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NONTARIFF AGRICULTURAL TRADE BARRIERS: LIVESTOCK AND MEAT LEGISLATIVE AND REGULATORY DEVICES AS THEY AFFECT INTERNATIONAL TRADE BETWEEN INDUSTRIALLY DEVELOPED COUNTRIES

THE UNIVERSITY OF ARIZONA M.S. 1983

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NONTARIFF AGRICULTURAL TRADE BARRIERS: LIVESTOCK AND MEAT LEGISLATIVE AND REGULATORY DEVICES AS THEY AFFECT INTERNATIONAL TRADE BETWEEN INDUSTRIALLY DEVELOPED COUNTRIES.

by

Mark Barrington Lynham

A Thesis Submitted to the Faculty of the

DEPARTMENT OF AGRICULTURAL ECONOMICS

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF SCIENCE
WITH A MAJOR IN AGRICULTURAL ECONOMICS

In the Graduate College

THE UNIVERSITY OF ARIZONA

1983

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JIMMYE S. HILLMAN Date

21 Oct '83

In memory of my mother, Joyce Marian, and of my sister, Mary Ann.

ACKNOWLEDGEMENTS

There are numerous persons to whom thanks are due. They gave generously of their time and support and were very patient with me as I struggled to understand the complexities of the nontariff trade barrier issue. I wish to express my sincere thanks and appreciation to Edgar Philips, Brian Gardner, Paul Lynham, and the staff of Agra Europe (London) for their generosity and enormous help when I was in Europe. My gratitude and thinks go to the members of the Foreign Agricultural Service, U.S. Department of Agriculture, specially Tom O'Connell and Mattie Sharpless, to the ministers and attachés of the Australian Embassies and High Commission, especially Earle Hoffman (London), and J.E. Melville (Brussels), of the New Zealand Embassies and High Commission, specially Donald Walker (London) and of the U.S. Embassies and missions in Europe, especially Tony Cruit (Geneva), Dr. Hyman Steinmetz and Natalie Solar (Brussels). I would like to thank those persons in the Australian Livestock and Meat Corporation, the New Zealand Meat Producers Board (both in New York and London), the U.K. Meat and Livestock Commission, to Roger Bansback in particular, the Meat Exporters Federation, and the National Cattlemen's Association. Thanks are due to Dr. Alexander Yeats in UNCTAD, Dr. Jan Tumlir of GATT, Dr. Ingo Walter of the Graduate School of Business Administration in New York, Dr. Tim Josling of the Food Research Institute, Stanford University, for their suggestions and very helpful comments.

I would like to express my special thanks and appreciation to Dr. Eric Monke and Dr. Gordon Ball for their help and guidance and to Dr. Jimmye S. Hillman who was my teacher, guide, and mentor. I very much appreciate the encouragement and support that I received from my fellow students, especially Tony Crooks, Ed Jorgenson, and Cliff Mangano. I am also most grateful to Sharon Hasen , Joan Kingan, and Diane Baker for transcribing the tapes and typing the rough draft, and especially to Ruby Hunnicutt for doing the lions share of the typing with patience and understanding.

Finally special thanks are due to my father John Lynham for his support and encouragement, to my wife Glenna Jean, my son Karl, and daughter Kirsten, who through their sacrifices, loving support, and daily encouragement over the past five years helped me to achieve my master's degree.

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ABSTRACT

Within the last two decades nations have applied nontariff barriers to international agricultural trade with ever increasing frequency and boldness. Nontariff trade barriers have proven to be an effective means of restricting international trade. Governments are using nontariff barriers as a policy tool to protect and stabilize domestic production; but in so doing they destabilize international trade. This thesis analyses the effect of nontariff trade barriers on the international beef industry. It identifies the major policies of certain selected industrial nations, United States, Canada, Japan, Australia, New Zealand, and the European Community, which restrict free trade of beef and cattle via nontariff barriers and determines how they affect the trading patterns of the major beef exporting and importing nations.

A short history of trade and trade barriers is provided with emphasis on the conceptual framework of nontariff barriers. The characteristics of the beef industry and the recent developments in consumer demands for beef are discussed. Beef and livestock legislative and regulatory devices such as health standards and technical requirements are examined and evaluated as to their impacts on the consumers and producers.

CHAPTER 1

PROBLEM AND METHODOLOGY

Introduction

International trade, the movement of goods and services among nations in exchange for either money or other goods and services, has been impeded by various types of restrictions over time. Liberalization of international trade contributes to global economic growth while increasing restrictions leads to isolationism and economic decline. This realization has led the major industrial nations to declare international free trade as one of their major objectives. This is to say that they seek the trade of goods and services between countries without significant restraints.

Following World War I and during the Great Depression countries turned to increased restrictions on trade in the attempt to protect their domestic industries and strengthen their weakened economies. The restrictions took both old and new forms, and their aggregate impact strangled world trade that led eventually to the total breakdown of the world economy. After World War II the industrialized countries were fearful that the prevailing circumstances might once again convince countries to increase restrictions on trade. In an attempt to avoid such actions the General Agreement on Tariffs and Trade (GATT) was established to set up rules for trade and to adjudicate trade disputes

between member countries. There are now 87 signatory trading nation members to that agreement outside the Communist Block.[1]

Under GATT most of the impact of traditional customs duties and quotas have been eliminated, but other forms of restrictions often referred to as nontariff barriers have been added or left in place. While nations verbalize their support for free trade, new forms of trade restrictions are being devised and imposed. Governments, especially those of the industrially developed nations, in order to show good faith, have removed many of the "traditional" tariffs and quotas. Yet at the same time they have found ways to protect their domestic industries by the application of nontariff barriers which are both covert and subtle [1][2].

The general reaction to these nontariff barriers to trade (NTBs) is leading to the creation and application of marketing orders, also known as orderly marketing arrangements, or voluntary export restraints (VERs) [3].

In the agricultural sector, a number of the nontariff barriers are applied for a seemingly legitimate purpose. Such is the case with many of the health standards and regulations applied in the livestock and meat trade, which are to protect the consumer (the buying public) or to preserve a disease-free state in a livestock production region. Yet these same regulations have been applied in other instances, where

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[1]Third World countries in general belong to the United Nations Conference on Trade and Development (UNCTAD), an organization more concerned with development than with questions of trade.

the consumer, in fact, is in no need of protection. Strict health regulations have been applied supposedly to stop contagious diseases from entering a country. They were applied specifically to protect the domestic industry from foreign competition.[2]

The major problem in the agricultural trade protectionism controversy is to distinguish between a legitimate trade restriction required to protect the consumer, and a trade restriction that protects domestic industry from outside competition. A legitimate trade restriction, in this context, would very likely be beneficial to the nation as a whole resulting in a net welfare increase from reduced health risks and a better quality product,[3] while an intentionally protective nontariff trade barrier would likely benefit local producers through higher returns but be a burden to the consumer, thus, resulting in a net welfare loss.

During depressed economic times when competition and a free open market often leads to the demise of weak and inefficient firms or even industries, the social and political temptation to conserve the status quo is considerable [4]. The private lobbying of the affected industries, the public lobbying of the unions, and the pressure from the unemployed, support the imposition of import restrictions while the

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[2]Examples of such a case are that of the recent (1982) ban imposed by Britain (U.K.) against the imports of fresh poultry meat, which included turkey and chicken products, of birds immunized against Newcastle's disease, and U.K. banning the import of ultra-high-temperature (UHT) milk on health grounds [5].

[3]Examples of a health risk are the dangers of salmonella poisoning, that have proven fatal, from improperly manufactured canned meat products or improperly prepared chickens as in Saudi Arabia.

economist and many national leaders of industrialized nations denounce trade protectionism and conjure up images of the Great Depression of the 1930s [6] The affected sectors clamor about unfair competition, dumping, indirect importation of cheap labor, etc. The present response is to appease both the domestic constituents and the foreign governments by openly dismantling the tariffs and quotas restricting free trade, while at the same time imposing and enforcing nontariff trade barriers and VERs.

Some leaders of the industrial countries with capitalistic economies extol the virtues of unfettered trade. At summit meetings, foreign ministers meetings, and at economic round tables, these leaders and experts expound on the virtues of free trade and its benefits. While they try to persuade their colleagues to embrace the economic philosophy of the free market, their actions in the domestic political arena are not in keeping with this advice. Guzzardi [7] suggests, that government leaders lack an understanding and appreciation of the international economic system and the interdependency of nations.[4]

Government ministers establish trade and economic policies with aspirations of increasing the liberalization of trade, yet the elected members (politicians) of those same governments submit legislation to restrict the flow of trade across international borders, and sometimes, across county or state lines [8].

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[4]Also see the comments in Newsweek [9], and Deepak Lal's opening remarks in his article "Politicians, Economists and Protection—the Deaf Meet the Blind" [10].

National governments also like to give the illusion of self-determination. They prefer to control their destiny and create their own national and foreign policies without the influences and pressures of outsiders. Nationalistic fervor is the outcome of this desire for self-determination. It leads weakened or small nations to isolationism. In the economic field it leads to their insulating themselves from the dangers or "deviations" of the free enterprise system that could be brought on by uncontrolled external economic and political forces. One such historical example of nationalistic tendency is mercantilism.

Governments have traditionally treated agriculture differently than they treated manufacturing. Agricultural sectors have had preferential treatment, and farm policies have been designed to isolate the producers from the vagaries of the domestic, and more especially the international, markets [11].

Within agriculture, the livestock and livestock product sector has been considered more vulnerable and at the mercy of both the market and the elements because of the peculiarities of the cattle industry [12]. Some of the distinctive characteristics of the cattle industry are: that it is biological and thus, cyclical; that its production is either dependent on the elements (range) or on the grain crops (feedlots); that the product has an inelastic demand and thus, the change in the price of the product is very sensitive to the change in supply or quantity available. The livestock and red meat industries throughout the world have supported import restrictions for both legitimate reasons of consumer protection, and also for reasons of

stabilizing the red meat market, and have pushed at the same time for the expansion of their exports [13].

Trade restrictions play a major role in impeding the trade in livestock and meat products. These include numerous legislative and administrative restraints that restrict the legitimate movement of products between countries. The administrative restraints to trade involve government buying practices, national or domestic sales policies, and involvement directly or indirectly in international trading.[5] Legislative barriers cover various technical factors, health standard regulations, quality standards, and size, packaging, and labelling requirements.

This study is concerned with one of today's major issues in international trade, protectionism. Its purpose is to determine whether the restrictions and barriers to the international meat and livestock trade are beneficial to the consumer or solely for the protection of the industry. More specifically, it will analyze the new forms of protectionism that are replacing tariffs and quotas as instruments of trade policy.[6]

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[5]Indirect government intervention in trade are usually through quasi-governmental institutions, sometimes known as "guangos."

