase the price of the product in the domestic market. Since many protective barriers may be imposed, it is difficult to separate the effect of each one. By calculating a tariff level which would have the equivalent effect on the import quantity as all the protective barriers, one can estimate the tariff equivalent of the protection.

Consider Figure 7 which shows domestic supply and demand of an imported product. With free access to international trade, consumers are able to purchase the product at the world price, P_w . Due to protective barriers to limit imports, the domestic price increases to P_d . At this higher price, more is produced domestically and less is imported than would be under free trade conditions. This higher price is the result of a tariff (T) which raises the price to P_t and nontariff barriers (NBT) which account for a price increase of $P_d - P_t$. The percentage difference between the world price and domestic price is the tariff equivalent (TE) of all protective barriers:

$$(1) \quad TE = 100(P_d - P_w) / P_w,$$

where TE is the tariff equivalent expressed as a percentage of the value of the imported product. In general, TE measures the equivalent ad valorem tariff which would result in the same import quantity as the present combination of all protective barriers.

Several qualifications to the method outlined above must be considered before an accurate tariff equivalent is obtained. Such qualifications are due to transportation costs, quality and product

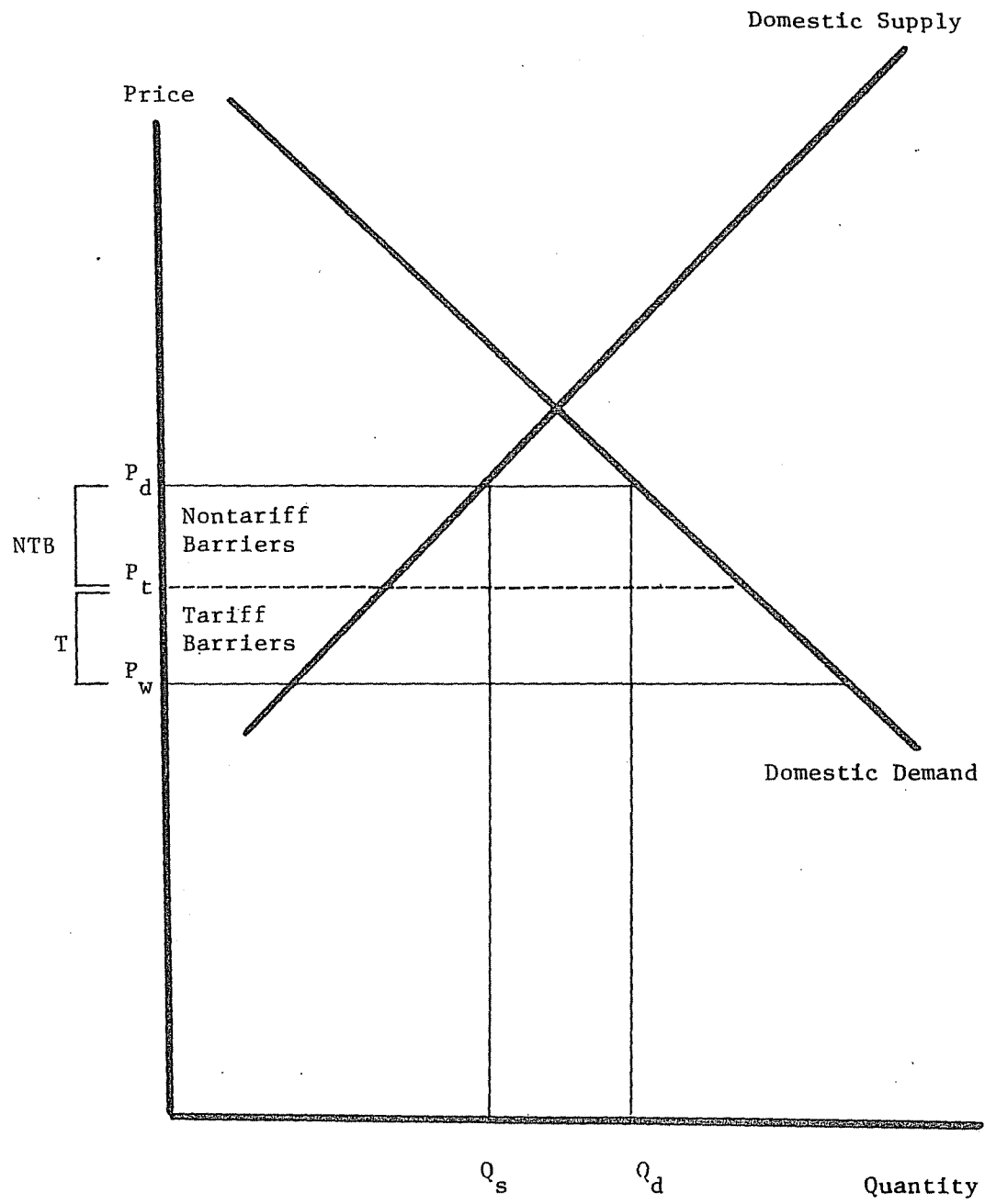


Figure 7 . Tariff Equivalent Theory

differences, conversion factors, foreign currency fluctuations, marketing margins and data limitations. Consideration of these factors is necessary to ensure that domestic and import product prices are compared for a homogeneous product. These factors are discussed in Appendix F.

Tariff Theory¹

A tariff equivalent expresses all trade barriers in a market in terms of a tariff which would have a similar effect on price and quantity. Thus, the same theoretical framework used to analyze the effects of a simple tariff may be used for tariff equivalents. However, an analysis using tariff equivalents attempts to incorporate the effects of all barriers to trade.

Figure 8 shows the supply curve of imports as SS' with elasticity assumed to be infinite. This reflects the assumption that Japan is a small country whose imports are a such small fraction of world production that it is unable to affect the world price. Since Japan accounts for only about 4 percent of the world imports of beef, this is a reasonable assumption. The price of imports is defined as the price at Japan's border and thus includes cost, insurance and freight (c.i.f.).

The supply curve for domestic production of the product is labeled HH'. The imported product and that produced domestically are considered to be homogeneous and perfectly substitutable. In Japan, the high quality beef imported from the United States is of a

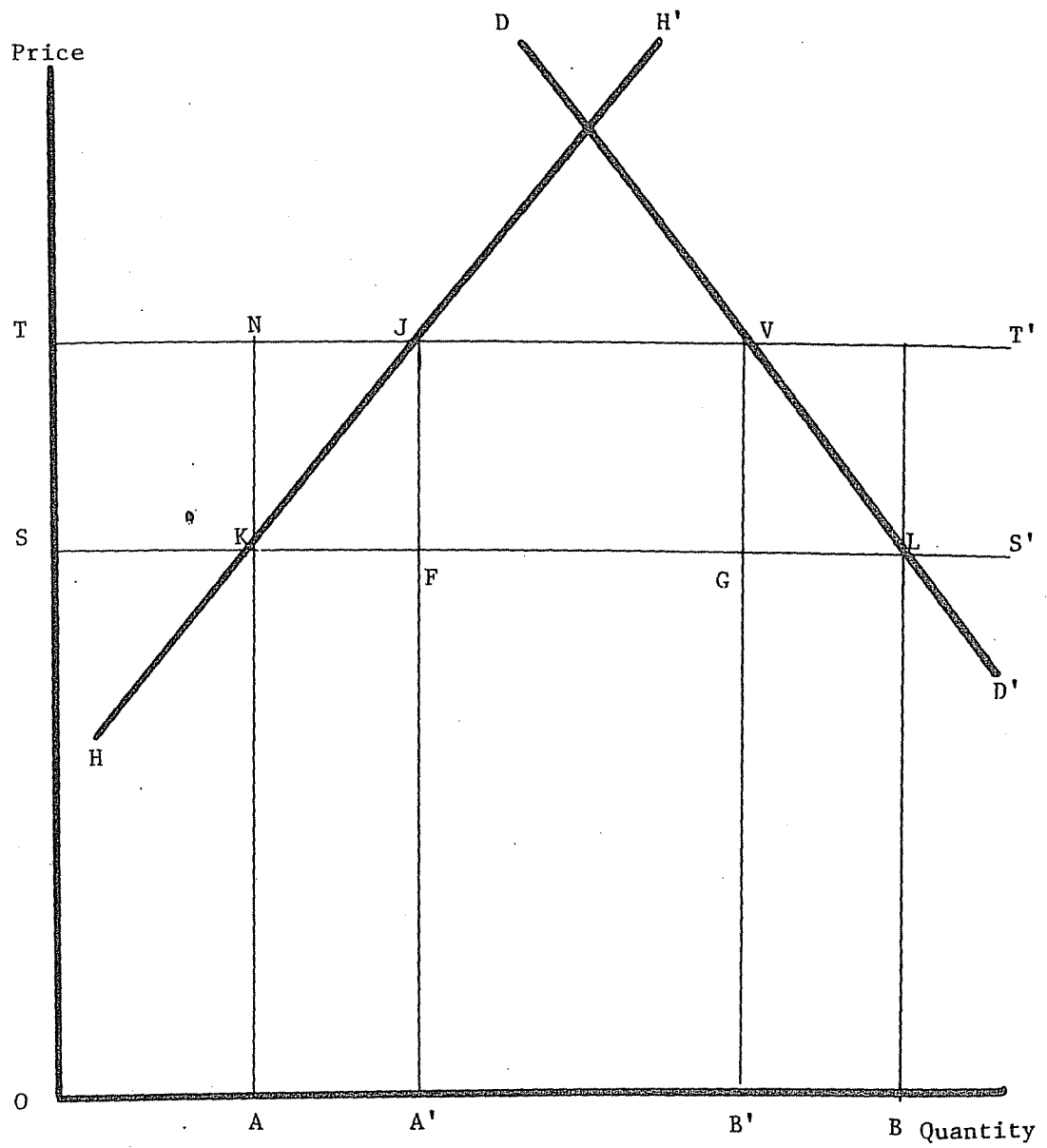


Figure 8. Tariff Theory

comparable quality to Japanese excellent grade beef and can, therefore, be considered homogeneous (Appendix E).

The curve DD' represents the domestic demand for both imports and domestic production. The free market trade equilibrium price is OS and is the point where the marginal costs of domestic producers equal the price of the import. The domestic producers will supply the quantity OA . At price OS consumers will purchase OB units-- with OA supplied by domestic producers and the remainder supplied by imports. It is assumed that when the price of the imported and domestic products are the same, consumers will purchase the domestic product first with the remainder of the demand satisfied by imports. This assumption assures that, at a given price, consumers will consume the domestically produced product before consuming the import.

When there is movement away from the free trade equilibrium with the introduction of trade barriers, the price of the import to the domestic consumer is increased. Trade barriers with the tariff equivalent of ST raise the price from OS to OT . This price rise increases domestic production from OA to OA' and reduces domestic quantity demanded from OB to OB' . Since domestic production is greater and quantity demanded is less, imports will decrease from AB to $A'B'$.

The effects of trade barriers can be summarized as follows:

1. Price effect: Domestic output increases by AA' . This increase in output is worth $ANJA'$ when measured at the new domestic price established by the tariff equivalent. Consumption falls by BB' due to the higher price. Imports

fall by the sum of the increase in domestic production (AA') and the decrease in consumption (BB').

2. Welfare effect: An increase in trade barriers results in welfare gains for producers and welfare losses for consumers. Consumers are paying OS on quantity OB before implementation of trade barriers. With trade barriers they pay OT on OB' units. Revenue BB'GL is lost by the decrease in consumption, and revenue is increased by STVG due to the higher price. Of the increase in revenue, FJVG is transferred indirectly from consumers to the government as payment of the equivalent tariff and STJF is transferred directly from consumers to domestic producers. The consumer is in fact subsidizing the output of domestic producers by the amount STJK. Assuming a costless transfer, the higher price paid by consumers is transferred directly to the producer in the form of higher product prices received.

Trade barriers also produce welfare losses for society as a whole. Area KJF may be considered an efficiency loss paid by consumers to producers as resources are diverted from other uses by the artificially high price. Area VGL is a deadweight loss, due to decreased consumption of the good.

Additional welfare losses may occur by rent-seeking activities. Producers perceive the amount of STJK as a valuable asset. By attaining a tariff or other trade barriers they could increase their income. The producers would be willing to expend assets up to the amount of STJK to

gain this rent. This amount may be expended on lobbying, campaign contributions or other means to influence people in position to provide the barrier. These expenditures are a shift in resources out of productive activities into the unproductive (from society's viewpoint) activity of rent-seeking. The extent to which resources are expended to gain the rent STJK will add to the total welfare loss to society.

3. Revenue effect: Custom revenue is raised from the imports remaining after trade barrier implementation to the amount of FJVG. This amount is the maximum possible if all trade barriers were replaced by an equivalent tariff.

Notice that if the trade barrier took the form of a nontariff barrier such as a quota, the revenue FJVG will accrue to the holder of the quota and not the government. Potential holders of the quota may view this as a rent and engage in rent-seeking to acquire it. The amount of resources expended in this activity will be a loss to society as a whole. Also notice, in this case, that rents are perceived by both producers and the quota holder in the amount of STJK and FJVG. This may provide an incentive for both groups to exploit their mutual interest in acquiring protection (in this case a quota) by forming a coalition. Such a coalition may increase the probability of acquiring protection by providing greater unity and strength in lobbying.

Effective Protection Rate Theory

The above discussion on the effects of a tariff equivalent relates to trade barriers as they add to the price of a product. The nominal tariff rate is often used as a measure of the degree of protection to an industry. However, this rate does not present a true measure of the degree of protection. The above discussion on tariff equivalents showed that the effects of nontariff barriers are not included in the nominal tariff. The use of tariff equivalents is an improved measure of the degree of protection, but there is a more superior measure.

The final price of a product is the sum of all input components plus the value-added by the primary factors of production used in assembling these inputs. What is important in assessing the protection to an industry is the protection afforded from all trade barriers on the value-added activity rather than on the product itself. Governmental protection of the industry may take the form of increased product prices or decreased input costs. Thus, the effective protection rate is relevant for analysis of trade barriers imposed by a country. Trade barriers on the final product will yield a higher degree of protection to the value-added activity of the producer than would be indicated by the nominal tariff or the tariff equivalent. Likewise, trade barriers on the inputs will increase their cost to the producer and will reduce the degree of protection on the final product.

The effective protection rate of an industry (EPR) is defined as the percentage difference between the industry's value-added per dollar of output under protection (V') and the value-added per dollar of output in the absence of all trade barriers (V),

$$(2) \quad \text{EPR} = 100(V' - V) / V.$$

The basic assumptions underlying this effective protection model are:

1. There are fixed physical input coefficients in the production process transforming the inputs into the final product. This does not mean there are fixed coefficients in the production of the value-added product. In short, the proportion in which labor and capital are combined can vary.
2. The supplies of imported inputs and the imported final good are perfectly elastic.
3. The inputs and final good continue to be imported after the implementation of tariff barriers.

With these assumptions the basic model can be developed further. Define the input share, a_i to be the value of the i^{th} input per dollar value of the product. In the absence of all trade barriers, value-added can be expressed in terms of the costs of m inputs,

$$(3) \quad V = 1 - \sum_{i=1}^m a_i.$$

Now, suppose trade barriers equivalent to a tariff (TE) are assessed on the imported product (assumed to be a perfect substitute for the domestically produced final product). The price of the product in the domestic market will increase by the amount of the tariff equivalent since the supply of the inputs are assumed to be perfectly elastic:

$$(4) \quad V' = 1 + TE - \sum_{i=1}^m a_i.$$

By imposing trade barriers in the amount of the tariff equivalent (TE_i) on tradeable inputs, (4) can be expressed as:

$$(5) \quad V' = 1 + TE - \sum_{i=1}^m a_i(1+TE_i).$$

Substitution of (3) and (5) into (2) causes the effective protection rate to be expressed as a function of the input shares, trade barriers on the inputs and trade barriers on the final product:

$$(6) \quad EPR = 100(TE - \sum_{i=1}^m a_i TE_i) / (1 - \sum_{i=1}^m a_i).$$

Yeats noted that one is typically able to observe only the value shares which are distorted by trade barriers on inputs and the final good. Thus, he developed a method for calculating the free trade value shares based on the protected value share and the tariffs. In particular, free trade value shares may be estimated by using the

world market value for the product (if known) instead of the domestic market value.

In applying this theory to the Japanese beef industry, cost shares for production of excellent grade beef were obtained from the MAFF. It was assumed that feed was the only tradeable input. This input, in the form of grain and roughage, is imported barrier free. An unpublished U.S.D.A. document reports that corn intended for industrial use is subject to a duty quota, but corn for feed purposes is imported duty-free. By using the cost share of grain which is largely unaffected by trade barriers, (6) becomes:

$$(7) \quad \text{EPR} = \text{TE} / (1 - \text{FCS}),$$

where EPR is the effective protection rate of the Japanese excellent grade beef industry, TE is the tariff equivalent on imported excellent grade beef and FCS is the cost share of feed into the production of excellent grade beef.