[6]A number of recent studies have emphaisized the impact of nontariff restrictions within the agricultural sector. These have given major attention to the impact of NTBs—quotas and VERS—on the beef and grain trades. The studies on the beef trade have concentrated on U.S. exports to Japan and the two-way trade between Canada and the United States [14].

Statement of Problem

The current emphasis of trade liberalization policies is to eliminate the trade barriers which exist in the agricultural sector. The demand for internationally traded beef is a significant portion of the agricultural trade. All the major importing countries have a combination of quotas, tariffs, and nontariff bariers. While the effects of quotas and tariffs are easily identified and predictable, the effects of nontariff barriers are less clear, though they do create uncertainty in the international market. Under the auspices of technical and health standards, nontariff barriers distort the efficient allocation of the beef trade. The problem exists in the identification of the specific policies which create NTBs and their effects on the consumer of the importing countries.

Method and Analysis

This study first provides an outline of the developments in nontariff trade barriers and describes some recent conceptual frameworks indicating the difficulties encountered with the models. A brief overview of the cattle production and beef processing sector precedes the examination of NTBs in the meat trade. The uses of legislative, administrative, and regulatory devices are examined as to how they impede the trade in livestock, meat, and livestock products between the European Common Market and free industrially-developed countries. An assessment is made of two specific nontariff trade restrictions on consumers and producers.

Much of the information has been obtained from regulatory agencies, the livestock industry, and persons involved in the trade. Data

on trade and the relative importance of the trade have been analyzed. Interviews held with government and embassy officials, and with importers, exporters, and producers in the livestock and livestock product industry to obtain information for cataloging the types of nontariff restrictions affecting the trade. The information and data obtained are used to make an assessment of the impact and importance of the various legislative and regulatory NTB measures affecting the meat and livestock trade.

CHAPTER 2

NONTARIFF TRADE BARRIERS

Since the dawn of human civilization trade has been known to exist. About 4000 BC the first trade restrictive measures were recorded; the tariff on imports was not imposed to act as a restriction but its purpose was for raising revenue. Up until the eleventh century AD tariffs were revenue-raising taxes on imported goods. With the rise of the European city states in about 1,000 the mercantilist philosophy was practiced but gained prominence by the 1600s in France and Britain. Exports were encouraged, preferably in exchange for species, while imports of goods were discouraged by imposing heavy duties. Additional revenue was raised by means of taxing shipments passing through the state. Thus by the time of the Renaissance in Europe tariffs were used for raising revenue and to restrict trade.

Nontariff barriers, the invisible tariffs [15], or hidden barriers [16] came into their own in the 1930s with the upswing of government interventions in the agricultural sector. Farm support policies had to be protected from the more efficient foreign agricultural producers. Prior to this time some animal health standards and sanitary regulations were enforced. There is mention of certain regulations that stipulated flour mixtures in Europe during the 1890s which was specifically to restrict grain imports [17]. The proliferation of

nontariff barriers occurred in the 1960s with increasing momentum during the 1970s as successive GATT Multilateral Trade Negotiations (MTNs) successfully reduced the tariff and quota restrictions on many products mainly industrial, being traded between signatory members.[1]

Within the auspices of the GATT framework signatory nations have participated, to their general benefit, in the reduction of tariffs and quotas. Substantial reductions in restrictive trade practices have not occurred in the smaller trading countries, especially of the Third World. These countries have tenaciously held to the idea of protecting their agricultural sector and their emerging industries that do not have comparative advantage, vis-a-vis the larger countries under free trade. By maintaining trade barriers the smaller countries hope to restrict or eliminate the competition from the imports of the larger established and newly developed, industrial nations [18][19].

With the virtual elimination of the traditional trade barriers in the larger industrialized countries, policy makers of these countries, against the advice of most economists, have insisted on imposing some form of trade barrier to protect their industries. EC nontariff trade barriers have proved to be a useful policy tool to influence agricultural development [20]. "Attempts by the Commission to persuade member states to abandon such policies at the national

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[1]GATT considers that "no government is really 'protection-minded'; on the contrary, 11 continue to resist protectionist pressures" [21].

level have proved fruitless [22]. "In the European Economic Community traders and consumers in member countries have tried ineffectively to dissuade the producers, especially those in the agricultural sector, from demanding a policy of protectionism from overseas competition. Yeutter makes the following comments:

> As domestic industries, both agricultural and non-agricultural, in the U.S. and elsewhere have observed the progressive crumbling of tariff protection, other protective mechanisms have been devised by their governments. One must give reverse "credit" where it is due; they have done this very effectively indeed. So-called "non-tariff barriers" have become the major impediment to world trade today. Whereas the previous rounds of GATT negotiations dealt almost exclusively with tariffs, with non-tariff barriers scarcely even being mentioned, the present Tokyo Round (1977) of negotiations probably will devote far more time to the latter than to the former [23].

Pine noted that "Successive negotiations have so reduced import quotas and tariffs that countries increasingly have turned to so-called non-tariff barriers, such as production subsidies, restrictive quality standards, and inspection requirements." [24] Major trading powers are resorting to the imposition of nontariff trade barriers as a means of influencing their own trade policies and domestic production policies, especially concerning the agricultural sector.

There has always been skepticism toward the idea that free trade is mutually beneficial to the countries involved. Various labor unions and industries such as steel, textiles, and more recently the automobile industry have lobbied for import restrictions [25]. A recent form of NTB that is being considered by the U.S. Congress is the "reciprocity" legislation. This action of Congress seems to illustrate Yeutter's comment, " . . . we are plagued by a level of public knowledge of

international trade that leaves much to be desired" [26]. With the world today in a recession there is considerable pressure from within major trading nations to implement some form of protectionist measures. These measures go contrary to the classical and neo-classical theories of free trade between countries, which state that each country involved in trade without restrictions will benefit.

The global recession of the late 1970s and early 1980s is considered second only to the Great Depression of 1933. The monetary policies of the conservatively controlled governments have brought down the high inflation that plagued the industrial economies, but at the cost of high unemployment and high interest rates. Many poor-performance industries have suffered from this recession, and many have folded. Hansen for the Overseas Development Council, in discussing the new protectionism (NTBs), describes whom he considers are the advocators of trade restrictions:

> The New Protectionism has special characteristics. The barriers raised in the 1970s were for the most part not generalized tariff increases, but sector-specific quotas negotiated bilaterally outside the multilateral framework of the General Agreement on Tariffs and Trade (GATT). Two kinds of production sectors have borne the brunt of these new barriers. In the case of steel, shipbuilding, automobiles, and some other intermediate and capital goods, imports have been curtailed primarily because of the threat of Japanese competition, although in recent years some advanced developing country exporters have also entered the market. In the case of consumer goods such as textiles and clothing, footwear, household appliances, and television sets, the new barriers have been raised against imports that now come from an ever increasing number of developing-country sources.
>
> These production sectors in the industrial countries tend to have in common such attributes as low productivity growth, without downward adjustment of wages, labor-intensive production techniques, with employment often concentrated in older industrial regions; excess capacity, frequently of older and

> inefficient vintage; and slowing market demand. Within northern countries, these sector attributes have added up to significant political weight and a predisposition toward import restriction rather than production readjustment [27].

The Japanese and Europeans are experts in circumventing the overt trade barriers. But in some cases, such as France with mutton and the British with poultry, nations are blatantly applying nontariff barriers in order to totally block trade. It seems that the image which GATT has projected to the effect that "no government is really 'protection-minded'" is just a mask to hide the very high unemployment rates that are being experienced in Britain, Belgium, France, and the United States, to mention a few. There are some influential economists that "are calculating the short-term gains in jobs saved by resorting to import controls" [28] not unlike the economists of the late 1960s and early 1970s who were advocating, and thus lending credence to trade barriers and the diversification of labor [29].

Domestic agricultural support programs have been the nemesis of the free trade advocates. Trade in dairy and meat products has been and still is strongly regulated. Domestic producers jealously protect their share of the market by demanding that the local government control the trade in these commodities. With the elimination of tariffs, the governments have had to resort to nontariff trade barriers such as health and sanitary regulations, packaging (bottling) and labelling laws, in order to appease the domestic producers. The dairy industry is rampant with complex regulatory devices that cover most, if not all, the dairy products such as milk, cream, butter, cheeses, lactalbumin, casein, etc. [30][31]. The livestock and meat trade has many regulatory

devices [32][33], but most of them are not as complex as those of the dairy industry. Many of the meat regulatory devices are easily recognizable as NTBs for the protection of the domestic industry rather than the health of consumers.

Because of the vulnerability of the cattle and meat industry to the fluctuations of the world price (terms of trade), governments have carried out domestic beef price stabilization policies by applying or relaxing the regulatory devices. The application of the NTBs have been at a cost to the consumers through higher prices, and possibly to the detriment of the world beef and cattle trade [34][35]. The world livestock and meat trade has levelled off, and its traditional pattern of trade seems to be changing [36]. The change is causing friction between the traditional exporters (i.e., Argentina, Australia, Uraguay, and Brazil) and those traditional importers who have now become exporters, or who have become self-sufficient (i.e., EC countries). The friction seems to be leading to increased protectionism and more restrictive trading.

The present economic world-wide recession is having an adverse effect on the agricultural industry. On the macro economic level, higher interest rates, high unemployment rates, unrealistic exchange rates, and widening trade deficits, have encouraged many to advocate protectionism (i.e., bilateral agreements, quotas, enforcement of NTBs) and retaliation through the use of counterveiling duties, reciprocity [37]. Higher input costs and lower world prices are causing domestic farmers to demand import restrictions in order to assure a profitable and stable market for their own products. In responding to the demands

of the agricultural sector, governments are directing their trade policies and domestic production policies through the imposition and enforcement of legislative and regulatory devices.

Approximately a quarter of the total world trade is free [38]. [39] This percentage of free trade is being threatened by the growing movement in the industrial countries, such as in the European Community and Japan, for some form of restriction on the imports of agricultural and industrial products in order to protect their vulnerable agricultural sector and ailing industrial sector, until the recession passes.

The member nations of GATT admit that the impetus towards freer trade which began in 1948 is threatened by the increasing demand for protectionism by industry and the labor unions throughout the western industrial world, and the ease with which these demands can be met by the imposition of nontariff barriers.

There seems to be no slackening of the current movement towards more and more protectionism and the misuse of legitimate restrictive measure that result in the trade distortions (i.e., technical, health, and sanitary standards and regulations). Yeutter noted that the purpose of standards is to foster trade, but governments have found them to be very effective instruments to impede trade [40].