By subtracting the cost share of feed from the denominator in equation (7), the value-added for the primary factors of production plus value-added from any non-traded inputs is obtained. Ideally, all non-traded input cost shares should be subtracted. However, non-traded inputs comprise a relatively small share of the total value of beef in Japan. The primary factors of production (labor and original livestock) plus the tradeable import (feed), contributed an average of 95.8 percent of the total production costs from 1963-1983 (MAFF, 1983). To the small extent that non-tradable input shares are included in the effective protection calculations, the effective

protection rate for the beef industry will be only slightly understated (Cordon, 1966).

As a final note, the calculated protection rates are for excellent grade beef and, therefore, include protection of the meat processors as well as the beef producers.²

Effective protection rates are used within an economic regulation framework as a means of testing the validity of a number of economic regulation models. These models offer various explanations for the variations in effective protection rates based on certain characteristics of the beef industry which may influence the political origin of protection.

Economic Regulation Theory

Economic regulation refers to legislated laws and regulations that affect the economic interests of a group. As such, the political machinery in a country is responsible for generating the legislation affecting these economic interests. The structure of this process has recently received wide attention and debate. Disagreement occurs in identifying the nature of the process by which political decisions are reached and on isolating key political-economic characteristics of an industry which affect the decision-making process (Baldwin, 1984).

Two general viewpoints about how political decisions are reached can be identified. The first views the decision-maker as responding to various groups possessing political power (e.g., number of votes or political campaign contributions). Conflicting interests are balanced in terms of political support gained. In this view,

government officials try to maximize the probability of remaining in power. With this as a primary goal, their decisions will reflect the wishes of the group or groups which can provide the maximum number of votes (or finances from which votes can be "bought"). In an idealistic sense, these "vote maximizers" view protectionist legislation in light of predictions about the number of voters the legislation will alienate and the number of voters it will attract. The decision-maker may be confronted by special interest groups representing both kinds of voters. In this view, the protectionist legislation forthcoming will ultimately be a reflection of the relative pressure each group is able to exert in terms of voting, finances and group pressure.

In the second viewpoint the government is seen as autonomous and capable of making decisions based upon public interest (presumably to benefit the majority). Officials are assumed to aspire the attainment of social, rather than personal, goals.

This study is concerned with economic regulation of the Japanese beef industry. A number of different, but not necessarily incompatible, models have been formulated in an attempt to describe the political behavioral process of the Japanese beef industry. These models were formulated based on certain structural factors of the Japanese political system as described in Chapter IV. Political-economic characteristics of the beef industry were chosen to represent each model. These models and their related political structural factors are described below along with the industry characteristics used for testing. Table 22 shows these models and the expected

Table 22. Expected Relationships Between Japanese Beef Industry Characteristics and Levels of Protection

Various Models (Expected Relationships)					
<u>Industry Characteristics</u>	<u>Interest- Group</u>	<u>Voter's Strength</u>	<u>Necessary Existence</u>	<u>Political Infiltration</u>	<u>Income Adjustment</u>
Farm Population Share	Negative	Positive			
Full-time Farm Household Share	Negative	Positive			
Per Capita Agri. Income Share					Negative
Percentage LDP in House of Rep.				Positive	
Number of Livestock Co-ops				Positive	
Agri. Import Share			Positive		

relationships between the characteristics of the Japanese beef industry and the level of protection. In the succeeding chapter, effective protection rates are regressed against these characteristics to determine which characteristics best describe the Japanese beef industry's ability to secure protection and which model best describes the Japanese political structure.

Interest-Group Model

The interest-group model assumes that protection measures do not necessarily reflect the majority view of a country but, rather, reflect special interests of minority groups. Special interest groups are able to exert the necessary political pressure to attain protection despite their minority status. They are able to do this because it is in their economic interest to organize and exert political pressure upon decision-makers. Whether or not a group organizes depends upon its perceived benefits and costs. A small group will have larger perceived per capita benefits from protection and therefore members will have a greater incentive to organize (if marginal benefits exceed marginal costs) than those in larger groups. However, the free-rider problem increasingly hampers the group's ability to organize as its size increase and marginal benefits decrease. The result is that a large group may not organize even though it is in the interest of each individual to do so. The decrease in organizational ability may be slightly offset by "cheap riders" or by a change in organizational cost.

Policy formulation in the Japanese political system has been characterized as being based on consensus rather than majority vote (Baerwald), although Stockwin feels the trend is toward a more pluralistic structure. Under the consensus view, decision-making is achieved only after making wide-ranging consultations in an effort to minimize internal conflict. The Japanese dislike for dissention and personal conflict enables all interested parties, from the individual upward to government officials, to have input into the decision and to be a part of a compromise. Policy is decided after many proposals and counter proposals, coming from a variety of interested parties, result in a general consensus and compromise. Cabinet ministers and other high officials are reluctant to unilaterally exercise their political power, but rather tend to wait to see what the general consensus is before making a decision.

This mode of decision-making places primary consideration upon the maintenance of internal harmony within all groups and at all levels of the process. It also ensures that the official can avoid alienating himself from the groups concerned. Hence, the official is in the best position to stay in power or to be re-elected. This system also places greater importance on an organized group able to present a strong, cohesive proposal showing group unity.

If the ability of the Japanese beef industry to secure protection is dependent upon its ability to organize as a political pressure group, then protection levels should be negatively correlated with the farm population share of the total population and the full-time farm household share of the total farm households. A negative

correlation is expected under this model since as the shares increase, the free-rider problem becomes prevalent and the group loses unity. It is assumed that without unity, a group's ability to influence decision-makers is lessened.

Voter's Strength Model

Rather than focusing on an industry's ability to organize and exert pressure, this model emphasizes the voting strength of an industry. This model assumes that protection is the result of a special interest group's actions and that individual consumers do not effectively oppose price-increasing protectionist measures. The consumers are assumed to face costs of acquiring knowledge and lobbying against protection measures in excess of their perceived individual gains. They, therefore, choose to be "rationally ignorant" and not lobby against economically harmful legislation. Since there is no effective opposition to legislation, the special interest group with the largest membership has the greatest voting strength and political influence.

Hypothesised in this model is that as the number of individuals in a group increases, voting strength also increases and more pressure can be exerted upon political decision-makers for increased protection. It is expected that protection in the Japanese beef industry will be positively correlated with the farm population share of the total population and the share of full-time farm household of the total farm households.

Necessary Existence Model

Groups which are in some way disadvantaged or whose existence is deemed necessary, are candidates for protection legislation. If the general public is convinced that a certain industry's existence is beneficial, protectionist measures may be enacted with relative ease even though the group itself is unable to exert the necessary pressure. In effect, the group has the support of some other group who is able to exert political influence for it. This necessitates a longer run view whereby the other special interest group (such as consumers) are willing to accept higher costs of protection legislation. In such a case, the utility of the group is increased by knowing that another group is protected even if it means higher costs. The higher costs must be offset by an increase in utility due to the protection up to the point where marginal utility equals marginal costs. A higher income level of this group may also increase its willingness to incur these costs. Under these conditions, arguments for the continued existence of an industry may be made on the basis of national security and/or social welfare.

In Japan, food self-sufficiency to the maximum extent possible is a stated goal of the government and is a recurring theme throughout the Japanese political literature (Talbot and Kihl). Such a goal may stem from the hunger experienced after World War II and, more recently, from threats of exporting countries to cease their food exports to Japan. A country, as dependent upon imported food as Japan, is vulnerable physically and politically upon the vagaries of

other nations. It appears the majority of the Japanese people still place great importance on Japan's domestic agricultural sector and see a direct connection between food self-sufficiency and national security. A survey in 1982 indicated that approximately 75 percent of the respondents felt that the Japanese food security needs needed improvement (LIPC Newsletter).

As Japan increases its dependence upon foreign countries for its food sources, relatively inefficient domestic food producers may exit from the industry. If food self-sufficiency for national security is a valid argument for the continued existence of the Japanese beef industry, the government must erect protectionist barriers on imported beef so domestic producers can compete. If the food self-sufficiency argument is correct, this model hypothesizes a higher level of protection with increased dependence upon imported agricultural products. A positive correlation is expected between the level of protection and the agricultural share of Japanese imports. Another means of testing the hypothesis of protection for food sufficiency reasons is to use the United States 1973 oilseed embargo. If such an embargo increased Japan's awareness of its dependence upon imported food, including beef, one would be able to notice an increase in protection after 1973.

Political Infiltration

This model contends that people with a rural background or connections with agriculture have achieved influential positions within the Japanese decision-making process. These people are able

to use their positions to promote the agricultural industry and to ensure that the farmer's interests are well represented in the final legislation. The Japanese political system is conducive to the infiltration by such people, especially agriculturally orientated individuals. The agricultural co-operative is a structure which enables agriculturally orientated individuals to achieve political status. The politically strong rural community has used this system to entrench individuals favorable to their interests. These individuals usually belong to the LDP, a party noted for its representation of rural interests. Once in a position of power, the system tends to perpetuate individuals representing the same interests. People in powerful political positions will, thus, support upcoming politicians who represent the same rural interests.

The close relationship in the upper echelons of the government between farmer organizations, the Cabinet ministries (especially the MAFF) and the LDP, may help ensure favorable farm policy. Such a close relationship is maintained by the constant movement of people favorable to farm policy between farmer organizations, the Diet, government departments, political parties and numerous councils and advisory boards. Constant shuffling of these people in positions of importance ensures that agricultural interests are well represented at all levels of the decision-making process. The longer such people are entrenched in the system, the more influence they may wield in the decision-making process. An example of such influence is manifested by an ex-MAFF official using contacts and recalling political favors built up over the years to seek subsidies and other favorable farm policies.

An ex-MAFF official is also in an excellent position to be elected to the Diet as a member of the LDP. Once elected, contacts with the MAFF can prove useful in garnering their support for legislation.

Another example of influence resulting from the close relationship between all bodies concerned in the decision-making process is the amakudari (decent from heaven) system. Under this system, where retired public servants knowledgeable in certain areas are hired by private interests, political infiltration reaches a high degree of sophistication³. Under this system, retired government employees join the private industry they dealt with while in government and are therefore able to provide a vital link between the two groups.

If this model is correct in describing the manner in which agricultural interests gain protectionist legislation, a positive correlation between protection of the beef industry and components of the political structure which allows for the infiltration would be expected. The agricultural co-operative is the structure used by the rural communities to entrench candidates favorable to their interests. It is, therefore, expected that a positive correlation exists between the level of protection and the number of livestock co-operatives.

The rural influence exerted through the co-operative structure ultimately culminates in the number of Diet members who vote for protectionist legislation. It is hypothesized that Diet members with ties to rural areas are more likely to support beef protection legislation. Past Diet members also may affect legislation through

their continued involvement in policy formulation. Since the LDP is a party which largely represents rural interests, the number of Diet members belonging to this party is used as a measure of the rural infiltration at the level of decision-making. It is expected in this model that protection levels will be positively correlated with the percentage of LDP members in the Diet.

Income Adjustment

The massive changes which have occurred in Japan after the Meiji Restoration and World War II have resulted in an income disparity between rural and urban workers. Farmers have a lower income than their urban counterparts. A desire to adjust rural incomes upward relative to urban incomes may influence governmental policy (Stockwin). Protection may be provided as a means to increase rural incomes. Left unprotected, the industry would be unable to compete with imports and farmer's income would decrease. This model postulates that the government will increase protection to the beef industry as beef producers' incomes decrease in relation to the income of the rest of the country. A negative correlation is expected between the protection rate and the share of per capita agricultural income of the per capital national income for the entire country.

Summary

This chapter has provided a theoretical framework for measuring the degree of protection in the Japanese beef industry by use of effective protection rates. Five models were established within an

economic regulation framework as possible hypotheses explaining the causes of protection. In the next chapter, these two theoretical frameworks are combined into an empirical model which may be used to determine whether any particular economic regulation model "best" explains the level of protection in the Japanese beef industry.

Notes

1. The description of the theory on tariff draws heavily from Cordon's (1971) partial equilibrium analysis of tariffs.
2. Appendix F outlines the calculations for feed cost shares and effective protection rates.
3. For an interesting insight into the United States version of this system in dealing with Japanese matters see The New York Times Magazine, December 4, 1983.

CHAPTER VI

THE EMPIRICAL MODEL AND RESULTS

As discussed earlier, the level of protection in an industry may be attributed to certain political characteristics. However, there appears to be several competing models discussed in the literature which hypothesize which characteristics are the most important. In this chapter, these models are evaluated empirically to determine which (if any) "best" explains the observed levels of protection in the Japanese beef industry. For each model, tariff equivalents and effective protection rates are used as measures of the level of protection. These variables are assumed (in a regression framework) to be caused by certain important structural variables and the industry characteristics suggested by each competing economic regulation model. These empirical models and the results of the regression analysis are discussed in the remainder of this chapter.

The Empirical Model

Effective protection in the Japanese market is affected by price changes in both the United States and Japanese beef markets. Such changes may be the result of market/structural forces or artificial/governmental induced changes, both of which are reflected in prices. Structural variables such as income, input prices or price of substitutes may shift demand and supply. Thus, each has some effect

on the levels of protection. However, in the case of governmental interference in the market (e.g., the setting of a quota), price is kept below domestic supply and demand equilibrium. By varying the quota, a government can cause a change in price, e.g., an increase (decrease) in the quota decrease (increases) the price.

In Japan, a quota system is the main governmental interference in the beef market. Thus, those factors which affect certain political decisions can be endogenized into a structural model through the quota. The empirical model developed in this study, in contrast to many other studies, attempts to include both structural variables and those political factors influencing the governmental beef quota (Baldwin, 1984).

Both world and Japanese beef prices are influenced to a certain extent by the Japanese quota. Figure 9 illustrates how a quota (QT) in Japan affects beef prices. Notice that the quota determines the price in the Japanese market, P_j , which is above world price, P_w . Since the quota is supplied by the rest of the world, the world price increases from P_w' (equilibrium price without the quota) to P_w . Markets clear because the excess demand in the Japanese market is supplied by the excess supply in the rest of the world market. However, since the amount of the quota is small relative to total world demand, the increase in world price is probably negligible.

Figure 9 also illustrates how demand and supply shifters in both the Japanese and world beef markets will affect relative prices. For instance, an increase in the world supply of beef and/or a decrease in the supply of Japanese beef will widen the price differential in

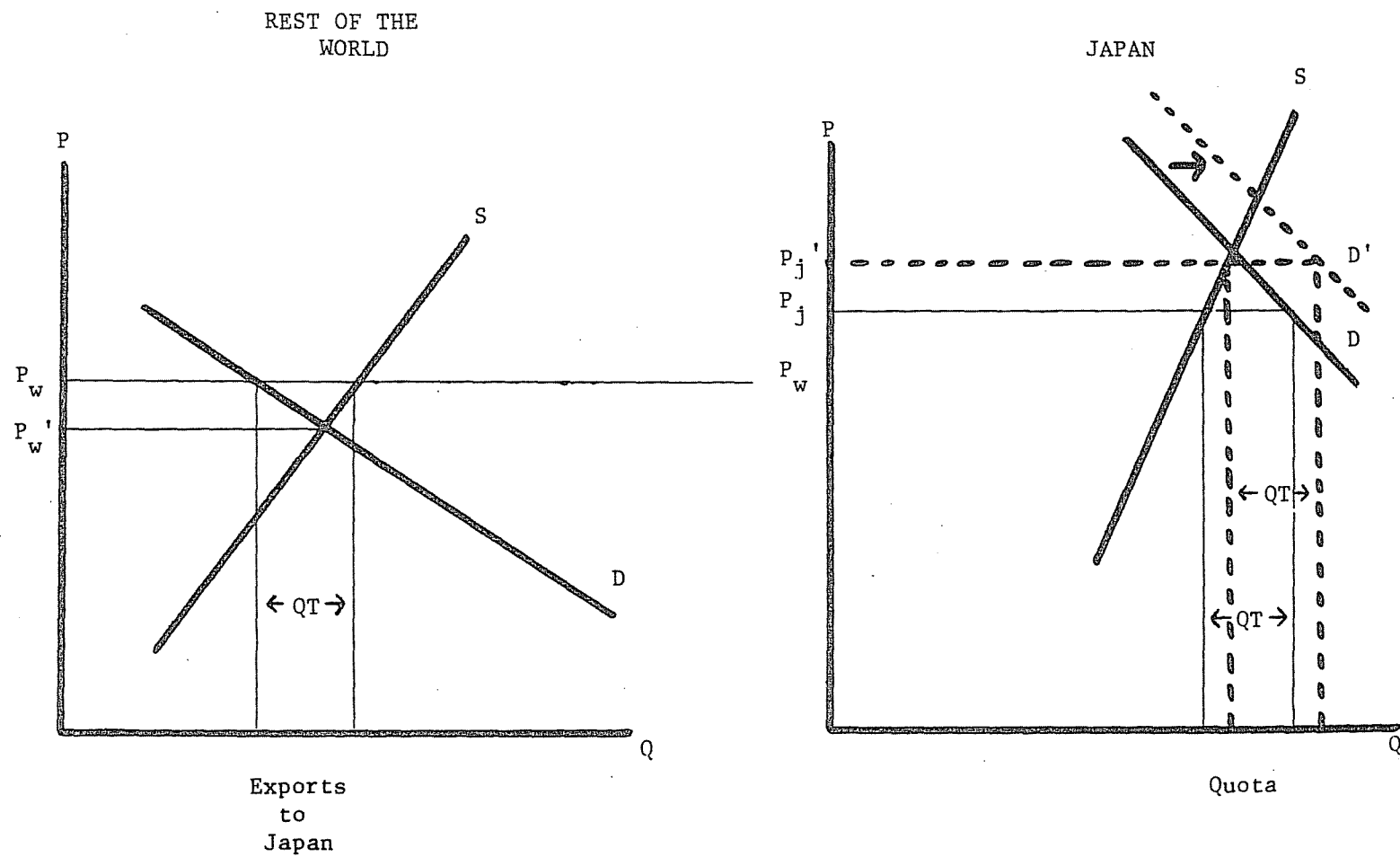


Figure 9. Determination of the world and Japanese beef price

the two markets. Consequently, the effective protection rate will increase. Likewise, a decrease in the world beef demand and/or an increase in the Japanese beef demand will increase the effective protection rate. For example, consider an increase in the Japanese demand from D to D' (all else held constant), due to an increase in Japanese real income. Price increases to P_j' and the price difference increases from $P_w - P_j$ to $P_w - P_j'$.

The effects on the rate of protection become ambiguous when shifts in both the demands and/or supplies occur simultaneously and in the same direction. For example, if world and Japanese demand increase, the price in both markets decreases. Consequently, the effect on the price differential depends on the relative magnitude of the shifts and the elasticity of the demand/supply curves.

This study examines the Japanese excellent grade beef industry and its competing imports. Since the United States supplies the majority of high quality beef which competes with this segment of the Japanese beef industry, it is the only market used for comparison.

Three different structural models were formulated to account for several possible market conditions. The first two specify different structural characteristics of the Japanese beef supply and assume that the effective protection rate is the appropriate measure of protection. The third model uses the tariff equivalent as an endogenous variable. As outlined earlier, both the effective protection rate and tariff equivalent provide a means for measuring protection. A comparison of the two may provide information on which is empirically superior.

Demand equations for both the Japanese and United States markets remain the same in each of the three structural models. Japanese income was included along with price as a determinant of Japanese demand. It appears that increases in Japanese real income have induced increased meat (including beef) consumption. Studies have indicated an income elasticity greater than one (Coyle).

All models include the dollar to yen exchange rate as exogenous and include structural as well as political-economic explanatory variables. Each model includes (in various forms) the structural equations and variables outlined below.

- | | |
|------|---------------------------------|
| (8) | $USD = f(PU)$ |
| (9) | $JD = f(PJ, JPCNI)$ |
| (10) | $USBP = USD + Q$ |
| (11) | $JBP = f(PJ, JAPI)$ |
| (12) | $JBP = JD - Q$ |
| (13) | $Q = h(G)$ |
| (14) | $TE = PJ - PU(EXCH) / PU(EXCH)$ |
| (15) | $EPR = TE / (1 - FCS)$ |
| (16) | $FCS = f(PU, JAPI)$ |

where

- | | |
|-------|--|
| USD | = quantity of beef demanded in the U.S., |
| JD | = quantity of beef demanded in Japan, |
| PU | = the wholesale price of excellent, grade beef in the U.S. market, |
| PJ | = the wholesale price of excellent, grade beef in the Japanese market, |
| JPCNI | = Japanese real per capita national income, |
| USBP | = United States excellent grade beef production, |
| JBP | = Japanese excellent grade beef production, |
| Q | = Japanese beef quota, |
| G | = governmental factors influencing the Japanese beef quota, |
| TE | = tariff equivalent of all Japanese beef trade barriers, |
| EPR | = the effective protection rate, |

FCS = Japanese feed cost share in the production
of excellent grade beef,
EXCH = dollar to yen exchange rate,
JAPI = Japanese agricultural price index.

The Japanese high quality beef quota is supplied primarily by the United States. If imports of beef approximately equal exports in the United States (excluding the amount to Japan), then the United States beef production is equal to the quantity demanded plus the Japanese quota (10). Japanese beef production (12) may be viewed in a similar manner, with production equaling quantity demanded minus the quota. If the Japanese supply is not fixed, then (11) states that supply depends upon the price of inputs as well as the domestic beef price and quota. The Japanese agricultural price index is used as a measure of relative input prices paid in the production of beef.

The Japanese quota is set by the government of Japan and depends on certain political variables. Hence, the effects of government may be incorporated directly into the structural model through (13). This study later addresses the issue of factors which influence such governmental action.

Since the primary purpose of this study is to identify those factors which influence the Japanese beef industry's level of effective protection and not to model the Japanese beef market in general, only the reduced forms corresponding to the effective protection rate and the tariff equivalent will be analysed. Emphasis is not placed on deriving estimates of the structural parameters.

Notice that both the effective protection rate and the tariff equivalent are non-linear functions of prices. In particular, both

are essentially price ratios. Subsequently, the reduced forms for each variable are non-linear. However, to simplify the analysis, a linear function was assumed to be a valid approximation for each reduced form. Further, since economic time series models often have autocorrelated error structures, a first order autoregressive model was assumed for each estimating equation. Estimates were obtained using the Cochran-Orcutt procedure in SHAZAM.

Structural Model 1

This model assumes that both the United States and Japanese beef supplies are fixed. This assumption implies that due to the length of time required to produce beef, annual beef supplies vary little with current price changes. Thus, this model includes structural equations (8), (9), (10) and (12). Further, it is assumed that feed cost shares are exogenous to the system. This assumption may be reasonable when viewed from the Japanese perspective. Feed cost shares depend directly on the Japanese feed cost and the price of United States beef, both of which the Japanese beef producer may take as given. Incorporating the above assumptions, the exogenous variables are: United States beef production (USBP), Japanese beef production (JBP), Japanese per capita national income (JPCNI), Japanese feed cost shares (FCS), the exchange rate (EXCH) and governmental factors (G) which influence the Japanese beef quota. Thus, the reduced form for the effective rate of protection is:

$$(17) \quad \text{EPR} = f(\text{USBP}, \text{JBP}, \text{JPCNI}, \text{FCS}, \text{EXCH}, \text{G})$$

where $f(\cdot)$ is a linear function of its arguments.

Structural Model 2

This model also assumes that the supply in the United States market is fixed, but relaxes the fixed Japanese supply assumption. Japanese beef supply is assumed to be a function of quantity demanded and production input prices. The Japanese agricultural production index of prices for all commodities is used as a proxy for production input prices. The model includes equations (8), (9), (10), (11) and (12).

Japanese feed cost shares are considered endogenous to the system in this model. Feed cost shares were calculated based on actual feed costs and the United States price of beef. Expressing the feed cost shares as a function of the United States beef price and the Japanese agricultural production index (a proxy for feed costs) in a sense endogenizes the feed cost share.

Other attempts to endogenize this variable were largely unsuccessful. Assuming that the production function for beef has fixed proportions with only one variable input, feed cost shares may be expressed as a function of the ratio of the price of feed and United States beef prices¹. Since the United States price of beef is probably endogenous to the system, the predicted United States price was used to form this ratio. An index of prices paid by Japanese producers was used as a proxy for feed prices. The ratio of the Japanese price index to the predicted United States beef price was

then used as an instrument in a two-stage least squares procedure. However, the small number of observations and the non-linear nature of the effective protection rate imposed an unacceptable degree of multicollinearity causing weak results.

Incorporating the assumptions of endogeneity of feed cost shares in the model results in the linearized reduced form for the effective protection rate:

$$(18) \quad \text{EPR} = f(\text{USBP}, \text{JPCNI}, \text{JAPI}, \text{EXCH}, \text{G}).$$

Structural Model 3

This model contrasts with the above models in the use of the tariff equivalent instead of the effective protection rate as an endogenous variable. In particular, equation (14) is used in place of (15). Although the effective protection rate is theoretically the better measure of protection, this model offers additional information for comparison purposes.

The structure of the United States and Japanese supply and demand of beef is identical to model 2. Feed cost shares are not included since they do not affect tariff equivalents directly.

The reduced form for the tariff equivalent includes the following exogenous variables: United States beef production (USBP), Japanese per capita national income (JPCNI), Japanese agricultural price index (JAPI), the exchange rate (EXCH) and governmental factors (G) which influence the Japanese beef quota. The estimating equation is:

$$(19) \quad \text{TE} = f(\text{USBP}, \text{JPCNI}, \text{JAPI}, \text{EXCH}, \text{G}).$$

Economic Regulation Variable Definitions

One aspect of this study is to isolate significant factors which may contribute to protection of the Japanese excellent grade beef industry. The following characteristics of the Japanese beef industry were identified as being reasonable variables when viewed from a economic regulation perspective: ²

1. FPS: Farm population share of the entire population.
2. FFHS: Full-time farm household share of all farm households. A full time household is defined as a farm household which has no members engaged in non-farm employment.
3. AIS: Ratio of Japanese agricultural import value to Japanese gross agricultural output.
4. LDP: Percentage LDP members in the House of Representatives.
5. NLCOOP: Number of livestock co-operatives.
6. PCAIS: Per capita agricultural income share of per capita national income.

Five economic regulation models incorporate a varying number of these industry characteristics as explanatory variables. In the previous chapter, certain variables were assigned to the different models to act as proxies for the political characteristics implicit in each model. Both the Interest Group and Voter's Strength Models include the farm population share and the full-time farm household share. The Necessary Existence Model uses the ratio of agricultural imports as an explanatory variable. The Political Infiltration Model utilizes the percentage of LDP members in the House of Representatives and the number of livestock co-operatives. The Income Adjustment Model has the agricultural income share as an explanatory variable.

These models, variables and expected relationships between the two were outlined in Table 22.

Notice that the Interest-Group and Voter's Strength models are diametrically opposed. Both of the explanatory variables (if of the same sign) should give an indication which of these two models is more realistic to the Japanese beef market. The Political Infiltration Model contains two explanatory variables, both of which are expected to yield a positive relationship. All other models contain a single explanatory variable.

Empirical Model Summary

Five economic regulation models have been formulated to account for possible methods of achieving protection within the Japanese beef industry. Three structural models have also been formulated to account for several possible market conditions. The three structural models are incorporated under each economic regulation model to capture structural variations within each economic regulation model. In particular, the tariff equivalent endogenous variable of structural model 3 is combined under the five economic regulation models. The effective protection rate is also used in all models as the endogenous variable. Specifically, two structural models, 1 and 2, were developed; one treats Japanese beef supply as fixed and the other relaxes this assumption. Both are incorporated under each economic regulation model. Expanding the number of possible combinations, increases the amount of information generated. A more comprehensive analysis can then be applied toward accomplishing this study's

objectives. The results of an empirical analysis conducted to test the feasibility of each economic regulation model for the Japanese beef industry are given below.

Results

Tariff Equivalents and Effective Protection Rates

Specific calculations of tariff equivalents and effective protection rates for the Japanese excellent grade beef industry are outlined in Appendix F. Estimates of these measures are summarized in Table 23.

Data for 1963 were excluded from empirical analysis due to the negative values of the protection rates. The small amount of beef imported at that time and the necessary calculations makes the values suspect. Further, since the literature is largely divided on whether negative effective protection rates are reasonable, this data point was treated largely as an outlier.

Theoretically, the effective protection rate is a better measure of protection in comparison to the tariff equivalent. Inspection of the two measures reveals that they are relatively close in direction of change, with the effective protection rate differing only in magnitude. Notice that both measures of protection increase from 1963 to 1967, decrease to a low in 1970 and then increase again to another high in 1977. The results appear relatively stable from 1973 to 1983. The highs in 1967 and 1977 were probably due to the low price of United States beef exports to Japan. A correlation matrix

Table 23. Japanese Excellent Grade Beef Tariff Equivalents and Effective Protection Rates, 1963-1983^a

Year	Measure of Protection	
	Tariff Equivalent (TE)	Effective Protection (EPR)
1963	-9	-12
1964	34	51
1965	70	103
1966	50	81
1967	342	510
1968	102	185
1969	69	115
1970	12	16
1971	77	120
1972	52	74
1973	140	209
1974	142	268
1975	140	286
1976	255	750
1977	315	2864
1978	273	1046
1979	227	483
1980	229	545
1981	250	833
1982	180	409
1983	211	527

^a

All values are percentages.

supports that the two measures of protection are highly correlated. A priori, these two measures would be expected to yield similar regression results.

Japan's 25 percent tariff on beef has been in effect since 1964. At first glance, the 1970 value of a 12 percent tariff equivalent (which includes all trade barriers) appears incongruous. Recall that the tariff equivalent is the percentage price difference between the United States and Japanese beef markets. A 12 percent tariff equivalent at the time of a 25 percent tariff indicates the Japanese price before implementation of trade barriers was below the United States price. In such a case, an importer would be purchasing the beef at a higher price than the sale price and hence, would lose money. This appears to have been the case in 1969 and 1970 when the LIPC lost nearly \$184,000 (Longworth, 1983).

Empirical Results

Both tariff equivalents and effective protection rates were regressed against Japanese beef industry characteristics implied by each of five economic regulation models and certain variables suggested by the structural model(s). Recall that, in addition to the five economic regulation models, three structural models seemed plausible in an attempt to capture varying structural characteristics. Two economic regulation models, Interest-Group and Voter's Strength, are diametrically opposed and require estimation of the same equations. Overall, twelve equations were estimated.

The results of empirical analysis for each of the five economic regulation models and twelve estimated equations are contained in Table 24. The five models used the effective protection rate as the endogenous variable in eight equations. For comparison purposes, the tariff equivalent was also included in all models as an endogenous variable in 4 equations.

For the Political Infiltration Model, data for the number of livestock co-operatives were available from 1971. This limited the number of observations used in estimation to thirteen. In the Income Adjustment Model, data for the value of Japanese agricultural imports were available only from 1968. There were sixteen observations in this model.

The results in Table 24 help to distinguish between the five economic regulation models and their basic measures of influence as reflected in their associated Japanese beef industry characteristics. Structural characteristics may also be examined and compared.

Overall, all models appear to fit the data well, as indicated by the values of the coefficient of determination (R^2), ranging from .96 for structural model 3 under the Income Adjustment Model to .75 for structural model 2 under the Political Infiltration Model. In all cases the fit of structural model 3 equaled or bettered the fit of structural models 1 and 2. The R^2 values for structural model 2 were consistently lower than the other two. With the exception of structural model 3, each structural model showed a high degree of autocorrelation in the error structure, indicated by the magnitude and significance of the autocorrelation parameter, ρ . For example, the

Table 24. Empirical Results for Five Economic Regulation Models ^a

Model	Endogenous Variable	Intercept	Exogenous Variables						Structural Variables					Rho	R ²	
			FPS	FFHS	AIS	LDP	NLCOOP	PCAIS	JPCNI	USBP	JBP	FCS	EXCH			JAPI
1. Interest-Group and 2. Voter's Strength																
Model 1	EPR	-164.68 (3.00)	402.27 (3.37)	-31.53 (-.50)	-	-	-	-	.00006 (2.02)	.0011 (1.09)	.00003 (1.75)	52.29 (3.77)	-.03 (-.91)	-	-.64 (-3.69)	.32
Model 2	EPR	-187.73 (-.87)	313.35 (.71)	120.17 (1.59)	-	-	-	-	.00006 (.51)	.004 (3.53)	-	-	-.11 (-4.20)	.21 (.51)	-.53 (-2.32)	.81
Model 3	TE	-6.64 (-.39)	7.06 (.20)	12.53 (2.08)	-	-	-	-	.000001 (.12)	.00032 (3.56)	-	-	-.01 (-4.20)	.01 (.37)	-.39 (-1.87)	.95
3. Necessary Existence																
Model 1	EPR	-8.72 (-.41)	-	-	-11.80 (-.59)	-	-	-	-.00002 (-.90)	.0014 (1.52)	-.00001 (-.66)	21.78 (1.84)	-.04 (-.79)	-	-.39 (-1.96)	.81
Model 2	EPR	8.99 (.44)	-	-	-27.86 (-1.41)	-	-	-	-.00006 (-3.65)	.0028 (4.73)	-	-	-.10 (-2.28)	-.02 (-.21)	-.48 (-2.47)	.79
Model 3	TE	2.31 (1.21)	-	-	-2.06 (-1.15)	-	-	-	-.000005 (-3.69)	.00025 (4.41)	-	-	-.01 (-3.18)	.01 (1.20)	-.30 (-1.38)	.92
4. Political Infiltration ^b																
Model 1	EPR	-603.57 (-1.57)	-	-	-	-174.97 (-2.10)	.23 (1.64)	-	.00065 (1.80)	-.0014 (.51)	.0002 (1.34)	75.81 (2.99)	.52 (2.13)	-	-.86 (-6.00)	.94
Model 2	EPR	5.79 (.03)	-	-	-	10.32 (.10)	.03 (.052)	-	-.00007 (-.36)	.0033 (1.28)	-	-	-.15 (-1.08)	-.07 (-.25)	-.49 (-2.04)	.75
Model 3	TE	1.48 (.14)	-	-	-	-4.66 (-.87)	.0042 (1.46)	-	-.000005 (-.46)	.00014 (.97)	-	-	-.0083 (-1.10)	.03 (1.92)	-.33 (-1.24)	.94
5. Income Adjustment ^c																
Model 1	EPR	79.49 (1.30)	-	-	-	-	-	-220.08 (-2.90)	-.00011 (-1.20)	.0034 (1.93)	-.00009 (-3.68)	17.85 (.83)	-.13 (-1.28)	-	-.77 (-4.84)	.93
Model 2	EPR	80.65 (2.08)	-	-	-	-	-	-124.92 (-2.26)	-.00016 (-3.43)	.0043 (5.46)	-	-	-.20 (-3.77)	-.20 (-1.99)	-.66 (-3.55)	.87
Model 3	TE	6.27 (1.98)	-	-	-	-	-	-.61 (-.13)	-.00001 (-.291)	.00026 (4.09)	-	-	-.02 (-4.39)	.0066 (.82)	-.49 (-2.27)	.96

^a T-statistics are in parentheses.^b Model 4 used data set from 1971.^c Model 5 used data set from 1968.

estimated values of rho ranged from $-.30$ to $-.86$. Although all models allowed explicitly for first order autocorrelation, those models with nonsignificant rho values could have been estimated using ordinary least squares.