CHAPTER 3

FRAMEWORK FOR ANALYZING NONTARIFF TRADE BARRIERS

A very broad definition of nontariff trade barrier is any policy or practice that would distort international trade by changing the quantity, composition, or cause a reversal in the trade of goods and services. A more appropriate definition of a nontariff barrier or distortion is any means or methods that are used, other than a tariff or duty, in order to restrict the flow of trade into or out of a country; e.g., trade barriers, quotas, and embargoes. Hillman defines a nontariff barrier as "any governmental device or practice other than a tariff which directly impedes the entry of imports, or exit of exports, and which discriminates against imports and exports: that is, which does not apply with equal force on domestic production or distribution" [41]. The imposition of a nontariff barrier is not necessarily restricted to governments' or their agencies' actions, but can be incurred by groups or organizations such as religious sects and multinational firms. This will be shown when the restrictions to the red meat trade is discussed in Chapter 5. The Committee for Economic Development (CED) recognized the fact that "the activities of business firms and associations may be an important source of trade distortions" [42].

The Committee for Economic Development, concentrating their attention on the policies of the public authorities, grouped the

government trade policy nontariff instruments for controlling trade into eight categories:

- Quantitative restrictions,
- Customs classifications and valuation,
- Public procurement policies,
- Antidumping regulations,
- Border tax adjustments,
- Export credit subsidies,
- Domestic subsidies and taxation,
- Taxation and health regulations [43]

Yeutter [44] considers that variable levies are one of the most frustrating trade barriers, yet the European Community, who are the worst offenders, strongly resist the inclusion of variable levies in the Quantitative Restrictions Group of the GATT issues on trade barriers. Richardson argues that "the bureaucratic barriers involved in exporting [products] are perhaps more important than any other NTBs to trade. Foreign vending licenses and credit status must often be obtained; foreign business practices must be learned; foreign lawyers must be hired. . . . " [45] Harassing administrative barriers are added to the natural barriers of trading and effectively discriminate by design, though sometimes incidentally, against foreign producers. The discrimination can create product differentiation by quality as do the different red meat grading systems between Australia, Canada, the United States, and the European Community.

In the private sector, import-competing producers and labor unions have been able to create product differentiation through

advertising (i.e., buy domestic) and discriminatory activities, such as boycotting or not handling foreign products and inputs, which have distorted trading volumes and prices.

Taxonomies of nontariff trade barriers are given by UNCTAD [46], Ingo Walter [47], and Hillman [48][1] UNCTAD and Walter classified the nontariff barriers into three types: Type I are the NTBs whose specific intent is (a) to impede imports and (b) to stimulate exports in a manner that causes trade distortions, Type II are measures whose primary intent is to deal with economically, socially and/or politically related problems, but which are occasionally used to restrict imports or stimulate exports; Type III are measures or policies that are applied with no trade protection intent, but which inadvertently affect the trade sector causing distortions. The three major types try to indicate the intentions of the trade restrictive measures. Intent on the part of the government when applying a measure are the most important aspect in defining or determining a nontariff barrier. Intentions determine whether the measure or practice is used specifically as a trade policy tool or whether the distortion is an ancillary effect.[2] Hillman lists NTBs under five general sections:

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[1]Refer to Appendix A for the three taxonomies of nontariff barriers.

[2]National governments sometimes have pressing economic and social reasons for adopting domestic measures which may result in trade distortions for a number of these policies of traditional view has been that they are of strictly domestic interest and not a matter of concern for other countries. . . . First of all [international agreement relating to NTBs] are likely to be opposed by governments on the grounds that they would limit a government ability to deal with domestic problems. [Secondly, with] nontariff distortions . . . it is difficult to match and balance the concessions made by each country" [49].

(1) government participation, (2) customs and administrative procedures, (3) standards and marketing regulations, (4) specific trade limitations, and (5) trade restraints through the price mechanism. The taxonomies are specifically of NTBs, measures and devices, imposed directly or indirectly through government policies and public administrative action that constrain trade. Other measures or forms of restrictions outside of government policies and actions are not listed, such as private or religious measures.

Nontariff trade barriers generally have two effects. This is illustrated by trade in the livestock and meat industry. One is the indirect imposition of an extra cost which would be comparable to a tariff on an imported commodity, such as a cost of an inspection regulation by local authorities to ensure a certain standard; this would be equivalent to importing a higher quality commodity or product of a higher grade, which is comparable to paying a higher price for a quality commodity. The increased cost could be incurred either in the producing country due to slaughter house regulations, or in the importing country because of the customs meat inspection requirements.

The second effect is to reduce the quantity that is to be imported; for example, by insisting on certain health standards (i.e. foot-mouth disease free or free of hormone growth). This would not necessarily affect the world price if the country is a minor exporting country, but would affect the world production which would be reduced slightly by that amount that does not conform to the regulation. In the case of a major exporter of beef and cattle a restriction on its trade would affect both the world price and the quantities of world

trade and world production. It also affects the patterns of trade, as empirically shown in the case with Argentina.

The determination of NTBs is especially important with regards to the multilateral trade negotiations (MTN) under GATT. "Determining which NTBs can realistically be negotiated is a complex issue. In practice how can one distinguish less justifiable barriers to trade from a country's natural right to generate revenue through taxes that do not discriminate between domestic and foreign sources? Or to subsidize some industries to correct for other distortions? Or to impose legitimate product standards?" [50] The Committee for Economic Development states that "most nontariff distortions present difficulties . . . in specifications, and may be virtually impossible to quantify" [51]. The problem in specifying and quantifying NTBs greatly increases the difficulties of estimating the level of protection and of predicting the net welfare effect. This difficulty arises when a government implements a specific policy that might inadverently cause trade distortions, or whose specific intent is to distort trade.

Attempts have been made to devise a theoretic model that could determine the effects of an NTB as a first approximation. The model used the concepts of the effective protection [52][53][54][55]. The effective protection (or effective tariff rate) concept has proven successful when applied to the explicit types of barriers (e.g., tariffs and quotas). Yet most economists concede that the concept is inadequate with regards to NTBs which cannot be measured directly, such as health standards [56]. Wipf and Yeats use the effective rate of protection model in order to determine the effective tariff rate of

various agricultural products in the United States and other industrialized countries and to determine the effective rate of protection accorded the domestic industries. Yeats concedes the difficulty in estimating the nominal rate of a tariff equivalent for certain NTBs, while Wipf states some of his nontariff values are estimated given certain assumptions.

The partial equilibrium trade model explicitly illustrates the intuitive impact of enforcing an NTB; but the dearth of appropriate data to determine with reasonable accuracy the estimators of the demand and supply schedules is sadly evident [57]. Thus, these two theoretical models, though they might resemble the real world with regards to the impact of NTBs is extremely difficult to test and to apply as a decision-making policy tool. Thus the major problems are first to determine a NTB and secondly, to accord a value figure to the NTB. An accounting method is suggested in that the total cost of placing a foreign product on the market is compared to the cost of producing and marketing the same domestic product (note that homogeniety is assumed, which in some cases is an inappropriate assumption). Here again, the method seems logically simple, but adequate and sufficient data are lacking.

The determination of the impact of nontariff trade barriers on the effective tariff on a final good or the effective rate of protection can be theoretically, and empirically, accomplished <u>provided it is possible to compute the tariff equivalent of the NTBs</u>. Intuitively, we can assume that the increased nontariff restriction on the final good will increase the effective protection of the industry. Increased

nontariff restrictions on imports of inputs will raise the cost of the final good and reduce the industry's effective protection. The effective rate of a tariff (e_j) is defined as follows:

The percentage difference between the industry's value added per unit of currency of output under protection (v'_j)and its value added in the absence of protection (v_j).

$$e_j = \frac{v'_j - v_j}{v_j} \tag{1a}$$

With the basic assumptions of the model being (a) that all production functions are of fixed coefficient form with zero elasticity of substitution between intermediate inputs and the primary factors (labor and capital), (b) that the international movement of primary factors does not occur, but are nationally mobile, fixed in terms of total supply for the economy, and available in less than infinitely elastic supply for a particular industry, and (c) that the demand for all exports is infinite with a perfectly elastic import supply. Yeats [58] notes that a relaxing of the supply and demand assumption would lead to a different definition of effective protection (e^*_j):

$$e_j = \frac{P'_j - P_j}{P_j} \tag{1b}$$

Where p_j is the price of the value added product before protection and p_j the price after protection. Provided the elasticity of substitution is zero, the two definitions will produce equivalent estimates

$$\text{if } v_j = P_j - \sum_{i=1}^{m} a_{ij} \tag{2}$$

$$\text{and } v_j = (P_j + t_j) - \sum_{i=1}^{m} a_{ij}(1 + t_i) \tag{3}$$

Where:

a_{ij} = the value of the i^{th} input required per unit currency value of output of industry j, at free trade prices;

t_j = total nominal rate for tariff on the output of industry (j).

t_j = are the tariffs on the inputs into industry j.

P_j = the free-trade price of the j^{th} product.

Substituting:

$$e_j = \frac{\left[(P_j + t_j) - \sum_{i=1}^{n} a_{ij}(1 + t_i)\right] - \left[P_j - \sum_{i=1}^{n} a_{ij}\right]}{P_j - \sum_{i=1}^{n} a_{ij}} \tag{4}$$

which leads to

$$e_j \frac{t_j - \sum_{i=1}^{n} a_{ij}t_i}{P_j - \sum_{i=1}^{n} a_{ij}} \tag{5a}$$

Walter [59] defines the effective rate of protection in essentially the same manner:

$$e_j = \frac{t_j - \sum_{i=1}^{n} a_{ij}t_i}{v_j} \tag{5b}$$

Then by incorporating the tariff equivalent of the nontariff restrictions on imports of final goods (n_j) and inputs (n_i), assuming that it is possible to compute the tariff equivalent of NTBs. then:

$$e_j = \frac{t_j + n_j - \sum_{i=1}^{n} a_{ij}(t_i + n_i)}{v_j} \tag{6}$$

e_j would be the effective rate of protection accorded an industry that includes both nominal tariff and nominal nontariff (in tariff equivalence) restrictions on inputs and final product.