Structural Variables. In general, the estimated coefficients of the structural variables were consistent across equations with expected results. In six of seven cases where the estimated coefficient of the exchange rate variable (EXCH) was significant, the sign was negative. This was expected since an increase in the value of the dollar will increase the price of United States beef to Japan causing the price differential in the markets to narrow. Consequently, any measure of protection should decrease.

In those models where the feed cost share (FCS) was significant, the value was positive, confirming the overall importance of FCS in determining the effective protection rate. Of course, since FCS is used directly in calculating the effective protection rate, this strong relationship is not surprising. Endogenizing FCS in structural models 2 and 3 yielded mixed results when compared to structural model 1 where it was treated as exogenous. Structural model 3 consistently provided a higher degree of fit, while that of structural model 2 was consistently lower. It appears that endogenizing FCS by structural model 3 provides the best overall equation in terms of fit.

In structural model 1, the Japanese beef production variable (JBP) was expected to be negatively related to the effective protection rate due to its effect on the price of beef in Japan. For

example, as production increases, prices are driven down causing the price differential to decrease, thus decreasing the effective protection rate. This was the case in the Income Adjustment model, the only model where JBP was statistically significant. Similarly, United States beef production (USBP) yielded expected results. In all cases where USBP was statistically significant, the sign was positive, indicating the positive effect United States beef production has on the level of protection in Japan. A positive relationship was expected since an increase in production would drive down the price causing the price differential to increase, thus increasing protection.

The models varied somewhat in the expected relationship of Japanese per capita national income (JPCNI) and protection. In three out of four cases in which JPCNI was statistically significant, the relationship between JPCNI and protection was unexpectedly negative. One would expect a positive relationship since an increase in income should lead to greater consumption of beef, thus increasing protection. Since the income elasticity of beef is positive and probably greater than one (Coyle), other market dynamics account for the negative sign. One possibility is a high correlation between income in Japan and the United States. It is conceivable that the income effect in the United States is driving up beef prices faster in the United States market than the similar phenomenon in Japan. In such a scenario, the price differential would decrease, thus decreasing protection. It is suspected that modeling United States income directly might provide more expected results from the JPCNI variable.

Political Variables. In general, the five economic regulation models and their related exogenous variables yielded satisfactory results. Although the structural variables provide some interesting information, they are of relative minor importance in comparison with the beef industry characteristic variables. These variables are the ones which will provide the necessary information to attain comparison of the five economic regulation models.

The Interest-Group and Voter's Strength Models include the same exogenous variables, e.g., farm population share (FPS) and full-time farm household share (FFHS). Theory predicts diametrically opposite results. What one observes is statistically significant positive results which favor the Voter's Strength Model. In particular, FPS was positive and significant at the 1 percent significance level in structural model 1 and FFHS was positive and significant at the 5 percent significance level in structural model 3. These two models have R^2 values of .92 and .95 respectively. No structural model yielded a negative and significant result which would be indicative of the Interest-Group model.

The Necessary Existence Model performed the worst of the five. In all but one case, the R^2 values of its structural models were lower for comparable structural models within the other four economic regulation models. Contrary to theory, the coefficients of the agricultural import share variable (AIS) were negative for all structural models. However, these results all had zero statistical significance.

In the Political Infiltration Model, the percent share of Liberal Democrats in the Diet (LDP) was found to be negatively related to the level of protection. However, this model predicts a positive relationship. As the LDP percentage increases (decreases) protection was expected to increase (decrease) due to more (less) representation of rural interests. A possible explanation for this unexpected result may lie in factionalization within the Diet. As the rural areas decline in political importance (as indicated by a declining percentage in the number of agricultural voters, Figure 5) in comparison to other politically powerful interests such as big business, rural Diet representatives may be more willing to "log-roll" their votes. This may result in a relatively minor piece of agricultural protection legislation receiving support from many Diet members in exchange for the rural representatives' vote on a relatively more important piece of legislation. In a sense, the Diet members representing rural interests may find their votes have more bargaining power within the Diet and thus can canvass support for coveted legislation in exchange for their votes elsewhere.

Within the Political Infiltration Model, the number of livestock co-operatives (NLCOOP) showed no significant relationship with the level of protection. The number of livestock co-operatives may be an inadequate proxy due to its small magnitude. A better proxy to indicate the degree of political infiltration may be the total number of agricultural co-operatives.

In the Income Adjustment Model, the coefficient for the per capita agricultural income share variable yielded significant and

expected results in structural models 1 and 2. These models were both statistically significant at the 2 percent significance level. The R^2 values were .93 and .87 respectively.

In general, the Voter's Strength Model and Income Adjustment Model appear to perform the best. Both of these economic regulation models showed statistically significant results in two of the structural models. The R^2 values for the Voter's Strength Model were .92 and .95, while those for the Income Adjustment model were .93 and .87. Within the Voter's Strength Model, the equation which contained the FFHS variable had an R^2 value of .95. This is slightly larger than the .92 R^2 value for the equation containing the FPS variable. It appears that within this model, FFHS has a slight advantage over FPS in explanatory power. However, note that this variable was contained in structural model 3 with the tariff equivalent as the endogenous variable. This was the only case where the structural model 3 had significant values for the explanatory variables. A comparison between structural models 1 and 2 and structural model 3, revealed that equations with the effective protection rate yielded significant results 50 percent of the time, while those equations with the tariff equivalent yielded significant results 25 percent of the time. Further, it appears the effective protection rate is a better measure for empirical testing.

Summary of Results

The results indicate that the Voter's Strength Model and the Income Adjustment Model best describe the process of protection within

the Japanese excellent grade beef industry. Within the Voter's Strength Model, both variables, FPS and FFHS, provided some statistically significant results. These results seem to indicate that protection increases (decreases) in relation to an increase (decrease) in the farm population share and in the full-time farm household share. This implies that beef producer's political strength responsible for attaining protection is in proportion to its size. In the Income Adjustment Model, PCAIS provided statistically significant results. This seems to indicate that as per capita agricultural income increases (decreases) relative to per capita national income, protection will decrease (increase). This implies that beef producer's degree of protection depends in a negative manner on income. These two economic regulation models are not necessarily incompatible. It is possible that both simultaneously describe the process by which beef producers attain protection.

These results are in contrast to studies conducted in the United States which concluded that a small group with a large per capita benefit will be dominant over a large group in gaining protection (Stigler, 1971 and Peltzman). The opposite appears to be true in Japan. The results are not surprising when the political structure of the two countries are compared. The democracy system in the United States may be better suited than the parliamentary system in Japan for strong cohesive groups to persuade the necessary decision-makers through mechanisms such as campaign contributions. On the other hand, the parliamentary system in Japan, with power residing in the ruling party, may be better suited to a large group's ability to persuade

decision-makers by its number of votes. The type of institutions within a government appears to make considerable difference in the way protectionist legislation originates.

One recurring argument in the literature of Japanese agricultural protection is that the 1973 United States oilseed embargo increased the Japanese awareness of their reliance upon imported foodstuffs. This awareness is then transformed into protection of domestic agriculture in an effort to provide self-sufficiency in food production. The hypothesis that the embargo contributed to protection levels was tested by the inclusion of a binary variable with a value of zero for those years prior to 1974 and a value of one for all other years. Equations of all three structural models within the Interest-Group and Voter's Strength Models were estimated. This variable should show a significant increase in protection after 1973 if this argument is valid. In fact, this variable showed a negative relationship but was statistically insignificant in all cases. The high correlation with other variables in these models undoubtedly limited the power of the test. Therefore, it appears that the 1973 United States oilseed embargo had no statistically significant impact on protection in the Japanese beef industry.

Notes

1. Consider beef production (B) as a function of one input, feed (F), in fixed proportions: $B = \alpha F$. Feed cost shares (FCS) may then be expressed as the ratio of the product of feed multiplied by the price of feed (P_f) and the product of beef production multiplied by the price of beef (P_b):

$$\frac{F \times P_f}{B \times P_b}.$$

Substituting αF for beef production (B), the feed (F) cancels and leaves a ratio of feed price to beef price.

2. Data for these variables were obtained from the MAFF Statistical Yearbook, FAO Trade Yearbook and The Economic Report of the President.

CHAPTER VII

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

This study provides an initial attempt to analyse the political-economic structure of the Japanese beef industry. It improves upon previous studies of a political-economic nature by including certain structural components of the United States and Japanese beef markets within the empirical model. Structural characteristics have typically not received attention in conjunction with political-economic characteristics (Baldwin, 1984). Writers in the public choice field often rely solely upon measures of protection to test economic regulation theory (Caves).

Several aspects of the Japanese beef industry were discussed. It was found that the Japanese consume relatively small quantities of meat, but that consumption is increasing. Domestic production of beef does not appear to be sufficient to match this increased demand and, as a result, imports have increased. The United States has an almost exclusive share of the high quality beef imports. When combined with the value of beef offal, United States exports to Japan comprise over 50 percent of the market.

Japan relies mainly upon a quota system to restrict imported beef. Tariffs, levies, licenses and standards contribute some to the overall restriction of imports. Import restrictions have contributed

to effective protection rates of 34 percent in 1964 to 211 percent in 1983. Protection reached a maximum of 2864 percent in 1977.

Japan faces international pressure to decrease trade barriers. The General Agreement on Tariffs and Trade is a structure through which these demands are expressed. The United States has entered into several bilateral trade negotiations with Japan for reduction of beef trade barriers. As a result, the amount of high quality beef allowed into Japan has increased. The United States is Japan's main supplier of high quality beef.

The ruling political party (LDP) has much influence in decision-making and is largely dependent upon its rural constituents for electoral support. Rural areas appear to have a disproportionate influence in elections due to electoral district allocation. Also, the co-operative structure is one way through which rural areas can maintain their close ties with the LDP and influence legislation pertinent to their interests.

Agricultural legislation has focused on maintaining a viable agricultural sector. In the beef industry, this is accomplished, in part, through the LIPC's administration of the Wholesale Beef Price Stabilization Program. This program limits the amount of imported beef through a quota system.

The quota is established by the Japanese government. Governmental officials may be influenced in some way by beef producers to provide protection. By accounting for structural variables that influence the effective protection rate, this study was able to isolate the effects of a number of beef industry characteristics

within an economic regulation framework. Of the five economic regulation models developed, the Voter's Strength Model and the Income Adjustment Model seem to best fit the data. The beef industry appears to acquire protection in a positive relationship to the farm population share and to the full-time farm household share. It also appears that the level of per capita agricultural income affects protection in a negative relationship.

It is expected that the Japanese beef quota may increase, thus reducing protection, if the farm population decreases and/or the percentage of full-time farm households decrease. In addition, if agricultural incomes rise the protection level may decrease. Japanese beef protectionist policy appears closely related to these factors.

Implications

The results of this study seems to indicate protection will decrease with a decrease in the farm population relative to the total population. The farm population in Japan has been steadily decreasing as people move into urban areas. Japanese decision-makers may, therefore, be more receptive to relaxing protection of the beef industry. With a decrease in protection of the Japanese excellent grade beef industry, a greater reliance upon imported high quality beef may be expected. The United States has the opportunity to supply a majority of this increase since it is Japan's main supplier of high quality beef.

United States beef producers may take advantage of a decrease in protection in the Japanese beef industry by exerting pressure (through the United States government) on the Japanese government to increase the quota on high quality beef when the existing agreement expires in 1988. They may also find it advantageous to instigate a program designed to make Japanese consumers aware of the distinctiveness of United States high quality beef. If protection decreases, such a program has the possibility of increasing high quality beef imports.

An opportunity appears to exist for a continuous increase in United States high quality beef exports to Japan. United States government officials may find the Japanese government more open to discussions on beef import barriers and more willing to negotiate their reduction. An important implication of such a development would be a greater market for United States beef and a rise in beef producer's income.

Limitations

This study has been an initial attempt to develop a political-economic analysis of Japan's beef industry. The scope of the study was necessarily limited due to time and space constraints and the complex nature of the subject under discussion. Furthermore, political-economy theory and empirical analysis is relatively underdeveloped and, thus, may not provide an accurate guide to research in this area.

A number of assumptions were made in the calculation of tariff equivalents and effective protection rates. Since data were

unavailable on the value and quantity of United States boneless beef exports before 1978, a fixed percentage of the total quantity and value exported was assumed to be boneless.

The effective protection theory has limitations. Since it is a percentage measure of the difference between value-added after and before protection, a large numerical value could be misleading when the value-added before protection was small. The effective protection rate would indicate a large percentage increase even though the relative magnitude (in terms of income due to protection) of the protection remained small. The effective protection rate becomes meaningless as the sum of the industry's cost shares approach the world price. When cost shares equal the world price, the effective protection rate goes to infinity. When they exceed the world price the rate becomes negative.

This study was concerned with identifying characteristics of the Japanese beef industry which explain the effective protection rate. As such, characteristics of other industries and groups in Japan which also affect protection were ignored. The influence of consumer groups, the LIPC and other concerned groups, including the ability of foreign governments to impose pressure on Japan, were not modeled. Finally, the model assumed some simplistic structural factors external to Japan which affect effective protection.

This study dealt with only one segment of the Japanese beef industry, the Japanese excellent grade beef industry. Other segments of the industry such as the Japanese "super beef" and "processing beef" were not examined.

Recommendations for Further Study

Application of economic regulation theory to the Japanese beef industry is relatively new. This field can offer new and revealing insights into the complex behavior of markets which interact in the international arena. Further studies need to examine a wider range of specific markets.

A more comprehensive political-economic analysis on the protection of the entire Japanese beef industry could yield valuable information. An analysis such as this could include all segments of the Japanese beef industry not examined in this study. A large model could incorporate factors both external and internal to Japan which influence the protection rate. External factors could include a measure of influence foreign governments have in reducing Japanese beef trade barriers. Internal factors, other than those examined in this study, could include measures of the influence exerted by the LIPC, consumer groups and organizations such as Keidanren (Federation of Economic Organizations).

One possible addition to this study may enhance the results. Japanese voting demographic data were not used to test the significance of voter's age pattern in the Necessary Existence Model since these data were not available. If food self-sufficiency is a goal of the government and is the result of the hunger experienced after World War II, then protection may be positively correlated with the percentage of voters in the age group which actually experienced

the hunger. Younger voters who have not had this experience probably do not place great importance upon food self-sufficiency.

Another hypothesis to test might be the influence of the market share of the largest farmers in Japan. With the correct data, a Herfindahl-Hirschman Index could be developed based on the magnitude of income acquired from agricultural production (Scherer). A large degree of concentration might indicate a more cohesive group capable of exerting political pressure.

This study has presented an initial attempt to model this complex and important issue. Data limitations prevented, at times, the use of more theoretically appealing variables in the analysis, such as those described in the preceeding paragraphs. However, based upon the empirical analysis, it appears that quite a dispassionate viewpoint of Japanese policy is supported by the data. To a large extent, the level of protection rewarded to the beef industry in Japan can be explained by the voting strength of beef producers and an income adjustment process.

REFERENCES

REFERENCES

- Agricultural Affairs Office, American Embassy. "Agricultural Statistics". June 1984.
- Agricultural Policy Research Committee, Inc. (Tokyo). "Beef Situation in Japan". March 1984.
- American President Line Shipping Company. Mr. Paul Baldwin, Personal interview April 3, 1986.
- Anderson, J. and Naya, S. "Substitution and Two Concepts of Effective Rate of Protection", Amer. Econ. Rev. 59(1969): 607-612.
- Baerwald, H. H. "Parties, Factions, and the Diet" in Politics & Economics in Contemporary Japan. Tokyo: Japan Culture Institute, 1979.
- Balassa, B. "Tariff Protection in Industrial Countries: An Evaluation", J. Pol. Econ. 73(1965): 573-594.
- Baldwin, R. E. Nontariff Distortions of International Trade. Washington D.C.: Brookings Institution, 1970.
- _____. "Trade Policies in Developed Countries" in Handbook of International Economics Volume I. Edited by Ronald Jones and Peter Kenen. New York: Elsevier Science, 1984.
- Bale, M. D. and Greenshields, B. L. Japan Production and Imports of Food- An Analysis of the Welfare Cost of Protection. Washington D.C.: USDA, ERS, Foreign No. 141, November, 1977.
- Basevi, G. "The United States Tariff Structure: Estimates of Effective Rates of Protection of United States Industries and Industrial Labor", Rev. Econ. and Statist. 48(1966): 147-160.
- Beasley, W.G. The Modern History of Japan, 3rd Edition. Tokyo: Charles E. Tuttle Co., 1982.
- Becker, G. S. "A Theory of Competition Among Pressure Groups for Political Influence", Quart. J. of Econ. 98(1983): 371-400.
- Benson, B.L. and Faminow, M.D. "Both Ends Against the Middle". Econ. Inquiry. (Forthcoming, 1986).

- _____. "On the Causes of Canadian/American Economic Policy Divergence: The Case of Supply Management in Agriculture". Working Paper #40, Department of Agricultural Economics, University of Arizona, February 1986.
- Burks, A. W. The Government of Japan, 2nd Edition. New York: Thomas Crowell Co., 1964.
- Castle, E. N. and Hemmi, K. with Skillings, S. A. U.S. Japanese Agricultural Trade Relations. Washington, D.C.: Resources for the Future, Inc., 1982.
- Caves, R.E. "Economic Models of Political Choice: Canada's Tariff Structure". Canadian J. Econ. 9(1976): 278-300.
- Montana State Cooperative Extension Service, Western Livestock Marketing Project. Letter No. 28, July 10, 1985.
- Cordon, W.M. "The Structure of a Tariff System and the Effective Protection Rate", J. Polit. Econ. 74(1966): 221-237.
- _____. The Theory of Protection. Oxford: Clarendon Press, 1971.
- Coyle, W. T. "Japan's Feed-Livestock Economy: Prospects for the 1980's". U.S.D.A., F.A.S., Economic Report Number 177, February 1983.
- Crooks, A. C. and Monk, E. A. "Nontariff Barriers and Countervailing Duties: An Application to Intra-Community Poultry Trade". Department of Agricultural Economics, University of Arizona.
- Dardis and Learn. "Measures of the Degree and Cost of Economic Protection of Agriculture in Selected Countries". ERS Tech. Bull. No. 1384.
- Destler, I.M. and Sato, I. Coping With U.S.-Japanese Economic Conflict. Lexington: Lexington Books, 1982.
- Economic Report of the President. February 1986.
- Egaitsu, F. "Japanese Agricultural Policy: Present Problems and Their Historical Background" in U.S.-Japanese Agricultural Trade Relations edited by Emery Castle and Kenzo Hemmi with Sally Skillings, Washington D.C.: Resources for the Future, Inc., 1982.
- Emmerson, J. K. Arms, Yen & Power The Japanese Dilemma. New York: Dunellen Publishing Co., 1971.
- Food and Agriculture Organization of the United Nations. FAO Trade Yearbook, Various issues.

- Frey, B. S. International Political Economics. New York: Basil Blackwell Publisher, 1984.
- Greenaway, D. Trade Policy and the New Protectionism. St. Martin's Press, New York, 1983.
- Grubel, H.G. and Lloyd, P.J. "Factor Substitution and Effective Tariff Rates", Rev. Econ. Stud. 38(1971): 95-103.
- Guisinger, S.E. "Negative Value Added and the Theory of Effective Protection", Quart. J. Econ. 83(1969): 415-433.
- Harling, K.F. and Thompson, R.L. "The Economic Effects of Intervention in Canadian Agriculture", Canadian J. Agri. Econ. 31(1983): 152-173.
- Hayami, Y. "Trade Benefits to All: A Design of the Beef Import Liberalization in Japan", Amer. J. Agr. Econ. 61(1979).
- Hillman, J.S. "Nontariff Barriers: Major Problem in Agricultural Trade", Amer. J. Agr. Econ. 60(1978): 491-501.
- Holzman, F.D. "Comparison of Different Forms of Trade Barriers", Rev. Econ. and Statist. 51(1969).
- Humphrey, R.C. "Potential Effects of Japanese Beef Import Liberalization on U.S. Exports". June 1983 (Masters Thesis for the University of Idaho).
- Japan Culture Institute. Politics and Economics in Contemporary Japan. Tokyo: Japan Culture Institute, 1979.
- Japan International Agricultural Council. The Livestock Farmers of Japan, Tokyo, 1984.
- "Japan, The Doors of NTT Begin to Creak Open". Business Week. May 4, 1981.
- Japan Times Weekly. Various issues.
- Japan Tariff Association. "Customs Tariff Schedule of Japan 1983". Unpublished mimeograph, Japan External Trade Research Organization.
- Japan Export Trade Research Organization (JETRO). "Japan's Agriculture and Imports of Agricultural Products". Ag-9, 1982.
- Johnson, H.G. "The Theory of Tariff Structure, With Special Reference to World Trade and Development", in H.G. Johnson and P.P. Kenen, eds., Trade and Development. Geneva: Librairie Droz, 1965.

- Kosaka, M. 100 Million Japanese. Tokyo: Kodansha International, 1972.
- Krueger, A.O. "The Political Economy of the Rent-Seeking Society", Amer. Econ. Rev. 64(1974): 291-303.
- Langdon, F. Politics in Japan. Boston & Toronto: Little, Brown and Co., 1967.
- Livestock Industry Promotion Corporation. LIPC Newsletter. Denver: Selected issues.
- Livestock Industry Promotion Corporation. LIPC 1983.
- Longworth, J.W. Beef in Japan. St. Lucia: University of Queensland Press, 1983.
- _____. "The Japanese Beef Market: Recent Developments and Future Policy Options", Rev. Mark. and Agr. Econ. 46(1978): 167-195.
- _____. "Institutions and Policies Influencing Japanese Beef Imports", Rev. Mark. and Agr. Econ. 44(1976): 19-42.
- Lynham, M.B. "Nontariff Trade Barriers in the Beef Industry", University of Arizona, for IED/ERS/USDA.
- McKenzie, R.B. and MacCaulay, H.H. "A Bureaucratic Theory of Regulation", Public Choice. 35(1980): 297-313.
- Ministry of Agriculture, Forestry and Fisheries, Livestock Bureau. The Meat Statistics in Japan, Various issues.
- _____. Statistics and Information Department. Livestock Production Cost Investigation Report (In Japanese), Various issues.
- _____. Statistics and Information Department. Meat Distribution Statistics (In Japanese), Various issues.
- Metzger, S.D. Lowering Nontariff Barriers. Washington D.C.: Brookings Institution, 1974.
- Mori, H. and Gorman, W.D. "Issues, Facts and Opportunities for Exports of US Beef to Japan", Agri-business. 1(1985): 211-218.
- Nanto, D. "Japan's International Trade Patterns, Institutions and Policies", Congressional Research Service, Rpt. No. 82-67E.
- Niskanen, W.A. "Bureaucrats and Politicians", J. Law and Econ. 18(1975): 617-643.

OECD Economic Surveys 1983-84 JAPAN. July 1984.

Organisation for Economic Co-operation and Development. Food Consumption Statistics, 1964-1978 and 1973-1982, Paris 1981 and 1985.

Paarlberg, P.L. and Sharples, J.A. "Japanese and European Community Agricultural Trade Policies: Some U.S. Strategies", U.S.D.A., E.R.S., Foreign Agricultural Rpt. No. 204, August 1984.

Peltzman, S. "Toward a More General Theory of Regulation", J. Law and Econ. 19(1970): 211-240.

PHP Laboratories. "The Data File: Read the Present Movement" (in Japanese), 1985.

Port of Seattle, Miss On Huyanh, Personal interview April 2, 1986.

Posner, R.A. "Theories of Economic Regulation", Bell J. Econ. and Mgn. Sci. 5(1974): 335-358.

Rachman, A. and Wheeler, R.O. and Marsh, J.M. "The Demand For Beef in Japan: An Economic Analysis and Implications". Montana State University, Agri. Exp. Sta. Bull. 680. July 1975.

Reischauer, E.O. The Japanese. Cambridge: Belknap Press, 1977.

Sampson, G.P. "On Factor Substitution and Effective Tariff Rates", Rev. Econ. Studies. 41(1971): 423-430.

Sampson, G.P. and Yeats, A.J. "An Evaluation of the Common Agricultural Policy as a Barrier Facing Agricultural Exports to the European Community", Amer. J. Agr. Econ. 59(1977): 99-106.

Scherer, F. M. Industrial Market Structure and Economic Performance. Chicago: Rand McNally and Co., 1970.

Shouda, Y. "Effective Rates of Protection in Japan", J. Japan Econ. Research (Nihon Keizai Kenkyu). Japan Economic Research Center, Tokyo, 11(1982): 68-70.

Stearn, R.M. "Tariffs and Other Measures of Trade Control", J. Econ. Lit. 11(1973): 857-888.

Stigler, G.J. "The Theory of Economic Regulation", Bell J. Econ. and Mgn. Sci. 2(1971): 3-27.

_____. "Free Riders and Collective Action: An Appendix to Theories of Economic Regulation", Bell J. Econ. and Mgn. Sci. 5(1974): 359-365.

Stockwin, J.A.A. Japan: Divided Policies in a Growth Economy, 2nd. Edition. London: Weidenfeld and Nicolson, 1982.

The New York Times Magazine. December 4, 1983.

Talbot, R.B. and Kihl, Y.W. "The Politics of Domestic and Foreign Policy Linkages in U.S.-Japanese Agricultural Policy Making", in U.S.-Japanese Agricultural Trade Relations edited by Emery Castle and Kenzo Hemmi with Sally Skillings, Washington, D.C.: Resources for the Future, Inc., 1982.

Tollison, R.D. "Rent Seeking: A Survey", Kyklos. 35(1982): 574-602.

Truong, T. "Measuring Agricultural Price Intervention Effects in Portugal", ERS Staff Rpt. No. AGES820630.

Truong and Josling. "Agricultural Subsidies in Portugal". ERS Staff Rpt. No. AGES830720.

Tullock, G. "The Welfare Costs of Tariffs, Monopolies and Theft", West. Econ. J. 5(1967): 224-232.

United States Department of Agriculture, Economic Research Service. "Agricultural Protection by Nontariff Trade Barriers" ERS-Foreign-60, September 1963.

_____. Economic Research Service. "Japan and E.C. Agricultural Policies". Staff Bulletin No. AGES821208.

_____. Economic Research Service. Livestock and Meat Statistics. Various issues.

_____. Economic Research Service. USDA Foreign Agricultural Trade Statistics Calendar Years. Various issues.

_____. Economic Research Service. "Measures of the Degree and Cost of Economic Protection of Agriculture in Selected Countries". Tech. Bull. No. 1384, November 1967.

_____. Foreign Agricultural Service. "World Production and Trade Weekly Roundup". Various issues.

_____. Foreign Agricultural Service. "Japan's Beef Import System". Unpublished Document, September 1982.

_____. Foreign Agricultural Service. "Report on Agricultural Concessions in the Multilateral Trade Negotiations". FAS-M-301.

_____. Foreign Agricultural Service. Rpt. P82, Pages 4-8.

United States Meat Export Federation. "A White Paper on U.S. Meat Exports", March 1985.

_____. "Special Edition- Export Report", April 1984.

_____. "Major Impediments to the Development of Export Markets for American Meat Products", November 1980.

U.S. News and World Report. "New Protectionism a Threat to U.S. Trade," February 1, 1982.

Ward, R.E. Japan's Political System. New Jersey: Prentice-Hall, 1967.

Warshaw, S. and Bromwell, D. with Tudisco A.J. Japan Emerges. San Francisco: Canfield Press, 1974.

Webb, A.J. "Protection in Agricultural Markets". USDA, ERS Staff Rpt. No. AGES840524.

Wipf, L.J. "Tariffs, Nontariff Distortions, and Effective Protection in U.S. Agriculture", Amer. J. Agr. Econ. 53(1971): 423-430.

World Economic Information Services (Tokyo). "Economic Information File JAPAN", 1973.

Yamaji, S. "Agriculture" in Politics and Economics in Contemporary Japan. Tokyo: Japan Culture Institute, 1979.

Yanasa, C. Japanese People and Politics. New York: Johnson Wiley & Sons, 1956.

Yeats, A.J. "Effective Tariff Protection in the United States, the European Economic Community, and Japan", Quart. Rev. Econ. and Bus. 14(1971): 41-50.

_____. "An Analysis of the Effective Protection Process Changes on Effective Protection Estimates", Rev. Econ. and Statist. 1(1976): 81-85.

APPENDICES

APPENDIX A: Standards and Certification Requirements
for Meat Exports to Japan

Part 22 of the U.S.
Meat Export Federation's Export Manual
of the Technical Services Short Course

22.51 JAPAN

The full name and address of the actual consignees must be shown on export certificates for meat and poultry shipments to Japan. Using the name of the exporter as the consignee is not acceptable. Metric weights are required for only LIPC shipments. See 22.51(a)(3).

A. Meat Products

(1) Certification

Include the word "chilled" or "frozen", as applicable, on MP Form (MP Form 130 under "product description" and on MP Form 412-13 in block 2. For product containing meat and poultry, regardless which is predominant, issue MP Form 130 and MP Form 412-13. MP Form 412-13. Slaughter dates are required only for quarter, half or whole carcasses. Blocks 5 and 9 should be completed only for above items; they should be left blank for items such as beef cuts, primal parts, meat by-products, partially defatted (species) fatty tissue and freeze dried products. Complete blocks 6 and 7 for plants preparing cuts or packing by-products (including primal parts, PD(S)FT and freeze dried products). Complete blocks 7 and 8 for processed products. Fill in FSIS in block 10 for fresh/frozen product. Indicate species for each item in block 1; for example, all beef franks made of beef, pork, and chicken as "beef, pork, and chicken".

(2) Fresh Beef

When export shipments of beef consist of a variety of different beef cuts in a single shipment the term "Beef Cuts" may be used in the certificates and the cartons to identify the products. Note: This does not apply to LIPC which is described below.

- (i) Hanging Tenders; Beef Shirt Diaphragm Hanging tenders and the beef skirts derived from the diaphragm are considered to be offals in Japan, and therefore, are not subject to LIPC requirements. "Beef Shirt Diaphragm," or the terminology "Beef Outside Shirt--Diaphragm Meat" must be shown on boxes and certificates for beef shirt derived from the diaphragm. The term "Diaphragm" is not permitted on certificates or cartons if the product is not derived from the diaphragm or consists of a mixture of meat from diaphragm and other anatomical origins.

(ii) Partially Defatted Beef Fatty Tissue: The Japanese place this product in the raw meat category; therefore, the same certification must be made as required for fresh, chilled or frozen meat.

(3) LIPC (Livestock Industry Promotion Corporation of Japan)
LIPC has special requirements for U.S. beef cuts.

(i) Applicant: The party applying for export certification of beef to Japan must state on MP Form 130 A "Exporter advises shipment is not subject to requirements to LIPC tender." The applicant must also furnish the inspector a copy (or copies) of an "Agricultural Products Acceptance Certificate" completed by a USDA Meat Grader (which corresponds to the lot of product which will be presented for inspection) for all cuts purchased by LIPC tender except for 121D Beef Skirt Plate.

The Agricultural Products Acceptance Certificate will show the grade (quality and yield), name of cut, IMPS item number and date packed. All cartons covered by this certificate are sealed and stamped with the "USDA Accepted as Specified" stamp as shown by the facsimile:



(ii) Inspector: Prior to issuing the export certificates, the inspector shall determine that each carton is correctly marked with: 1. Quality and yield grade, 2. Name of cut, 3. IMPS item number, 4. Date packed, 5. "USDA Accepted as Specified," stamp, 6. Product of USA, 7. Name and establishment number of packer, 8. Finish of packing (frozen, chilled, etc.), and 9. Net weight in metric units (handwritten legible block, Arabic numerals are acceptable).

The inspector shall also ascertain that MP Forms 130 and 412-13 have the following information: 1. The statement "Exporter advises shipment is/is not subject to requirements of LIPC tender" as shown on MP Form 130-A, 2. The quality and yield grade, name of cut, and IMPS item number in the space for "Description of Item or Product," and 3. The metric weights.