Wipf [60] defines the effective rate of protection similarly to (6) though the direct subsidy payment rate (S_j) received by domestic producers in industry (j), and the excise tax rate (r_i) on intermediate input (i) are included in place of the nontariff equivalents (n_j) and (n_i)

$$e_j = \frac{t_j + S_j - \sum_{i=1}^{n} a_{ij}(t_i + r_i + t_i r_i)}{1 - \sum_{i=1}^{n} a_{ij}} \tag{7}$$

which is rewritten as follows:

$$e_j = (t_j + S_j) + \frac{(t_j + S_j - \bar{d}_i) \sum_{i=1}^{n} a_{ij}}{1 - \sum_{i=1}^{n} a_{ij}} \tag{8}$$

where

$$d_i = \frac{\sum_{i=1}^{n} a_{ij}(t_i + r_i + t_i r_i)}{\sum_{i=1}^{n} a_{ij}} \qquad (9)$$

is a weighted average of the tariff and nontariff measures that act to raise the cost of inputs used in the production process of the j^{th} industry. Wipf notes that the "equation makes it easy to identify the critical points in the relationship between nominal and effective rates of protection" [61]. Also the effective rate of protection can be negative, indicating a domestic production ax. Walters concludes that the imposition of excise taxes by the EC countries significantly reduces the effective rate of production accorded the industries of the final product.

Johnson and Grubel [62] define the effective rate of protection with the inclusion of the excise taxes (r_i) on inputs and (r_i) on the final good i.

$$e_j = \frac{v_j}{\frac{S_j'}{(1 + t_j)(1 + e_j)} - \sum_{i=1}^{n} \frac{M_{ij}'}{(1 + t_j)(1 + e_j)}}$$

where (S_j) is the sales value of the final product and (M_{ij}) is the value of a given intermediate input (i) into the final product.

The effective rate of protection can be presented using a partial equilibrium analysis geometric diagram[4] as in Figure 1. If NTBs are imposed (n_j) on an industry (j) imports, would be reduced from (be) to (cd) and increases the price of the product from (P_3) to (P_4) (Figure 1, Diagram A). An increase in NTBs on inputs (n_i)

only would mean imports would be cut back from (M_i) to (M_i') raising the price of the input from (P_1) to (P_2), (Figure 1, Diagram C) which in turn would mean a reduction in the supplies of the final-product (j) from (S_j) to (S_j') as shown in Figure 1, Diagram B representing a leftward shift in the supply schedule as shown in Figure 1, Diagram A. Thus, theoretically, the imposition of NTBs on inputs, or intermediate goods, increases the cost of the final product and could eventually eliminate domestic production in this particular example. The simultaneous imposition of NTBs on inputs (n_i) and on the final product (n_j), being contradictory in their impact on the effective rate of protection of industry (j), could cancel each other out, but the result would be a higher price for the final product. An increase in NTBs of both industries may increase or decrease the imports of the final product depending on the elasticities of the final products' demand and supply.

The change in the society's welfare effects resulting from imposition of NTBs is shown in Figure 2 where the impact of a cost-imposing NTB is shown and described. The main problem with the foregoing models is determining the NTBs and computing the tariff equivalent value. The flow diagram in Figure 3 illustrates the possible sources of acceptable data that could be used to compute the tariff equivalent, but the determination of the NTB will still have to rely heavily on normative and welfare analysis (i.e., net welfare gains, and social welfare gains, product homogeniety-quality differentiation, etc.)

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[4]This section have relies heavily on Hawkins and Walter [63].

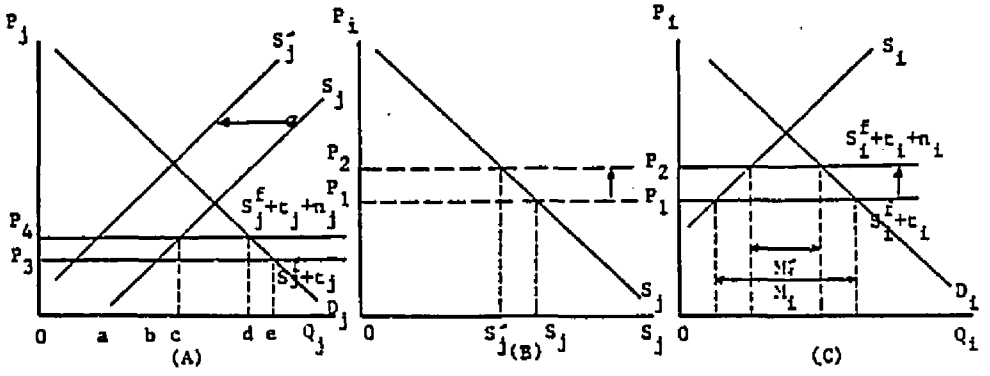

Figure 1. Effective rate of protection.

Represents partial equilibrium analysis for final-goods industry (j). (n_j) is amount of NTB imposed, this reduces imports from (be) to (cd). Price increases from (P_3) to (P_4).

Represents a reduction in the industry's supply of final-good (S_j) to (S'_j) in diagram (A).

Represents an increase in NTB's only on intermediate goods imported. Thus imports (i) would be cut from (M_i) to (M'_i).

For symbol designation refer to definition on page 28.

(M_i) and (M'_i) ≡ quantity of inputs imported.

Source: Hawkins and Walter, 1972; p. 74.

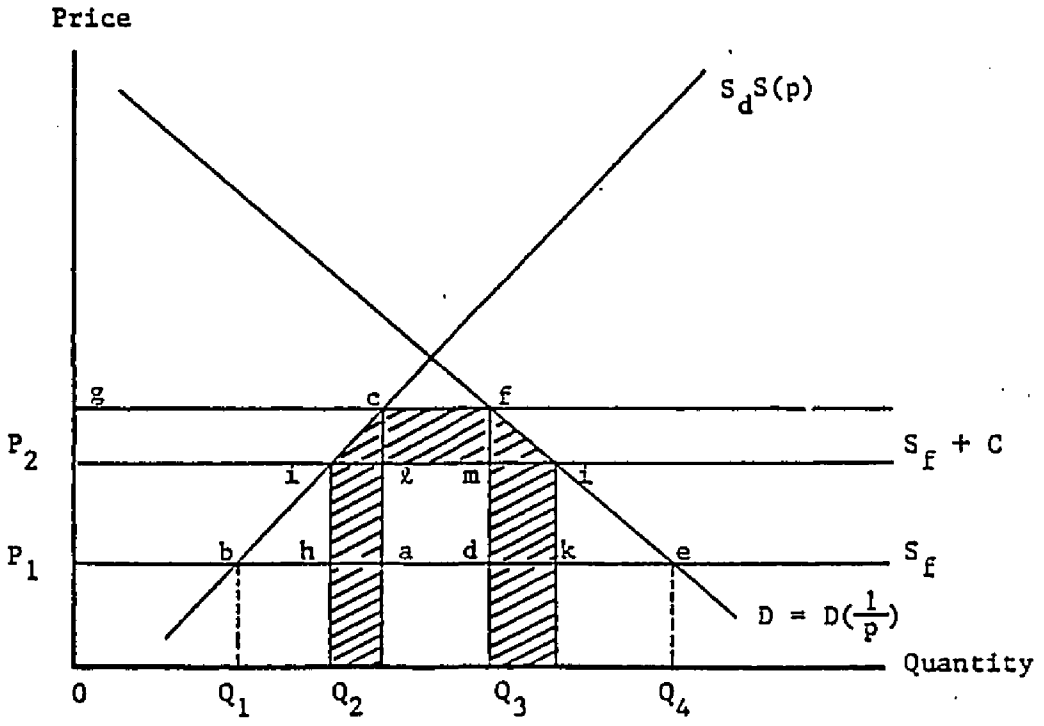

Figure 2. Partial equilibrium analysis of the impact of a nontariff restriction. (The impact of cost-imposing nontariff barriers.)

Total loss of consumer surplus is the area (P_1efg) while the area of (P_1gcb) is the increased producers's surplus (due to P increasing. [1](abc) and (def) are the deleterious production effects and consumption effects. (acfd) is the increased profits garnered by domestic importers or foreign exporters.

where S_f ≡ foreign supply at price (P_1) which may include tariff levied by importing country (refer to assumptions on p. 27).

S_d ≡ domestic supply.

D_d ≡ domestic demand.

Source: Hawkins and Walter, 1972, pp. 65-67.

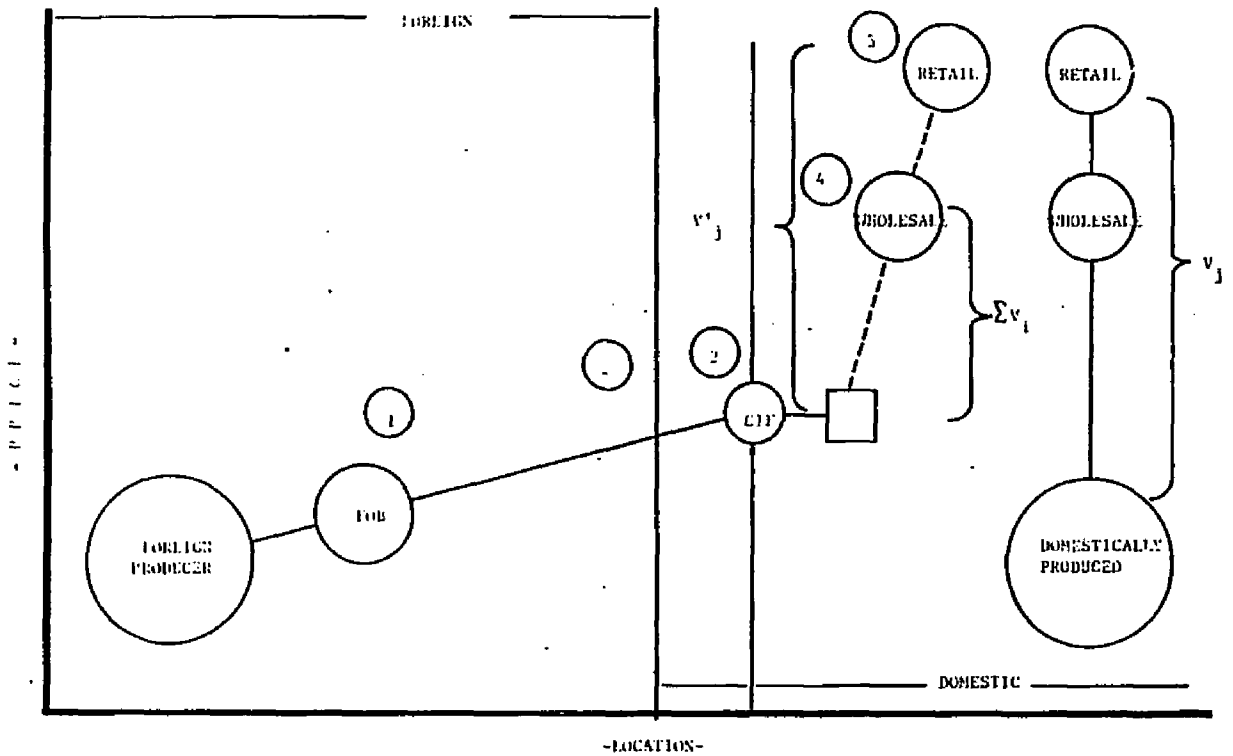

Figure 3. Commodity "shipping and handling" path.