(iii) Net Weight: If not preprinted by the label manufacturer, the net weight should be stenciled, stamped or handwritten on the carton. The Japanese

regulations regarding net weight require that each carton of chilled or frozen beef destined for LIPC must show net weight in kilograms down to tenths of a kilogram. Net weight of less than one-tenth of a kilogram (such as one-hundredth of a kilogram) must be disregarded. If conversion from pounds to kilograms is necessary, use one pound equals 0.45359 kilograms and show kilogram weight to the nearest tenth, i.e., 50 pounds equal 22.6 kilograms. Net weights on export certificates should be shown as kilogram weights, but corresponding pounds may be shown in parenthesis or beneath the kilograms. See 317.2(h)(4) for the Meat and Poultry Inspection Regulations for net weights on containers.

- (iv) IMPS (Institutional Meat Purchase Specifications): IMPS item numbers must be shown on export certificates for all beef cuts except for 121D Beef Skirt Plate (see below).
- (v) Beef Skirt Plate: The name "Beef Skirt Plate" must be shown on boxes as well as certificates, and not the terminology "Inside Skirt" or "Muscle, Transversus Abdominis". Grader certificate is not required. The number 121D is required to be shown on the boxes, but not on the export certificates. (Requirements for other items in the 121 series are complicated, e.g., quality grade is not necessary for 121B, and in most instances 121C is exempt from grading. Check with the meat grader if you have further questions on the 121 series.)

(4) Processed Products: The product descriptions entered on MP Forms 130 and 412-13 should coincide exactly with product name approved by MPSLD. Sodium tripolyphosphate and sodium phosphate are permitted to be used in processed meats.

- (i) Roast Beef: The only standard which the Japanese will accept for roasting beef is an internal temperature and time of 145 degrees F. for 30 minutes.
- (ii) Products which may contain sodium nitrite: Ham, bacon, corned beef, and sausage products may contain up to 70 PPM nitrite. Beef Jerky Ground; Beef Jerky Sausage; Beef and Soya Jerky; and Kippered Beef Ground and Formed are examples of products which the Japanese consider as sausage. The nitrite analyses may be confirmed only by a USDA laboratory.
- (iii) Products in which sodium nitrite is prohibited: Beef Jerky; Natural Beef Jerky; Beef Jerky Sectioned and Formed; and products not listed in previous paragraph should not contain nitrate or nitrite.

(5) Stomachs for edible use.

- (i) Scalded: Sodium gluconate, sodium metasilicate, sodium

persulfate, and calcium oxide are not permitted for use in preparation of scalded beef tripe certified for export to Japan. Other denuding agents listed in section 318.7 of the meat inspection regulations may be used.

- (ii) Unscalded. See section 22 17(b): In addition to the rumen and reticulum, properly cleaned omasa (pecks), and abomasa (true stomachs) may be exported under inspection marks and edible certification.

(6) Ligaments and tendons: Nuchal ligaments and tendons including the Achilles' tendon may be certified for human consumption on MP Forms 130 and 412-13.

(7) Intestines: Beef intestines (small and large) may be exported as edible product bearing the inspection legend, provided they are properly cleaned, packed, and frozen, and are accompanied by MP Form 130 and MP Form 412-13. Cartons should be labeled "Beef Intestines - for Export to Japan". Pork large intestines may also be exported if properly cleaned and scalded. After cleaning, they must be scalded at 80 degrees C. (176 degrees F.) for 3 minutes. Cartons should bear the inspection legend and be labeled "Scalded Pork Large Intestines - for Export to Japan". When the export request is for chitterlings, scalding is not required and cartons should be labeled "Chitterlings."

(8) Uteri: Nongravid uteri from gilts or heifers may be exported as edible product and certified on MP Form 130 and 412-13. Uteri to be saved for export must remain with the viscera and be examined by visual inspection and palpation. Any uteri showing hyperemia or enlargement from oestrus or other physiological process must be condemned. Immediately after passing inspection, uteri must be chilled (preferably in crushed ice), drained, packed, and frozen. "Hot" freezing is not permitted. Cartons must be labeled "Beef (Pork) Uteri for Export to Japan". Additional inspection supervision, requested to ensure that the certification requirements are met, is reimbursable as provided in Part 350 of the regulations and section 26.2 of this manual.

(9) Beef pizzles: Beef pizzles may be exported as edible product and certified on MP Forms 130 and 412-13. Pizzles to be saved for export must remain with the carcass or viscera and be examined by visual inspection. Immediately after passing inspection, pizzles must be chilled, drained, packed and frozen. "Hot freezing is not permitted". Cartons must be labeled "Beef Pizzles for Export to Japan". Handle reimbursable as shown above.

B. Personal Consumption:

Personal consumption entries of inspected and passed meat and products

and poultry and poultry products are permitted under simplified certification as provided in section 322.4 of the regulations. Such product need not be accompanied by MP Form 130 and MP Form 412-13 and must enter Japan as it was packaged at time of preparation in a federally inspected plant. The package must be labeled to include: (1) name of product, (2) name and address of packer or distributor, (3) statement of net quantity of contents, and (4) official inspection legend including the official establishment number. For other than shelf-stable canned product, the label must bear the following statement immediately below the product name:

- (1) Meat: "The meat contained herein is for personal use only and not for sale. It is derived from animals that received ante- and post-mortem inspection and were found sound and healthy and have been inspected and passed as provided by law and regulations of USDA."

APPENDIX B: LIPC Specifications and Conditions for
Frozen Grain Fed Beef From the U.S.A.

LIPC

SPECIFICATIONS and CONDITIONS

for

FROZEN GRAIN FED BEEF

from the U.S.A.

January 1985

— TABLE OF CONTENTS —

LIPC Specifications and Conditions for Frozen Grain Fed Beef from the U.S.A.

GENERAL INFORMATION	Page 1
STANDARD FORM FOR SELF CERTIFICATION CERTIFICATE	Page 2
SPECIFICATIONS FOR BEEF:	
No. 112 A — RIBEYE ROLL, Lip-On, (1)	Page 3
No. 112 A — RIBEYE ROLL, Lip-On, (2)	Page 4
No. 114 — SHOULDER CLOD	Page 5
No. 116 — SQUARE CUT-CHUCK, Boneless, Clod Out	Page 6
No. 116 A — CHUCK ROLL	Page 7
No. 120 — BRISKET	Page 8
No. 121 B — SHORT PLATE	Page 9
No. 121 D — BEEF SKIRT PLATE	Page 10
Sampling and Inspection Procedure by LIPC	Page 11
No. 167 — KNUCKLE	Page 12
No. 168 — TOP (INSIDE) ROUND	Page 13
No. 170 — BOTTOM (GOOSENECK) ROUND	Page 14
No. 180 — STRIP LOIN, Short Cut, Boneless, (1)	Page 15
No. 180 — STRIP LOIN, Short Cut, Boneless, (2)	Page 16
No. 184 — TOP SIRLOIN BUTT	Page 17
No. 189 — FULL TENDERLOIN (1)	Page 18
No. 189 — FULL TENDERLOIN (2)	Page 19

— GENERAL INFORMATION —

1. "I.M.P.S" means Institutional Meat Purchase Specifications for fresh beef of USDA.
2. If the beef is weighed by the pound (lbs.), the conversion rate of **0.45359 kg. = 1 lb.** must be used to describe metric weight on the boxes and documents.
3. Only beef which is **blast frozen** immediately after processing is acceptable for LIPC'S purchase.
4. As to description for "Weight range" and "Average thickness of surface fat" required on the box (container) and the Government Certificate, LIPC requires the figures given for those elements to be the figures as specified in the LIPC specifications for each item.
5. After the LIPC 1984 Japanese Fiscal year (JFY) **ninth (9th) buying tender** in January 1985, LIPC will accept frozen grain fed beef by which specifications were certified either by **USDA certification (LMGS [MGS] notice 903C)** or **Self Certification**.

Under the Self Certification procedure, the U.S. supplier is responsible for certifying **the cutting specifications, weight range per piece, and average surface fat thickness** of each item when required by LIPC.

The U.S. supplier which certifies by the Self Certification procedure **must attach the Self Certification certificate**, signed by **a company officer or authorized person**, to all other export documentation.

The Agriculture Acceptance Stamp will **not** be required on boxes which are Self Certified.

The standard form provided for Self Certification to be transposed onto company letterhead is found on **page 2**.

The U.S. supplier **must** indicate which method of certification is to be used **prior** to LIPC's bidding tender. Once confirmed, the supplier cannot change his certification method for that specific tender and item.

USDA certified and Self Certified product cannot be combined in the same load.

STANDARD FORM FOR SELF CERTIFICATION CERTIFICATE

(On Company Letterhead)

— LIPC SELF CERTIFICATION CERTIFICATE —

Date: _____

Certificate of Wholesomeness, USDA/FSIS

MPA FORM 130, Number _____

THIS IS TO CERTIFY THAT PRODUCT SHIPPED WAS PRODUCED TO FOLLOWING SPECIFICATIONS:

(Full product description, without abbreviation, in accordance with LIPC handbook.)

NET WEIGHT IN KILOGRAMS _____
(In addition to pounds or both)WEIGHT RANGE PER PIECE IN KILOGRAMS _____
(In addition to pounds or both)AVERAGE THICKNESS OF SURFACE FAT IN CENTIMETERS _____
(In addition to inches or both)

VACUUM PACKAGING IS REQUIRED ON ALL CUTS EXCEPT IMPS NUMBER 121B WHERE IWP IS ACCEPTED.

THIS CONFORMS TO LIPC SPECIFICATIONS AND CONDITIONS FOR FROZEN GRAIN FED BEEF FROM U.S.A.

This certification is incorporated and shall be considered part of all documents of sale, including purchase orders, purchase confirmations and invoices, which relate to the shipment described above, and the shipment which is covered by those documents shall fully conform to this certification.

Company Officer or Authorized Person

No. 112 A — RIBEYE ROLL, Lip-On, (1)

(1) refers to Yield Grade 1, 2 or 3 only

1. **Quality Grade:** USDA Prime or Choice.
 2. **Yield Grade:** Yield Grade 1, 2 or 3.
 3. **Weight:** Weight per piece must be 4.5 to 6.4 kg. (10-14 lbs.)
 4. **Packing:** Vacuum packing is necessary.
 5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 0.6 centimeters (1/4 inch) with a maximum of 1.3 centimeters (1/2 inch).
 - (3) At least one (1) stamp of USDA Prime or Choice must be retained on the surface fat of the product. The requirements prescribed above (2) are not applied to the thickness of the surface fat just under the stamp/stamps retained as described above.
 6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2 or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
 7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
- Note *** Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.
- **** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

No. 112 A — RIBEYE ROLL, Lip-On, (2)

(2) refers to Yield Grade 4 or 5 only

1. **Quality Grade:** USDA Prime or Choice.
 2. **Yield Grade:** Yield Grade 4 or 5.
 3. **Weight:** Weight per piece must be 4.5 to 6.4 kg. (10-14 lbs.)
 4. **Packing:** Vacuum packing is necessary.
 5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 0.6 centimeters (1/4 inch) with a maximum of 1.3 centimeters (1/2 inch).
 - (3) At least one (1) stamp of USDA Prime or Choice must be retained on the surface fat of the product. The requirements prescribed above (2) are not applied to the thickness of the surface fat just under the stamp/stamps retained as described above.
 6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 4 or 5).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
 7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 4 or 5).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
- Note *** Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.
- **** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

No. 114 — SHOULDER CLOD

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Yield Grade 1, 2 or 3.
3. **Weight:** Weight per piece must be 6.8 kg. (15 lbs.) or over.
4. **Packing:** Vacuum packing is necessary.
5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 1.3 centimeters (1/2 inch) with a maximum of 1.9 centimeters (3/4 inch).
 - (3) Do not cover with net, or tie with string.
6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2 or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.

Note * *Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.*

****** *Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.*

No. 116 — SQUARE-CUT CHUCK, Boneless, Clod Out

1. **Quality Grade:** USDA Prime or Choice.
 2. **Yield Grade:** Yield Grade 1, 2, or 3.
 3. **Weight:** Weight as one whole piece before dividing into two pieces must be **20 kg. (44 lbs.) or over.**
 4. **Packing:** Vacuum packing is necessary.
 5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Whole one piece of I.M.P.S. item No. 116, must be cut into **two pieces**. The cut must be made parallel to the major back muscle. That is, **not less than 7.6 centimeters (3 inches) and not more than 10.2 centimeters (4 inches)** from the outer tip of the chuck eye muscle.
 - (3) The separated two portions must be vacuum packed **individually** and put into a box as a set comprising **1 arm (dorsal) portion and 1 blade (ventral) portion**. The portions do not necessarily need to come from the same animal.
 - (4) Average thickness of the surface fat must be **1.3 centimeters (1/2 inch)** with a maximum of **1.9 centimeters (3/4 inch)**.
 - (5) At least one (1) stamp of USDA Prime or Choice must be retained on the surface fat of the product. The requirements prescribed above (4) are not applied to the thickness of the surface fat just under the stamp/stamps retained as described above.
 6. **Box (Container):**
The following information must appear on ends, sides or top of the box:
 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2, or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
 7. **Certificate:**
The Government Certificate must certify the following elements:
 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
- Note *** *Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.*
- **** *Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.*

No. 116 A — CHUCK ROLL

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Yield Grade 1, 2 or 3.
3. **Weight:** Weight per piece must be **6.8 kg. (15 lbs.) or over.**
4. **Packing:** Vacuum packing is necessary.
5. **Cutting:**

- (1) I.M.P.S. is required with additional specifications and conditions as follows:
- (2) Do not cover with net, or tie with string.

6. Box (Container):

The following information must appear on ends, sides or top of the box:

- (1) Country of origin.
- (2) Name of the packer or brand name and official establishment No.
- (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
- * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
- (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.)
Description in pounds in addition to description in kilograms is acceptable also.
- (6) Quality Grade (USDA Prime or Choice).
- (7) Yield Grade (Yield Grade 1, 2 or 3).
- (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
- (9) Identification as being frozen.

7. Certificate:

The Government Certificate must certify the following elements:

- (1) Quality Grade (USDA Prime or Choice).
- (2) Yield Grade (Yield Grade 1, 2 or 3).
- * (3) I.M.P.S. item No. and name of item.
- (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
- ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.

Note * *Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.*

****** *Weight range under Self Certification must be omitted from USDA (Government) documents.*

No. 120 — BRISKET

1. **Quality Grade:** USDA Prime or Choice.
 2. **Yield Grade:** Yield Grade 1, 2 or 3.
 3. **Weight:** Weight per piece must be **3.6 kg. (8 lbs.) or over.**
 4. **Packing:** Vacuum packing is necessary.
 5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the external surface fat must be **1.3 centimeters (1/2 inch)** with a maximum of **1.9 centimeters (3/4 inch).**
 6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2 or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the external surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
 7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the external surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
- Note *** *Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.*
- **** *Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.*

No. 121 B — SHORT PLATE

1. **Quality Grade:** USDA Prime or Choice.
 2. **Yield Grade:** Not specified.
 3. **Weight:** Weight per piece must be 7.2 kg. (16 lbs.) or over.
 4. **Packing:** Either vacuum packing or I.W.P. is necessary.
 5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Muscle "**Transversus Abdominis**" must be removed.
 - (3) Do not fold any part of the product in packing it into the box.
 6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.)
Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (8) Identification as being frozen.
 7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - * (2) I.M.P.S. item No. and name of item.
 - (3) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (4) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
- Note *** *Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.*
- **** *Weight range under Self Certification must be omitted from USDA (Government) documents.*

No. 121 D — BEEF SKIRT PLATE

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Not specified.
3. **Weight:** Weight per piece must be 0.45 kg. (1 lb.) or over.
4. **Packing:** Vacuum packing is necessary.
5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) This item is the muscle "**Transversus Abdominis**" removed from item No. 121 Short Plate without any separations or cut. **Serous membrane** (Peritoneum) must be skinned off and surface fat must be well trimmed enough to make **visual lean more than 90%**.
6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - (4) Name of item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Identification as being frozen.
7. **Certificate:**

The Government Certificate must contain the following elements:

 - (1) Name of item.
 - (2) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.

For Sampling and Inspection Procedure of No. 121 D — BEEF SKIRT PLATE,
see following page (Page 11).

No. 121 D — BEEF SKIRT PLATE (continued)

Sampling and Inspection Procedure by LIPC

1. LIPC picks up 13 or more sample cartons from each container at random and makes visual inspection while they are frozen to make sure that they have visual lean more than 90%.
2. In case of doubt, LIPC picks up one of these cartons at random, defrosts it and makes visual inspection of all pieces in the carton to make sure that they have visual lean more than 90%.
3. (a) In the case LIPC is still doubtful, LIPC will pick up 10% of the pieces at random, weigh their total weight, and then trim off their surface fat as follows:

LIPC trims well the surface fat of muscle "Transversus Abdominis" to make the surface fat just parallel to surface of the lean meat. TOTAL AMOUNT OF SURFACE FAT SHOULD BE REMOVED (with the exception of inner fat and flake fat).
- (b) LIPC calculates surface fat weight to the total weight of that particular sample. LIPC recognizes that the load which has 10% or under surface fat is 90% or over visual lean.
- (c) In case the surface fat is 10% or over, LIPC picks up another one carton, defrosts it, picks up another 10% sample pieces and does the same procedure as outlined in 2 and 3 (a) (b).
4. LIPC recognizes that if the average surface fat of the two (2) sets of samples is 10% or under, the load is 90% or over visual lean.
5. If the average surface fat of the two (2) sets of samples is over 10%, the load does **NOT** conform to LIPC 90% visual lean standards.