1. FOB price of product from foreign producer.

2. Shipping cost.

3. CIF price of product from foreign producer.

4. Wholesale price of imported product (CIF + V_i).

5. Retail price (wholesale price plus handling and transportation plus retail profit). (V_i) value is: brokerage, warehouse costs, domestic freight costs, "normal" wholesale markup, and NTB (the net difference between wholesale prices of the foreign and domestic products.)

Note:

$$e_j = \frac{V'_j - V_j}{V_j} \qquad (1)$$

CHAPTER 4

OVERVIEW OF THE BEEF AND LIVESTOCK PRODUCT SECTOR

The red meat and livestock industry is a heterogeneous mixture of production, processing and marketing systems with beef having the preponderant role in production, consumption, and international trade[1] The industrialized countries have been and are the major consumers of beef

Beef consumption figures for the last decade and a half show a rapid increase during times of economic growth and a slight decline during times of economic recession. Total meat consumption figures on the other hand show a decline in the rate of increase during recessions (Figure 4) [64]. Much of the future increase in consumption in Western Europe, Australia, Canada , New Zealand, and the United States will be due to increases in population modified somewhat by the consumers' response to changes in the relative beef prices. The rise in beef consumption in Japan and the rest of the world will result from an increase in real incomes along with changes in eating habits. The income elasticities of beef for the selected countries, especially Japan, are high as shown in Table 1. The cross price elasticities

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[1]See Appendix B for tables showing production, consumption, and beef trade figures, meat prices, and cattle inventories.

Table 1. Demand and income elasticities for red meats in the selected countries and regions, 1970.

Country or Region and Commodity	Price Elasticity Beef Finished	Beef Other	Pork	Poultry	Mutton	Income Elasticity
U.S.A.						
Beef, finished	-0.7	0.20	0.10	---	---	0.50
Beef, other	0.4	-0.80	0.10	0.10	---	0.35
Pork [other]	0.4	---	-0.80	0.10	---	0.25
Poultry	0.3	---	0.20	-1.00	---	0.90
Canada						
Beef	---	-0.60	0.30	0.15	---	0.70
Pork	---	0.40	-0.70	0.15	---	0.15
Poultry	---	0.30	0.20	-0.80	---	0.90
Japan						
Beef	---	-1.20	0.26	0.35	---	1.20
Pork	---	0.20	-0.90	0.11	---	0.90
Poultry	---	0.50	0.17	-1.10	---	0.60
Mutton	---	0.40	0.20	0.30	-0.40	0.50
E.C. 6(a)						
Beef	---	-0.70	0.30	0.10	---	0.70
Pork	---	0.50	-0.80	0.20	---	0.60
Poultry	---	0.38	0.50	-0.80	---	0.90
Mutton	---	0.15	0.15	---	-0.25	---
Oceania(b)						
Beef	---	-0.50	---	---	0.20	---
Pork	---	0.20	-0.40	---	---	0.10
Poultry	---	---	---	---	---	---
Mutton	---	0.40	---	---	-0.80	---

(a) E.C. 6 is made up of France, West Germany, Italy, Holland, Belgium, and Luxenburg.
(b) Oceana includes Australia and New Zealand.

Source: Simpson and Farris, 1983.

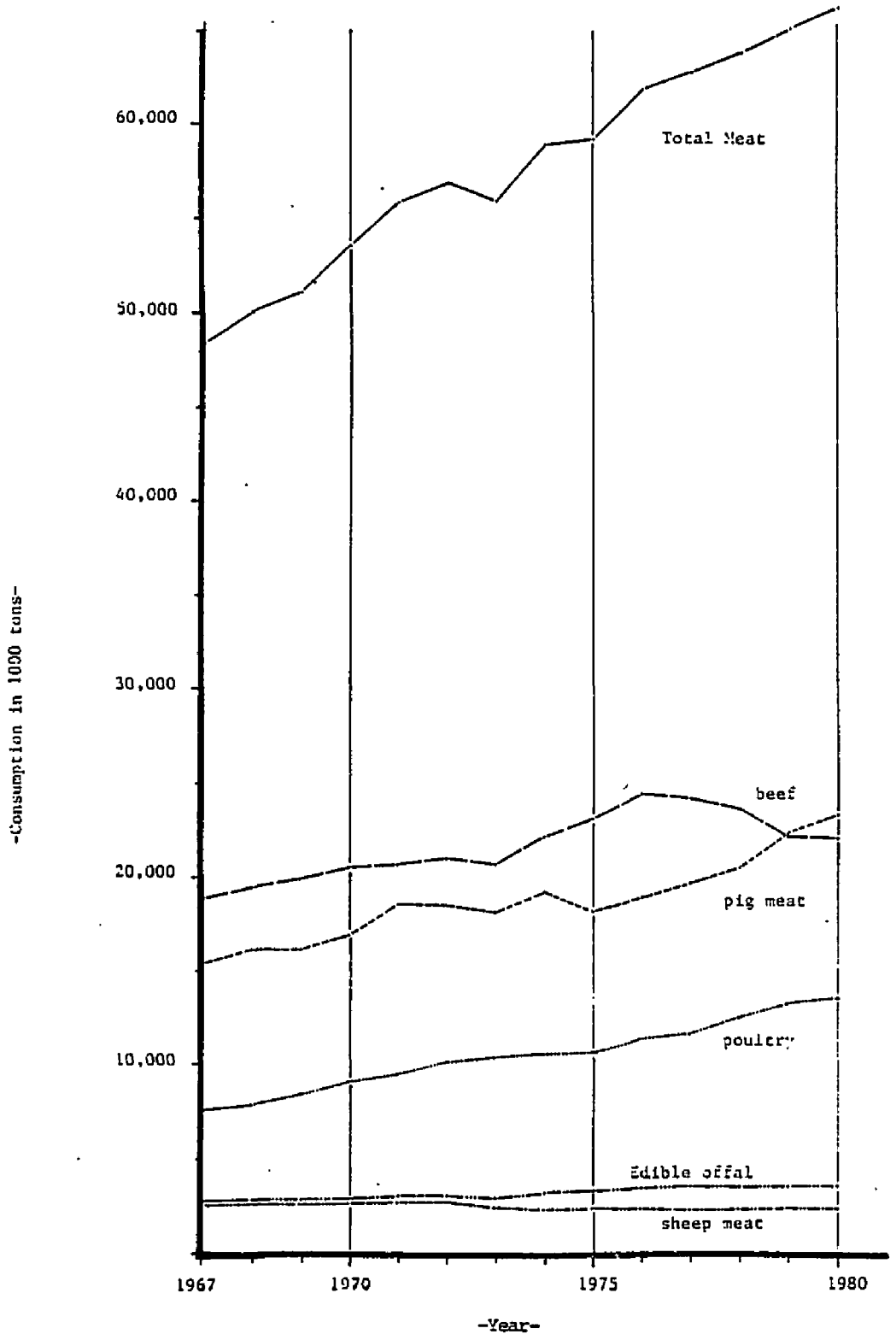

Figure 4. Consumption of different categories of meat in OECD member countries, 1967-1980.

Source: Compiled from OECD, Meat Balances in OECD member countries, 1967-1980.

indicate assymetry between pork for beef and beef for pork. The figures for Japan suggest a greater readiness to substitute beef for pork than the reverse, but the opposite in the case of United States, Canada, Oceania and the Community.[2]

Retail meat prices in the selected countries capitals show a large variance between the price of boneless roast chuck in Tokyo and Washington, D.C. The high retail beef prices in Tokyo reflect the strong protection accorded the domestic industry through the Livestock Industry Promotion Corporation (LIPC), a quasi-governmental public corporation. Even though beef prices are the highest of the meat categories the consumers' preference is shown by the phenomenal growth of the industry since World War II which has been due mainly to the relatively steady economic growth through the mid-1970s.

Table 2. Retail meat prices in Tokyo and Washington, D.C., 1980-1983

Boneless Sirloin Steak—U.S. $per kg.			
	1980	1981	1983
Tokyo	34.48	31.57	28.41
Washington, D.C.	6.81	7.61	8.80

[2]The elasticity figures in Table 1 are calculated with the use of an U.S. Department of Agriculture econometric model and therefore are point elasticities. The elasticity figures are valid provided the price changes are small, less than 10 percent. Also it should be noted that the figures were calculated for an upward shift in price; a downshift in prices could produce a different set of elasticity figures.

Demand for Beef

Before the development of the present sophisticated meat marketing systems consumers purchased what was available at the local butchers. With the increased competition since World War II consumers have been given a choice as to quality and cuts available and have shown definite aggregate preferences. The preferences have followed fairly closely the traditional or historical offerings in the region or country. Thus, consumers from Europe and Oceania have preferred leaner meat, with the Europeans consuming considerable quantity of specialty meats. The Europeans have a very slight preference for grain-fed beef as opposed to the Australians and the New Zealanders who produce and consume mainly range fed beef. The North American consumers prefer the more marbled meat from grain-fed cattle which they consider to be more tender and flavorful.[3] The Japanese consumer considers the grain fattened heavily marbled meat which traditionally has been from the local Wagyu cattle, prime choice table meat.

Since the turn of the decade of the 1980s there has been in North America a small but noticeable change in meat preference towards (less marbled) leaner, meat.[4] This change has been credited to the

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[3]Europeans consume considerable quantities of specialty meat, while north Americans seem to have a particular abhorrence to these meats; consuming a negligible quality.

[4]A spokesman for the Safeway supermarket chain stated that the chain had noticed a definite change in consumer preference towards leaner beef (1982 AAEA annual conference held in Logan, Utah).

influence and pressure of health and medical groups with their emphasis on fitness through less fat intake and lower cholesterol levels. In 1981 the USDA proposed some meat grade changes to account for the change in consumer preferences towards leaner beef. However, the hotel and restaurant trade successfully lobbied against the measure, starting the preference of their patrons towards the traditional USDA prime and choice beef had not changed.