No. 167 — KNUCKLE

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Yield Grade 1, 2 or 3.
3. **Weight:** Weight per piece must be 4.5 kg. (10 lbs.) or over
4. **Packing:** Vacuum packing is necessary.
5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 1.9 centimeters (3/4 inch) with a maximum of 2.5 centimeters (1 inch).
6. **Box (Container):**
 The following information must appear on ends, sides or top of the box:
 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2 or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
7. **Certificate:**
 The Government Certificate must certify the following elements:
 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.

Note * Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.

****** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

No. 168 — TOP (INSIDE) ROUND

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Yield Grade 1, 2 or 3.
3. **Weight:** Weight per piece must be 9.0 kg. (20 lbs.) or over
4. **Packing:** Vacuum packing is necessary.
5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 1.9 centimeters (3/4 inch) with a maximum of 2.5 centimeters (1 inch).
6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2 or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.

Note * Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.

****** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

No. 170 — BOTTOM (GOOSENECK) ROUND

1. **Quality Grade:** USDA Prime or Choice.
 2. **Yield Grade:** Yield Grade 1, 2 or 3.
 3. **Weight:** Weight per piece must be 11.3 kg. (25 lbs.) or over.
 4. **Packing:** Vacuum packing is necessary.
 5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 1.9 centimeters (3/4 inch) with a maximum of 2.5 centimeters (1 inch).
 - (3) At least one (1) stamp of USDA Prime or Choice must be retained on the surface fat of the product. The requirements prescribed above (2) are not applied to the thickness of the surface fat just under the stamp/stamps retained as described above.
 6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2 or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
 7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
- Note *** Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.
- **** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

No. 180 — STRIP LOIN, Short Cut, Boneless, (1)

(1) refers to weight range 5.4 to 6.4 kg. (12-14 lbs.) only

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Yield Grade 1, 2, or 3.
3. **Weight:** Weight per piece must be 5.4 to 6.4 kg. (12-14 lbs.)
4. **Packing:** Vacuum packing is necessary.
5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 1.9 centimeters (3/4 inch) with a maximum of 2.5 centimeters (1 inch).
 - (3) At least one (1) stamp of USDA Prime or Choice must be retained on the surface fat of the product. The requirements prescribed above (2) are not applied to the thickness of the surface fat just under the stamp/stamps retained as described above.
6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2, or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.

Note * Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.

****** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

No. 180 — STRIP LOIN, Short Cut, Boneless (2)

(2) refers to weight range 4.5 to 5.4 kg. (10-12 lbs.) only

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Yield Grade 1, 2 or 3.
3. **Weight:** Weight per piece must be 4.5 to 5.4 kg. (10-12 lbs.)
4. **Packing:** Vacuum packing is necessary.
5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 1.9 centimeters (3/4 inch) with a maximum of 2.5 centimeters (1 inch).
 - (3) At least one (1) stamp of USDA Prime or Choice must be retained on the surface fat of the product. The requirements prescribed above (2) are not applied to the thickness of the surface fat just under the stamp/stamps retained as described above.
6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2 or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.

Note * Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.

****** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

No. 184 — TOP SIRLOIN BUTT

1. **Quality Grade:** USDA Prime or Choice.
 2. **Yield Grade:** Yield Grade **1, 2 or 3**.
 3. **Weight:** Weight per piece must be **4.5 (10 lbs.) or over**.
 4. **Packing:** Vacuum packing is necessary.
 5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be **1.9 centimeters (3/4 inch)** with a maximum of **2.5 centimeters (1 inch)**.
 - (3) At least one (1) stamp of USDA Prime or Choice must be retained on the surface fat of the product. The requirements prescribed above (2) are not applied to the thickness of the surface fat just under the stamp/stamps retained as described above.
 - (4) Do not cover with net, or tie with string.
 6. **Box (Container):**
The following information must appear on ends, sides or top of the box:
 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No. .
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade **1, 2 or 3**).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
 7. **Certificate:**
The Government Certificate must certify the following elements:
 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade **1, 2 or 3**).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
- Note *** *Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.*
- **** *Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.*

No. 189 — FULL TENDERLOIN (1)

(1) refers to Yield Grade 1, 2 or 3 only

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Yield Grade 1, 2 or 3.
3. **Weight:** Weight per piece must be 2.7 kg. (6 lbs.) or over.
4. **Packing:** Vacuum packing is necessary.
5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 1.3 centimeters (1/2 inch) with a maximum of 1.9 centimeters (3/4 inch).
6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 1, 2 or 3).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 1, 2 or 3).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.

Note * Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.

****** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

No. 189 — FULL TENDERLOIN, (2)

(2) refers to Yield Grade 4 or 5.

1. **Quality Grade:** USDA Prime or Choice.
 2. **Yield Grade:** Yield Grade 4 or 5.
 3. **Weight:** Weight per piece must be 2.7 kg. (6 lbs.) or over.
 4. **Packing:** Vacuum packing is necessary.
 5. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) Average thickness of the surface fat must be 1.3 centimeters (1/2 inch) with a maximum of 1.9 centimeters (3/4 inch).
 6. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand name and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example: "16 January 1985 = 16 Jan. 85 or Jan. 16, 85."
 - * (4) I.M.P.S. item No. and name of the item with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Yield Grade (Yield Grade 4 or 5).
 - (8) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - (9) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
 - (10) Identification as being frozen.
 7. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Yield Grade (Yield Grade 4 or 5).
 - * (3) I.M.P.S. item No. and name of item.
 - (4) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (5) Weight range in kilograms. Description in pounds in addition to description in kilograms is acceptable also.
 - ** (6) Average thickness of the surface fat in centimeters. Description in inches in addition to description in centimeters is acceptable also.
- Note *** Item number and name of item is all that is required under Self Certification procedure. I.M.P.S. must be omitted from box, label and documents issued by USDA.
- **** Weight range and average fat thickness under Self Certification must be omitted from USDA (Government) documents.

APPENDIX C: LIPC Specifications and Conditions for
Chilled Grain Fed Beef From the U.S.A.

LIPC

SPECIFICATIONS and CONDITIONS

for

CHILLED GRAIN FED BEEF

from the U.S.A.

August 1983

TABLE OF CONTENTS and GENERAL INFORMATION

LIPC Specifications and Conditions for Chilled Grain Fed Beef from the U.S.A.

— TABLE of CONTENTS —

SPECIFICATIONS for CHILLED BEEF:

BONELESS FULL SET	Page 1
BONELESS FORE SET	Page 2
BONELESS HIND SET	Page 3
FULL CARCASS	Page 4
BONE-IN FOREQUARTER	Page 5
BONE-IN HINDQUARTER	Page 6

— GENERAL INFORMATION —

1. "I.M.P.S" means Institutional Meat Purchase Specifications for fresh beef of USDA.
2. If the beef is weighed by the pound (lbs.), the conversion rate of **0.45359 kg. = 1 lb.** must be used to describe metric weight on the boxes and documents.

BONELESS FULL SET

Boneless Full Set consists of 12 cuts shown in item 5.

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Not Specified.
3. **Weight:** All cuts must be produced from the carcass which weighs 272 kg. or over.
4. **Packing or Wrapping:** Vacuum packing is necessary.
5. **Component of the item and percentage of each cut:**

COMPONENT CUTS	PERCENTAGE BY WEIGHT	TOLERANCE %
No. 116A Chuck Roll	10.7%	9.6 — 11.8%
No. 114 Shoulder Clod OR No. 114A Shoulder Clod Roast	11.3%	10.2 — 12.4%
No. 116B Chuck Tender	1.1%	1.0 — 1.2%
No. 112 Ribeye Roll	5.4%	4.9 — 5.9%
No. 120 Brisket	6.5%	5.9 — 7.2%
No. 121A Short Plate OR No. 121B Short Plate	9.5%	8.6 — 10.5%
No. 180 Strip Loin	6.5%	5.9 — 7.2%
No. 189 Full Tenderloin	3.8%	3.4 — 4.2%
No. 182 Sirloin Butt OR A COMBINATION OF No. 184 Top Sirloin Butt AND No. 185 Bottom Sirloin Butt	10.2%	9.2 — 11.2%
No. 168 Inside Round	12.4%	11.2 — 13.6%
No. 170 Gooseneck Round	15.6%	14.0 — 17.2%
No. 167 Knuckle	7.0%	6.3 — 7.7%
TOTAL	100.0%	— — —

NOTE: Percentage by weight refers to weight share of percentage by each cut in the total weight of one (1) lot shipment.

6. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) The maximum fat thickness of each cut must be **1.25 centimeters**.
7. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example:
"16 January 1983 = 16 Jan. 83 or Jan. 16, 83."
 - (4) Name of the cut with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Identification as being chilled.
8. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Name of the item as "Boneless Full Set" or name of all of the cuts.
 - (3) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.

BONELESS FORE SET

Boneless Fore Set consists of 6 cuts shown in item 5.

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Not Specified.
3. **Weight:** All cuts must be produced from the carcass which weighs 272 kg. or over.
4. **Packing or Wrapping:** Vacuum packing is necessary.
5. **Component of the item and percentage of each cut:**

COMPONENT CUTS	PERCENTAGE BY WEIGHT	TOLERANCE %
No. 116A Chuck Roll	24.0%	21.6 — 26.4%
No. 114 Shoulder Clod OR No. 114A Shoulder Clod Roast	25.4%	22.9 — 27.9%
No. 116B Chuck Tender	2.5%	2.3 — 2.8%
No. 112 Ribeye Roll	12.1%	10.9 — 13.3%
No. 120 Brisket	14.6%	13.1 — 16.1%
No. 121A Short Plate OR No. 121B Short Plate	21.4%	19.3 — 23.5%
TOTAL	100.0%	-----

NOTE: Percentage by weight refers to weight share of percentage by each cut in the total weight of one (1) lot shipment.

6. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) The maximum fat thickness of each cut must be **1.25 centimeters**.
7. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example:
"16 January 1983 = 16 Jan. 83 or Jan. 16, 83."
 - (4) Name of the cut with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Identification as being chilled.
8. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Name of the item as "Boneless Fore Set" or name of all of the cuts.
 - (3) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.

BONELESS HIND SET

Boneless Hind Set consists of 6 cuts shown in item 5.

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Not Specified.
3. **Weight:** All cuts must be produced from the carcass which weighs 272 kg. or over.
4. **Packing or Wrapping:** Vacuum packing is necessary.
5. **Component of the item and percentage of each cut:**

COMPONENT CUTS	PERCENTAGE BY WEIGHT	TOLERANCE %
No. 180 Strip Loin	11.7%	10.5 — 12.9%
No. 189 Full Tenderloin	6.9%	6.2 — 7.6%
No. 182 Sirloin Butt OR A COMBINATION OF No. 184 Top Sirloin Butt AND No. 185 Bottom Sirloin Butt	18.4%	16.6 — 20.2%
No. 168 Inside Round	22.3%	20.1 — 24.5%
No. 170 Gooseneck Round	28.1%	25.3 — 30.9%
No. 167 Knuckle	12.6%	11.3 — 13.9%
TOTAL	100.0%	----

NOTE: Percentage by weight refers to weight share of percentage by each cut in the total weight of one (1) lot shipment.

6. **Cutting:**
 - (1) I.M.P.S. is required with additional specifications and conditions as follows:
 - (2) The maximum fat thickness of each cut must be **1.25 centimeters**.
7. **Box (Container):**

The following information must appear on ends, sides or top of the box:

 - (1) Country of origin.
 - (2) Name of the packer or brand and official establishment No.
 - (3) Date packed (clearly state: day, month and year.) Common abbreviations are acceptable only for the name of the month and year. For example:
"16 January 1983 = 16 Jan. 83 or Jan. 16, 83."
 - (4) Name of the cut with full, correct term without abbreviations.
 - (5) Net weight in kilograms in print (State the net weight to the nearest tenth of a kilogram. Net weight of less than one tenth of a kilogram, such as one hundredth of a kilogram, must be disregarded.) Description in pounds in addition to description in kilograms is acceptable also.
 - (6) Quality Grade (USDA Prime or Choice).
 - (7) Identification as being chilled.
8. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Name of the item as "Boneless Hind Set" or name of all of the cuts.
 - (3) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.

FULL CARCASS

Full Carcass is four quarters from a single beef carcass.

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Not Specified.
3. **Weight:** Weight of the carcass before being cut into four quarters must be 272 kg. or over.
4. **Packing or Wrapping:** Wrapping with stockinette is necessary.
5. **Cutting:**
 - (1) Forelegs must be cut off at the knee (carpus) and hindlegs must be cut off at the hock (os calcis).
 - (2) Kidney, kidney fat, and diaphragm must be removed.
 - (3) The carcass must be split into two sides with a cut evenly dividing the spinal column. The sides must be separated, with a cut along the rib between the 10th and the 11th rib, or between the 12th and the 13th rib.
6. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Name of the item as "Full Carcass".
 - (3) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.

BONE-IN FOREQUARTER

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Not Specified.
3. **Weight:** This item must be derived from the whole carcass which weighs 272 kg. or over.
4. **Packing or Wrapping:** Wrapping with stockinette is necessary.
5. **Cutting:**
 - (1) Forelegs must be cut off at the knee (carpus).
 - (2) Diaphragm must be removed.
 - (3) The carcass must be split into two sides with a cut evenly dividing the spinal column.
This item refers to the anterior portion separated from the side with a cut along the rib between the 10th and the 11th rib, or between the 12th and the 13th rib.
6. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Name of the item as "Bone-in Forequarter".
 - (3) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.

BONE-IN HINDQUARTER

1. **Quality Grade:** USDA Prime or Choice.
2. **Yield Grade:** Not Specified.
3. **Weight:** This item must be derived from the whole carcass which weighs 272 kg. or over.
4. **Packing or Wrapping:** Wrapping with stockinette is necessary.
5. **Cutting:**
 - (1) Hindlegs must be cut off at the hock (os calcis).
 - (2) Kidney, kidney fat, and diaphragm must be removed.
 - (3) The carcass must be split into two sides with a cut evenly dividing the spinal column.
This item refers to the posterior portion separated from the side with a cut along the rib between the 10th and the 11th rib, or between the 12th and 13th rib.
6. **Certificate:**

The Government Certificate must certify the following elements:

 - (1) Quality Grade (USDA Prime or Choice).
 - (2) Name of the item as "Bone-in Hindquarter".
 - (3) Net weight in kilograms. Description in pounds in addition to description in kilograms is acceptable also.

APPENDIX D: Self Certification Procedures

The following self certification procedures were implemented January 30, 1985 based on the Japanese/United States Beef Agreement of August 14, 1984 (LIPC Newsletter, January 23, 1985):

1. The U.S. supplier has the option to choose either USDA certification or self certification. The Japanese importer has the right to purchase products either USDA certified or self certified. However, Japanese importers cannot require a specific certification procedure.
2. Prior to the bidding time, the U.S. supplier must indicate which method of certification will be used for that specific tender and the specific items.
3. Once the certification method is stated it cannot be changed for that particular tender and items.
4. All suppliers on the registered brand list have self certification capabilities.
5. Cutting and packaging specifications will be Institutional Meat Purchase Specifications (I.M.P.S.) and other specifications as stated in the January 1985 LIPC specifications and conditions booklet.
6. Quality and yield grade must be certified by USDA under both procedures.
7. The abbreviation "I.M.P.S." must be deleted from both the labels and USDA documents for self certified products. Also, under self certification the USDA stamp (Ag. stamp) and "product complies with MGC notice 903" will not be required.
8. Under self certification, I.M.P.S. specifications, weight range per piece, and average surface fat thickness will not appear on USDA documents (MP-130).
9. Upon documented proof of non-performance of self certification on specific cuts, LIPC can require that the supplier change to USDA certification in order to continue participation.
10. If problems persist, LIPC can eliminate the brand name(s) of the supplier from the registered brand list.

11. LIPC reserves the right to file a claim to importers for any loss and/or damage caused by the defects.
12. Products certified by USDA and self certified products cannot be shipped in the same container.
13. The U.S. supplier must certify the cutting specifications, weight range per piece, and average surface fat required by LIPC. This will be done by filling out the LIPC self certification certificate on company letter head. The standard form for self certification certificate is shown on page 2 of the new LIPC specifications and conditions booklet (Appendix B).