The varied international consumer preferences have encouraged the specialization of the domestic beef production industry in all importing countries and at times made it difficult for foreign competition to enter into a specific category of the meat and livestock product market the U.S. market being a good example. Those exporting countries which have shown flexibility in their production patterns and their grading systems have been able to penetrate a market restricted by consumer preference. A strategy that is being used with increasing frequency in the Third World countries is the education of the potential customer to establish a preference for certain meat characteristics and origin of product. For example the U.K. Meat and Livestock Commission has an advertising campaign of "buy British beef." The Australian and Livestock Corporation have held seminars through the Far East, especially in Japan and Taiwan, and in the middle eastern countries, in order to advertise "Australian beef" and give demonstrations as to how to prepare their product.

Another important consideration is the beef consumption trends which show a decline in nearly all of the selected group (Table 3). In Europe the decline in the demand for beef has been accompanied by an

Table 3. Per capita consumption of beef and veal for selected countries, regions, and years.
(per capita)

Country	Trend	1961	1970	1977	1978	1979	1980	1981
E.C.(9)	decline	22.3	25.8	25.7	26.3	26.4	25.8	25.2
U.S.A.	decline	42.8	53.3	58.8	55.9	59.8	48.8	47.6
Canada	---	35.6	40.0	50.8	47.0	40.7	40.4	41.7
Japan	increase	1.6	3.0	4.2	4.7	4.9	4.9	5.0
Australia	decline	42.2	40.8	76.5	72.2	52.1	50.1	44.2
New Zealand	decline	41.3	40.6	65.3	62.5	60.5	55.5	54.3

Source: Adapted from USDA, Foreign Agriculture Circular Livestock and Meat, FLM 5-78, FLM 5-80, FLM 5-81, FLM 5-83, 1978, 1980, 1981, and 1983.

increase in demand for pig meat and poultry. The consumer's switch has been due to the "bad economic situation and rising [beef] prices" [65].

Meat and Livestock Industry

World beef cattle inventories have increased from a total of 691 million head just before World War II to 920 million in 1960 and 1.2 billion in 1979. World production of beef at 16 million metric tons in the late 1930s, increased to 28 million metric tons in 1960 and reached 47 million metric tons by 1979 [66]. To understand the complexities of the beef and livestock trade between the five countries (Australia, Canada, Japan, New Zealand, U.S.A.) and the European Community (made up of nine west European countries from 1973 to 1979--and more recently ten) requires an understanding of some basic principles behind the cattle production and beef processing systems.

The meat and livestock industry is beset with risks. For example, cattle are raised and fattened on pastures and/or on feed grain, so weather, disease, availability, and quality of pastures, feed

grain production and prices, all play an important part in the production of bouvine meat. Another problem is that, due to its biological nature, cattle production induces national and world cattle cycles with changes in inventory, production, and price fluctuations and price expectations [67]. Not only is the cattle/beef industry sensitive to price changes, but beef consumption is sensitive to changes in product price and in real income of consumers.[5]

Producers have sought various ways and means of reducing their risks, one of which has been isolating the domestic producers from foreign competition. The processors of slaughtered cattle and the traders of beef, veal, and livestock products find themselves in a very competitive market both nationally, in the case of North America an Europe, and internationally. Improvement in margins comes through increased efficiency and productivity or through economies of scale [68].

Two possible approaches can be taken in order to conceptualize operations of the beef industry': The functional and the institutional approach (see Table 4).[6] The functional approach identifies three main groups within the industry:

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[5]Approximately a half of the grain and livestock produced in the world is consumed in countries that have domestic farm programs to stabilize internal prices and consumption "when a large proportion of world consumption is controlled, the adjustment to changing supply-demand conditions is shifted to the more open market economies [It thus] leads to exaggerated price adjustments in the open economies" [69].

[6]This section draws heavily on Simpson and Farris (1983).

Table 4. Two descriptive approaches to the world's beef business.

Functional	Institutional
Retail	Supermarkets or meat markets Government weights and standards
International trade	Government statistics Brokers
Wholesale/distribution	Freight forwarders Insurance companies
Wholesale/distribution	Freight forwarders Insurance companies
Slaughter/processing	Shipping companies Government meat inspectors
Feeding/finishing	Butcher shops Centralized meat processors
Stocker/backgrounding	Commission men Jobbers
Cow/calf	Warehouses Meat truckers Packing plants Government graders Futures markets Order buyers Feedlot owners Speculators/investors Auction markets Farmers/ranchers Breed associations Livestock associations Lenders or financial institutions

Source: Simpson and Farris, 1983, p. 16.

(1) the producers

(2) the processors

(3) the distributors

and they produce and handle four major categories of bovine meat:

(1) Feedlot or grain fed beef,

(2) Range fed beef

(3) Cows (mainly dairy culls)

(4) Veal (calf)

with the products being destined for either of two main uses:

(1) Table meat (household use, hotel, or restaurant trade)

(2) Manufacturing (sausages, prepare and precooked foods, fast food outlets[7]

By-products of the meat processing operation are the hides and skins of the animals, edible offal or specialty meats (livers, lungs, hearts, kidneys, tongues), nonedible offal (blood, hoofs), the sale of which helps to defray the costs of the slaughter houses and meat packing plants. The beef product undergoes further differentiation which depends on the method of storage and shipment:[8]

(1) Fresh beef

(2) Chilled beef

(3) Frozen beef

---

[7]The meat that is destined for manufacturing use, or for cooked/frozen process and canning is deboned from the carcass, whereas table meat which is graded prime or choice is not always deboned. Cooked meat is normally required to have been cooked at 145°F internal meat temperature or for a longer time at a slightly lower temperature (a USDA standard).

Thus, the different types of bovine meat produced by the processing plants are differentiated by farm origin, the method of production and fattening, and by the method of storage and transportation (refer to Figure 5). Each type and category of meat is designated a grade specification. Some countries, invariably beef exporters, have accepted the meat grading system of other countries, while others have their own individualized system which serves to complicate the international trading of bovine meat.

Trade in Meat and Livestock

The international beef market structure is dominated by a few large exporters (Australia, New Zealand, Argentina, and E.C.) and importers (U.S.A., E.C., U.S.S.R., and Japan) with the rest of the market made up of many small beef-trading nations [70], as illustrated in Figure 6. "Two distinct trade flow patterns exist, one is in the foot-and-mouth disease-free Pacific area, between Oceania and North America plus Southeast Asia. The other is in the Atlantic area between South America and Northern Europe" [71].

---

[8]The vacuum-packing of primals and sub-primals cuts of the beef carcass (as opposed to quarters, half a carcass) has been increasingly adopted by packers, for it reduces storage handling, and shipping costs by facilitating box-packing and it increases storage time. Much of the meat that is destined for the international trade is vacuum-packed in airtight plastic containers or shrink-wrapped.

Meat is chilled to between -1° and 4°C directly after slaughter prior to processing into smaller cuts. Chilled meat is said to suffer no adverse changes.

Meat is frozen to -17°C normally after processing. Freezing meat is said to change its texture and appearance and also to lose some of its flavor.

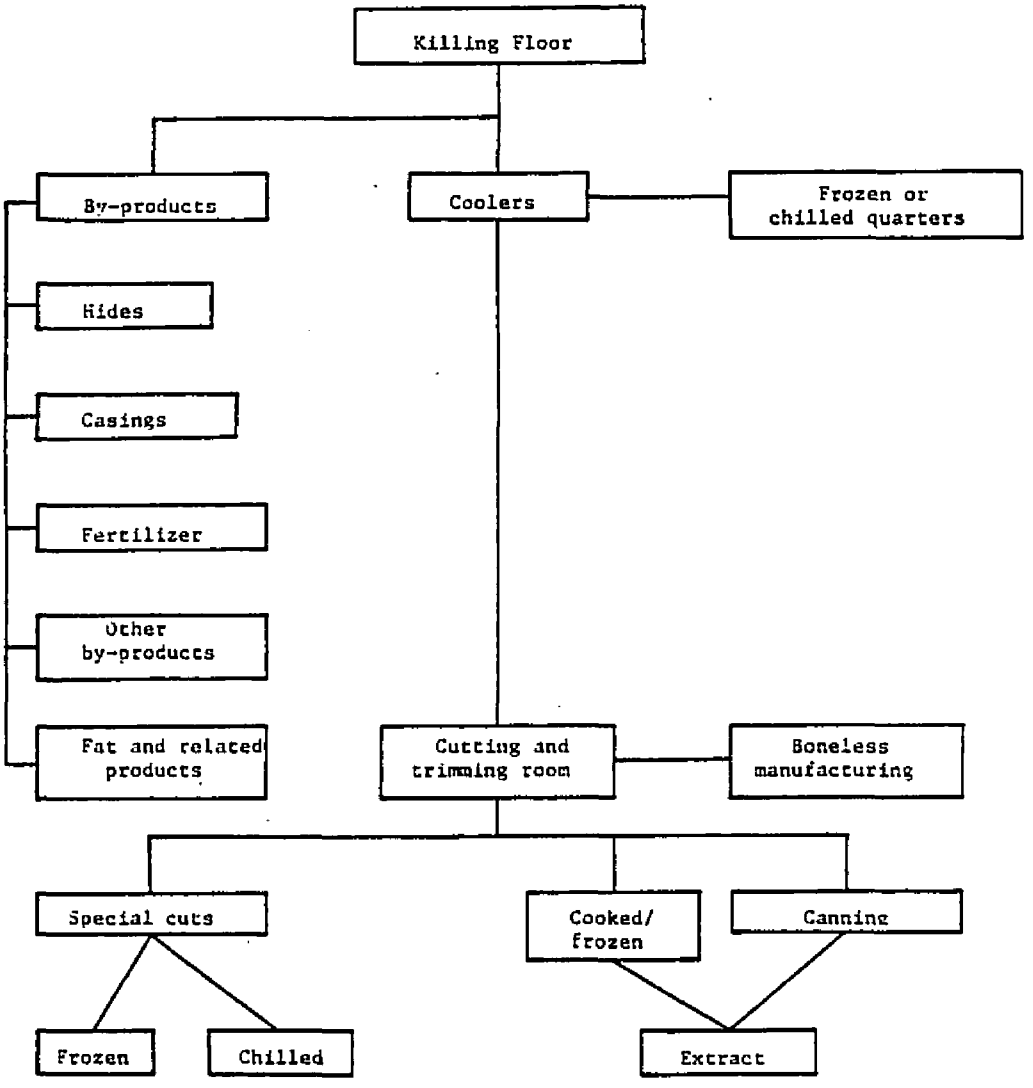


Figure 5. Flow diagram of beef processing in a fully integrated South American beef packing plant.

Source: Simpson and Farris, 1983; p. 219.