APPENDIX E: Japanese Beef Grading System

The Japanese beef grading system was set forth in the All Japan Beef Carcass Transaction System. This system emphasized sashi or marbling content of the meat. Traditionally, the Wagyu cattle are highly prized because of their high degree of marbling; a condition brought about by intensive care and feeding over an extended period. A Japanese style of preparing such dishes as shabushabu and sukiyaki places a premium on meat with high sashi content. Such meat is thinly sliced and boiled; the sashi content prevents the meat from becoming tough. This system of grading has changed very little since its conception, even though there has been a conscience effort to de-emphasize the importance of sashi content.

There are six grade categories which are based primarily on sashi content: Tokusen (super grade or special selection), gokujo (choice), jo (1st grade), chu (middle or 2nd grade), nami (3rd grade) and togai (under-regular grades). Grades are determined by examining the rib-eye muscle of individual carcasses. At the Tokyo or Kyoto markets the cut is made between the 5th and 6th ribs while at the Osaka market it is made between the 7th and 8th ribs (Longworth, 1983). Such inconsistencies in the grading procedures could result in the same carcasses being assigned different grades. For example, carcass inspected farther back on the rib cage would show a progressively larger rib-eye and a lower sashi content.

There are six basic sashi scores ranging from 0 to 5 with 5 being the best. Each score can be assigned a plus or minus if the sashi content is slightly greater or less than that necessary for the basic score (0- is not used). With these gradations there is a potential

for 17 sashi scores. A sashi score of greater than 4+ is necessary for the "tokusan" grade, 3+ or greater for "gokujo", 2+ or greater for "jo", 1+ or greater for "chu" and 0+ or greater for "nami" (Table 25).

A comparison is made between the Japanese and the United States beef grading system in Table 25. In 1985, 92 percent of all graded beef in the United States graded choice (Montana State Cooperative Extension Service). The high quality beef exported to Japan can then be assumed to be primarily choice beef. According to Longworth (1983), the United States high quality (choice) beef is closely related to the Japanese "jo" grade and some of the better cuts may even be considered as "tokusen" or "gokujo".

Table 25. Comparison of Japanese and U.S. Beef Grading Systems
(Best to Lowest Grades)

JAPANESE GRADE	SASHI SCORE	COMPARABLE U.S. QUALITY GRADE ^a
Tokusen	5+ 5 5-	
Gojujo	4+ 4 4-	Prime
Jo	3+ 3 3-	Choice
Chu	2+ 2 2-	Good
Nami	1+ 1 1-	Standard
Togai	0+ 0	Commercial Utility Cutter Canner

^a
Comparisons are the author's.

Source: Longworth, John W., Beef in Japan, University of
Queensland Press, 1983.

APPENDIX F: Data Calculations

The calculation of accurate tariff equivalents and effective protection rates, requires that prices of homogenous products must be compared. In this study, data limitations dictated the comparison of excellent grade (by Japanese standards) boneless beef in both the United States and Japan to ensure a minimum margin of error. To achieve this comparison, prices of both domestic and imported beef and the quantities of imported beef were adjusted.

Japanese Import Quantity Adjustments

Beef imported by Japan from the United States is considered to be on a comparable basis to domestically produced excellent grade beef (see Appendix E for grade comparisons). Data for United States beef exports to Japan were obtained from the U.S.D.A., E.R.S., Foreign Agricultural Trade Statistics Calendar Years and Livestock and Meat Statistics. Data after 1977 included a breakdown of total beef and veal exports to Japan into boneless and bone-in categories. Prior to 1978 data were aggregated into all beef and veal exports to Japan. To calculate the amount of boneless beef exports to Japan for years prior to 1978, a conversion factor of .7835 was applied to the total figures. This conversion factor represented the fraction of boneless beef exports to Japan in 1978, the first year such data were available. Table 26 lists the amounts of United States boneless beef and veal exports to Japan from 1963-1983.

Table 26. U.S. Boneless Beef Exports to Japan, 1963-1983

U.S. Beef and Veal Exports (MT)		
Year	Total	Boneless ^a
1963	45	36
1964	45	36
1965	45	36
1966	45	36
1967	183	143
1968	180	141
1969	285	223
1970	455	357
1971	768	601
1972	708	555
1973	11,123	8,715
1974	6,024	4,720
1975	7,946	6,225
1976	15,525	12,164
1977	20,165	15,799
1978	b	31,646
1979	b	37,773
1980	b	40,499
1981	b	52,619
1982	b	61,528
1983	b	59,424

a

Estimated conversion factor of 0.7835 represents the fraction of U.S. boneless beef and veal exports to Japan in 1978, the first year such data were available.

b

Quantities are unnecessary since exact U.S. boneless beef exports to Japan were reported since 1978.

Source: U.S.D.A., E.R.S., Foreign Agricultural Trade Statistics Calendar Years, various issues.

Japanese Domestic Beef Price Adjustments

Wholesale beef carcass prices in Japan for excellent grade steers were obtained from the Ministry of Agriculture, Forestry and Fisheries, The Meat Statistics in Japan. The prices were adjusted to reflect boneless beef by allowing for 67.8 de-boning percentage. 4.5 percent of the carcass value was added for de-boning costs. These results are given in Table 27.

Japanese Imported Beef Price Adjustment, 1978-1983

Total value and quantity of boneless United States beef exports to Japan were obtained from the U.S.D.A., E.R.S., Foreign Agricultural Trade Statistics Calendar Years for the years 1978-1983. However, data on boneless beef exports prior to 1978 were unavailable. The per unit value is expressed as dollars per metric ton on a free-on-board (f.o.b.) basis (Table 28). Free-on-board refers to the location of the beef at its origin prior to shipment to Japan.

Japanese Imported Beef Price Adjustments, 1968-1977

Data for the value and quantity of all United States beef exports to Japan for 1968-1977 were obtained from the U.S.D.A., E.R.S., Foreign Agricultural Trade Statistics Calendar Years. Again, data for boneless beef were unavailable. A conversion factor of .7883 was applied to convert the value of all beef exports into values for boneless beef exports. This conversion factor represents the fraction of the value of boneless beef exported to Japan in 1978, the first

Table 27.. Japanese Domestic Beef Price Adjustments, 1963-1983

Year	Wholesale Carcass Price (Yen/Kg)	
	Bone-In	Boneless ^a
1963	345	525
1964	347	528
1965	510	775
1966	605	919
1967	762	1158
1968	825	1254
1969	813	1236
1970	843	1281
1971	860	1307
1972	930	1414
1973	1419	2157
1974	1445	2196
1975	1640	2493
1976	1986	3018
1977	2007	3050
1978	1938	2945
1979	2056	3125
1980	2161	3284
1981	2142	3255
1982	2155	3275
1983	2166	3292

a

Assumes a de-boning conversion factor of .678 plus de-boning costs of .045 of carcass value.

Source: Ministry of Agriculture, Forestry and Fisheries, The Meat Statistics in Japan, various years.

Table 28. Japanese Beef Import Price Adjustments, 1978-1983

Japanese Imports of U.S. Boneless Beef			
Year	Total Value (\$1000)	Total Quantity (MT)	Price, f.o.b. ^a (\$/MT)
1978	114,423	31,646	3616
1979	157,527	37,773	4270
1980	170,312	40,499	4205
1981	210,737	52,619	4005
1982	276,728	61,528	4498
1983	295,231	69,424	4253

a

Calculated by dividing total value by total quantity.

Source: United States Department of Agriculture, Economic Research Service, Foreign Agricultural Trade Statistical Report Calendar Years, various years.

year such data were available. Values per metric ton for boneless United States beef exports to Japan were then obtained by dividing by the total quantity of boneless United States beef exports to Japan obtained from Table 26. The results are presented in Table 29.

Japanese Imported Beef Price Adjustments, 1963-1967

Data were unavailable for the value of United States beef exports to Japan prior to 1968. However, published data for total quantity and total value of all United States beef exports were available. Values per metric ton were calculated and multiplied by the amount of United States beef exports to Japan to yield the estimated total value of United States beef exports to Japan (Table 30). It was necessary to assume the value of United States beef exports to Japan was the same as the value of United States beef exports worldwide. Once the total value of United States beef exports to Japan was estimated, the conversion factor of .7883 was used to estimate the value of United States boneless beef exports to Japan. These figures were divided by the total quantity of United States boneless beef exports to Japan from Table 26 to give the implicit f.o.b. price (Table 30).

Japanese Beef Import Price Adjustments, 1963-1983

The implicit price per metric ton of United States boneless beef exports to Japan for 1963-1983 are presented in Table 31. Five percent of the value was added to convert the f.o.b. values to cost, insurance, and freight (c.i.f.) values. This represents the value of

Table 29. Japanese Beef Import Price Adjustments, 1968-1977

Japanese Imports of U.S. Beef				
Year	Total Value Bone-in (\$1000)	Total Value Boneless (\$1000)	Quantity Boneless (MT)	Price, f.o.b. ^a Boneless (\$/MT)
1968	293	231	141	1638
1969	550	434	223	1944
1970	1,384	1,091	357	3056
1971	1,549	1,221	601	2032
1972	2,061	1,625	555	2927
1973	34,955	27,555	8,715	3162
1974	17,757	13,998	4,720	2966
1975	26,250	20,693	6,225	3324
1976	42,225	33,286	12,164	2736
1977	52,364	41,279	15,799	2613

^a

Conversion for value of bone-in to value of boneless is .7883.

Source: United States Department of Agriculture, Economic Research Service, Foreign Agricultural Trade Statistical Report Calendar Years, various years.

Table 30. Japanese Beef Import Price Adjustments, 1963-1967

Year	Price U.S. Beef Exported Worldwide (\$/MT)	Quantity U.S. Beef Exports to Japan (MT)	Value U.S. Beef Exports to Japan ^a (\$)	Value Boneless ^b U.S. Beef Exports to Japan (\$)	Quantity Boneless U.S. Beef Exports to Japan (MT)	Price of Beef Exported to Japan (\$/MT)
1963	1,570	45	70,650	54,987	36	1,527
1964	1,069	45	48,105	37,440	36	1,040
1965	1,236	45	55,620	43,290	36	1,202
1966	1,657	45	74,565	58,034	36	1,612
1967	1,422	45	260,226	205,136	143	1,435

^a Based on worldwide values.

^b Estimated conversion factor of 0.7883 for bone-in to boneless.

Source: USDA, ERS, Foreign Agricultural Trade Statistical Report Calendar Years, various years.

USDA, ERS, Livestock and Meat Statistics, various years.

Table 31. Japanese Beef Import Price Adjustments, 1963-1983

U.S. Boneless Beef Exports to Japan			
Year	Price, f.o.b. (\$/MT)	Price, c.i.f. ^a (\$/MT)	Price, c.i.f. ^b (Yen/Kg)
1963	1,527	1,603	579
1964	1,040	1,092	395
1965	1,202	1,262	457
1966	1,612	1,693	613
1967	1,435	1,469	532
1968	1,638	1,720	621
1969	1,944	2,041	731
1970	3,056	3,209	1,149
1971	2,032	2,134	740
1972	2,927	3,073	931
1973	3,162	3,320	900
1974	2,966	3,114	909
1975	3,324	3,490	1,037
1976	2,736	2,873	850
1977	2,613	2,744	735
1978	3,616	3,797	790
1979	4,170	4,379	955
1980	4,205	4,415	998
1981	4,005	4,205	929
1982	4,498	4,723	1,171
1983	4,253	4,465	1,058

a

Estimated 5 percent conversion factor from f.o.b. to c.i.f.

b

Appropriate dollar to yen exchange rate was applied.

Source: Economic Report of the President, 1986.

the beef as it arrives in Japan and thus includes the value of the beef plus costs of shipping and insurance.

Interviews with personnel of the Port of Seattle and the American President Line Shipping Company revealed that the freight rates on the United States west coast are nearly identical due to the rate structure of the Transcoast Western Rate Association. Since a majority of shippers are members of this association, shipping rates are expected to be the same regardless of shipping company.

On April 15, 1986 the shipping rate of primal beef cuts from the United States west coast to Japan was \$145 per metric ton. A 12 percent currency exchange fee and a terminal receiving charge of \$15 increased this rate to a total shipping cost of \$177.40 per metric ton. This value is 4.22 percent of the value of a metric ton of boneless beef valued at \$4200 per metric ton (the average value per metric ton of boneless beef exports to Japan in 1984 and 1983). One percent of the value was estimated as the cost of insurance (Longworth, 1983).

A 5 percent conversion factor to convert f.o.b. values to c.i.f. values is used in this study. This may underestimate the cost of shipping and insurance since the current shipping rates are historically low.

Dollars per metric ton of United States boneless beef exports to Japan on a c.i.f. basis are also listed in Table 31. An exchange rate as indicated in the 1986 Economic Report of the President was used to convert the dollars to yen. The last column in Table 31 lists

the yen per kilogram value of United States boneless beef exports to Japan from 1963 to 1983.

Calculations of Tariff Equivalents

Table 32 outlines the domestic price of boneless excellent grade beef as calculated in Table 26 and the import price of a comparable product as calculated in Table 31. The percentage difference between the two is the tariff equivalent of all trade barriers in the importation of beef to Japan (Table 7).

Feed Cost Share

The theory of effective protection requires the use of tradeable input cost shares. Feed is the only tradeable input in the Japanese production of excellent grade beef. Feed costs for the production of Wagyu beef were obtained from MAFF, Livestock Production Costs, An Investigation Report (in Japanese). These animals are fed for 19 months. It was assumed that the lower grade of beef (excellent grade) was produced by feeding for 13 months. The feed costs in Table 33 represent the estimated costs of feed for producing excellent grade beef. The feed costs were divided by the value of U.S. boneless beef to obtain pre-barrier cost shares.

Effective Protection Rates

Tariff equivalents and effective protection rates for the Japanese excellent grade beef industry for 1963-1983 are given in Table 34. Since imported feeds were assumed to have no tariffs, the

Table 32. Tariff Equivalents for the Japanese Excellent Grade Beef Industry, 1963-1983

Year	Domestic Price (Yen/Kg)	Import Price (Yen/Kg)	Tariff ^a Equivalent (Percentage)
1963	525	579	-9
1964	528	395	34
1965	775	457	70
1966	919	613	50
1967	1,158	532	118
1968	1,254	621	102
1969	1,236	731	69
1970	1,281	1,149	12
1971	1,307	740	77
1972	1,414	931	52
1973	2,157	900	140
1974	2,196	909	142
1975	2,493	1,037	140
1976	3,018	850	255
1977	3,050	735	315
1978	2,945	790	273
1979	3,125	955	227
1980	3,284	998	229
1981	3,255	929	250
1982	3,275	1,171	180
1983	3,292	1,058	211

a

Percentage difference between domestic price and import price.

Table 33. Japanese Feed Cost Shares Calculations, 1963-1983

Year	Feed Costs ^a (Yen/100 Kg liveweight)	Value U.S. Boneless Beef (Yen/100Kg)	Feed ^b Cost Shares
1963	13,307	57,900	.23
1964	12,940	39,500	.33
1965	14,598	45,700	.32
1966	23,545	61,300	.38
1967	27,986	53,200	.53
1968	27,914	62,100	.45
1969	29,150	73,100	.40
1970	28,407	114,900	.25
1971	26,312	74,000	.36
1972	27,529	93,100	.30
1973	29,407	90,000	.33
1974	42,831	90,900	.47
1975	52,840	103,700	.51
1976	55,826	85,000	.66
1977	60,614	73,500	.82
1978	58,552	79,000	.74
1979	50,983	95,500	.53
1980	57,774	99,800	.58
1981	64,667	92,900	.70
1982	65,571	117,100	.56
1983	63,400	105,800	.60

a

Original cost were for a higher grade of steer, fed for 19 months. These costs were scaled down 67% to allow for only 13 months on feed. A conversion factor of 2.38 was applied to convert liveweight to boneless beef.

b

Calculated by dividing feed costs by value of U.S. boneless beef.

Source: MAFF, Statistical Information Department, Statistical Yearbook of MAFF, various years.

MAFF, Statistical Information Department, Production Costs of Domestic Animals, An Investigative Report (in Japanese), various years.

Table 34. Effective Protection Rates for the Japanese Excellent Grade Beef Industry, 1963-1983

Year	Tariff Equivalent (Percentage)	Feed Cost Share	Effective ^a Protection Rate (Percentage)
1963	-9	.23	-12
1964	34	.33	51
1965	70	.32	103
1966	50	.38	81
1967	342	.53	510
1968	102	.45	185
1969	69	.40	115
1970	12	.25	16
1971	77	.36	120
1972	52	.30	74
1973	140	.33	209
1974	142	.47	268
1975	140	.51	286
1976	255	.66	750
1977	315	.82	2864
1978	273	.74	1046
1979	227	.53	483
1980	229	.58	545
1981	250	.70	833
1982	180	.56	409
1983	211	.60	527

^a

Calculated by dividing the tariff equivalent by one minus the feed cost share.

tariff equivalents were divided by one minus the feed cost shares (Table 33) to yield effective protection rates.