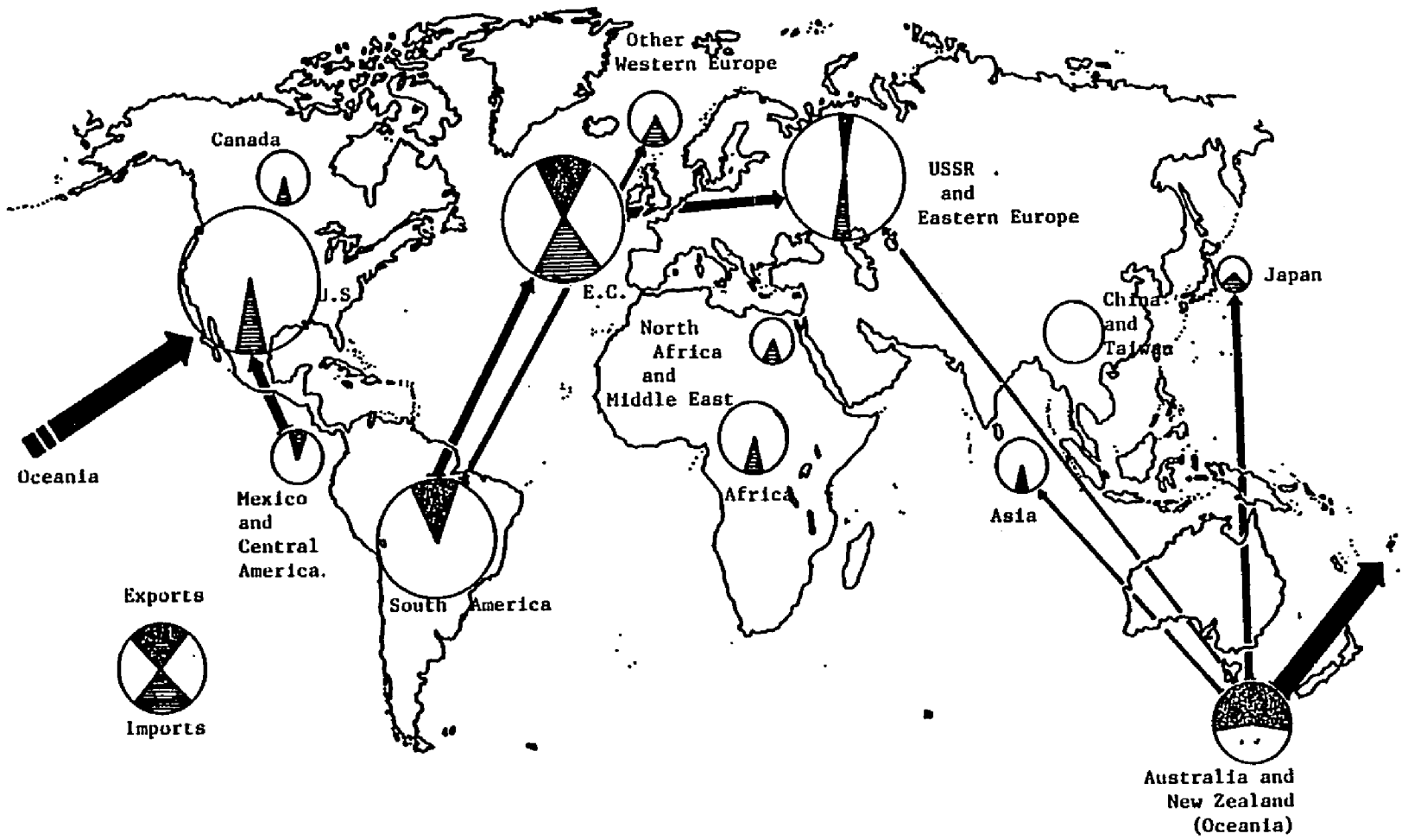


Figure 6. Interregional trade flow of beef, 1977.

Source: Complied from Winrock International, 1981.

The world beef trade has steadily increased since World War II, with trade doubling between the early 1960s and late 1970s. During this period the total bovine meat exports of 49 major beef producing and trading nations, which account for 95 percent of the total world beef exports, increased from 2.0 million metric tons to over 4.5 million metric tons [72] as shown in Figure 7. Figures 8 and 9 graphically illustrate the increasing beef exports of 13 industrialized countries over the 23 year period ended in 1981.

The exports of the 49 major beef trading nations account for only eight percent of the production in those nations in 1961 and approximately 10 percent of it in 1978 [73]. On the other side of the coin, in comparison to overall domestic beef production, the net export trade of beef is relatively small, except in the cases of New Zealand, Australia and Argentina. The position of these three countries are shown in Figure 10 and for comparison the U.S.A.'s position is also shown. Because of the relatively small percentage of beef traded internationally to the total domestic productions in the major industrialized countries, such as the United States, Europe, Canada, and Japan, these nations discuss beef and cattle liberalization in a low key, or not at all, pushing only when it is to their advantage as illustrated later. The major net exporters, which are Australia, New Zealand, and Argentina, are the fervent advocates of lowering the barriers that impede the beef trade.

The pattern of trade with respect to beef has changed during the last 15 years, partly brought about by the recent emergence of the

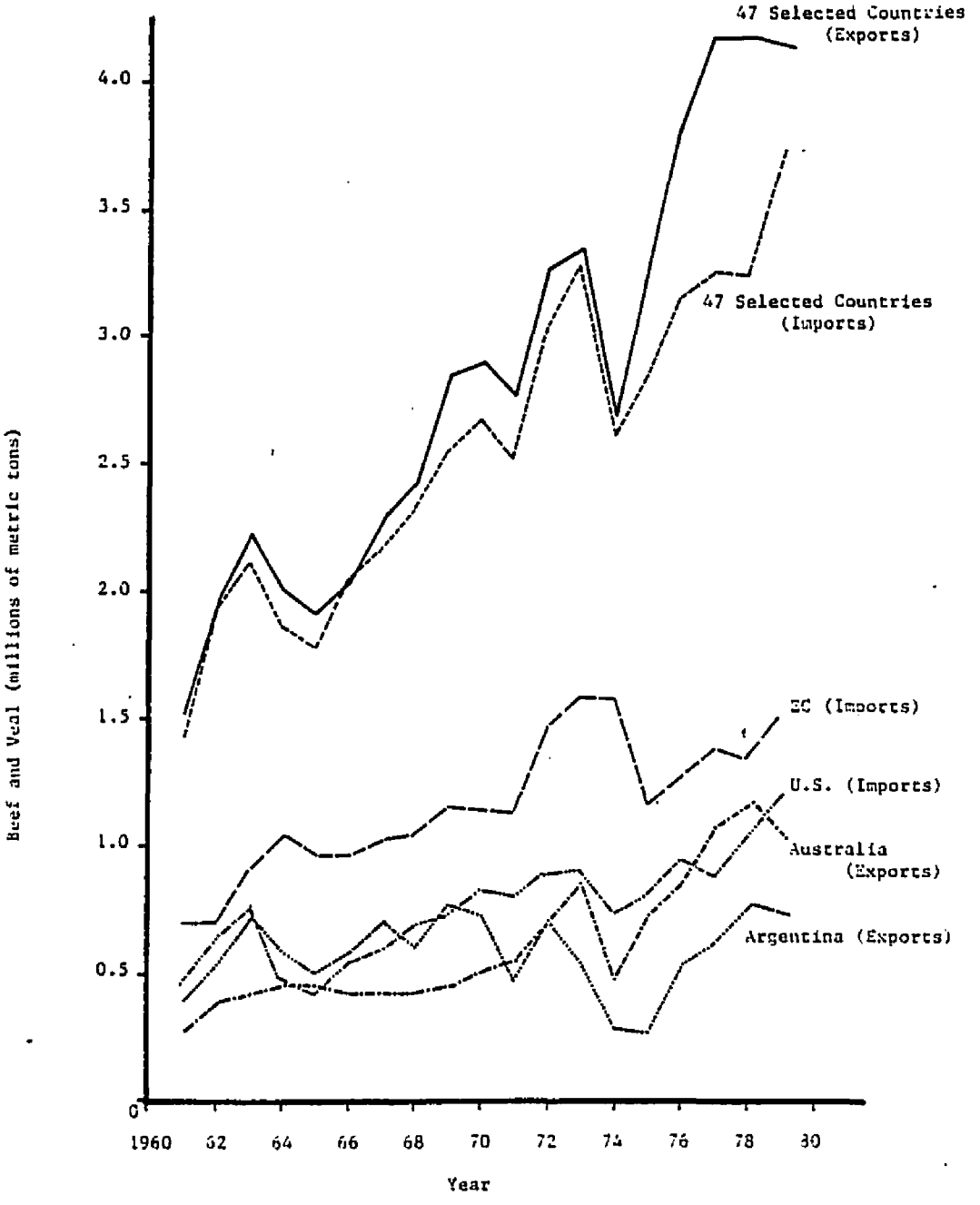
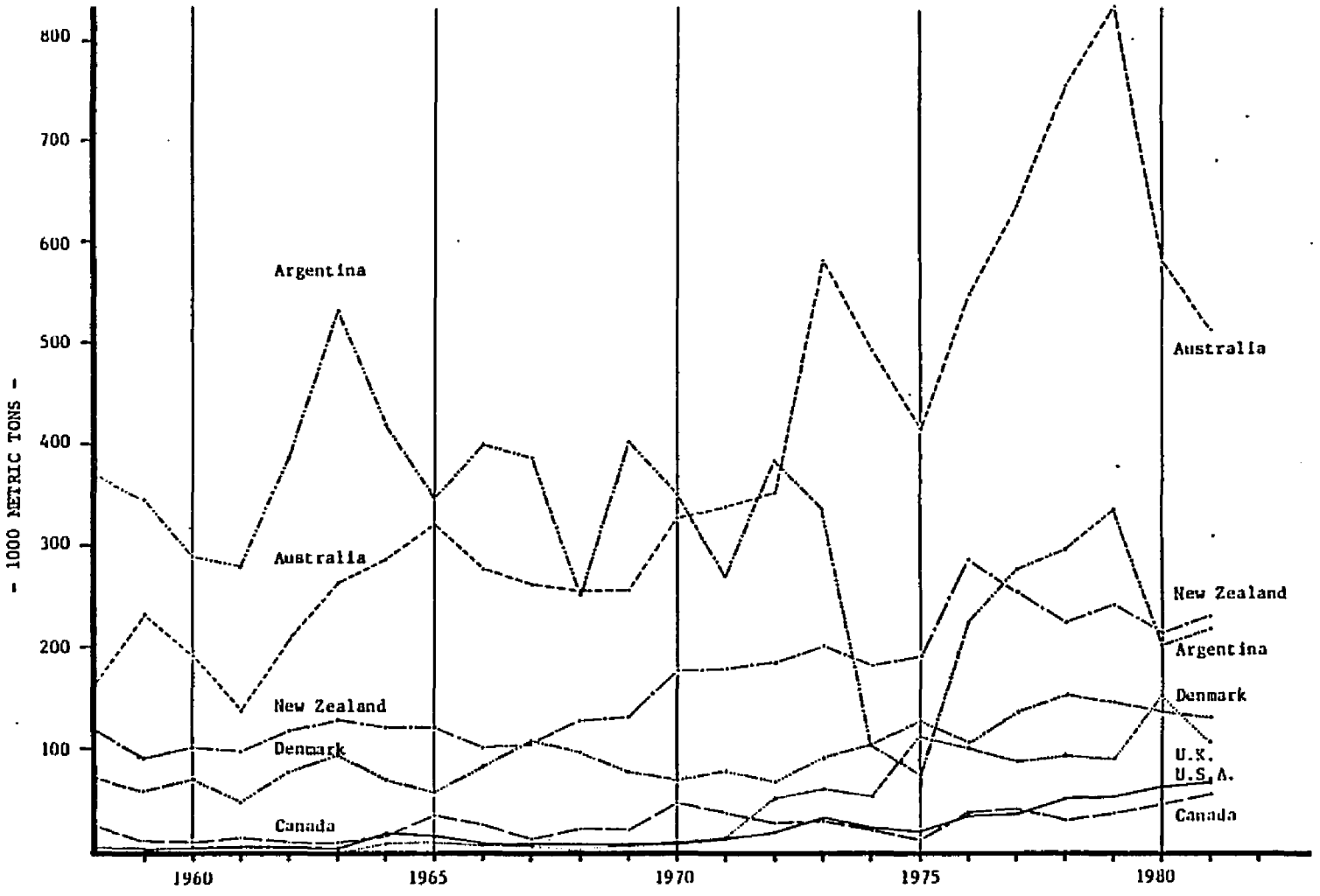


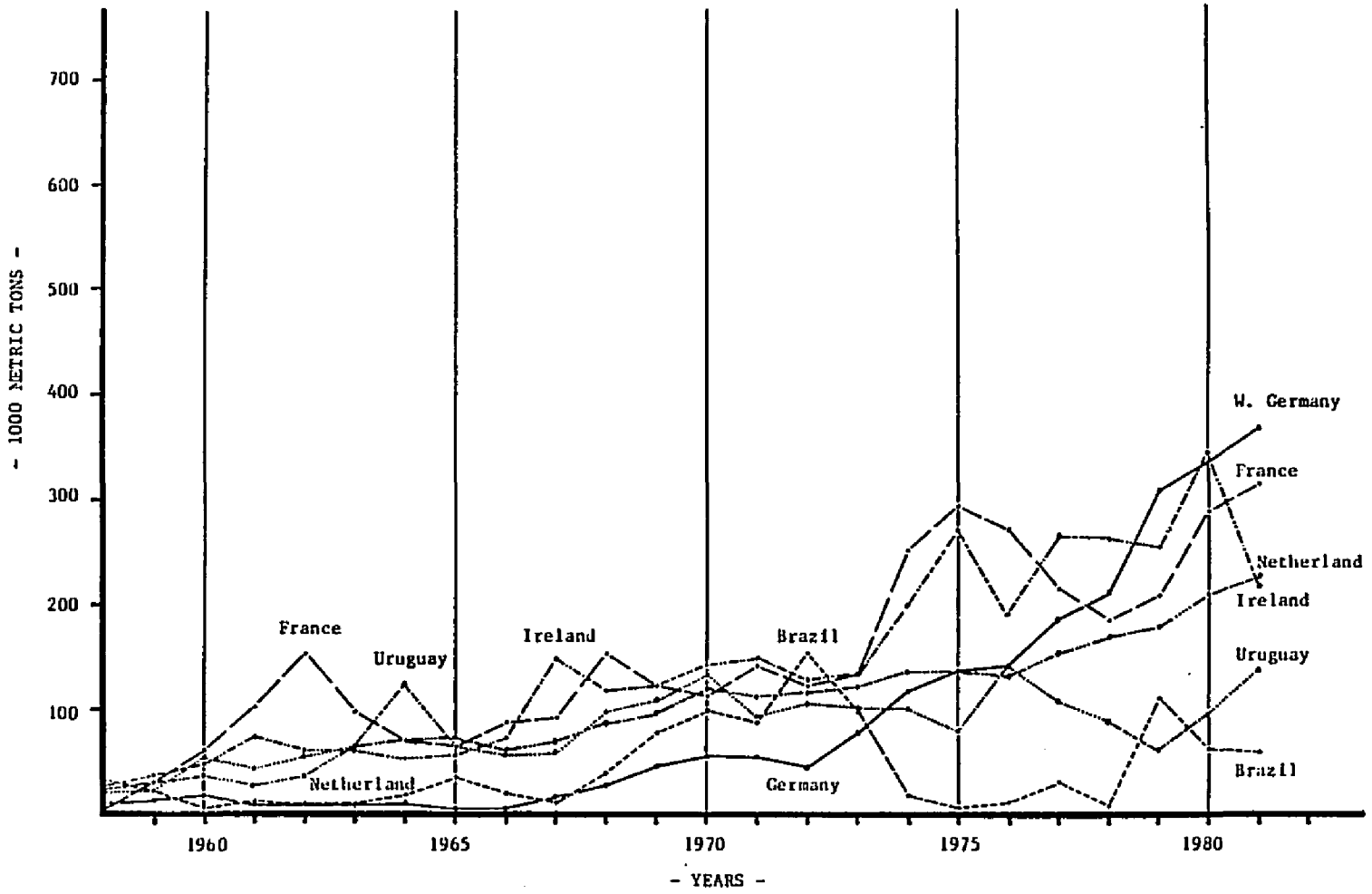
Figure 7. Beef and veal exports and imports 1961-1979.
Source: Simpson, 1981



Annual Exports of Meat (Bovine Animals)
Fresh, Chilled, or Frozen, for Seven Selected Countries

Source: F.A.O. Trade Yearbooks 1959 through 1981

Figure 8



Annual Exports of Meat (Bovine Animals)
Fresh, Chilled, or Frozen for Six Selected Countries

Source: F.A.O. Trade Yearbooks, 1959 through 1981.

Figure 9

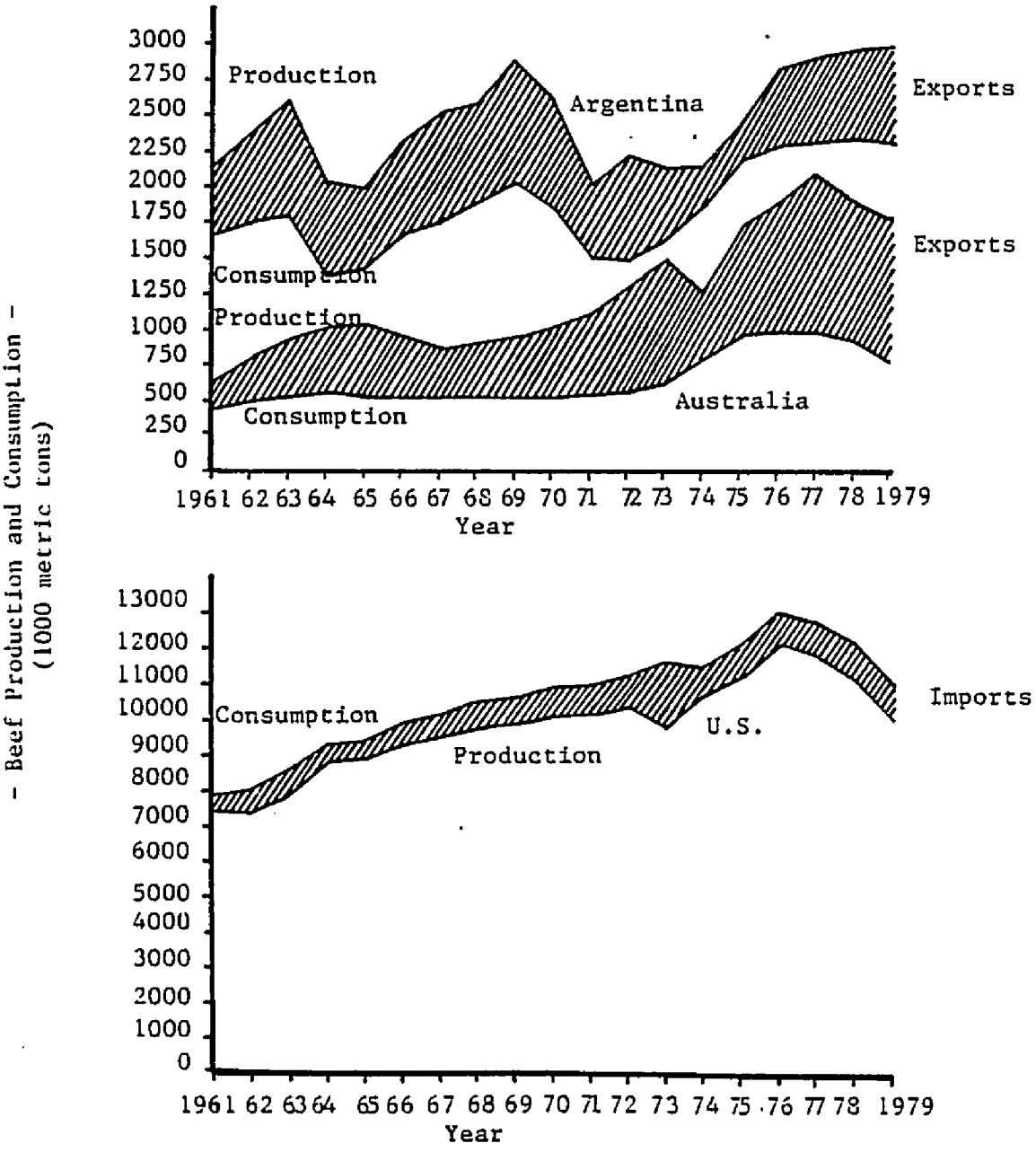


Figure 11. The trade pattern for beef and cattle between the U.S. and Canada.

Source: IED Staff Report, Menzie and Prentice (1983, pp. 12-13)

European Community as a net exporter of beef. Australia displaced Argentina as the top exporter and the Community emerged as the second biggest exporter of beef. Australia shifted its beef export emphasis from Europe to the more lucrative North American market for manufacturing beef, a market that had opened up largely in response to Argentina's cattle disease problem (foot-and-mouth epidemics).[9] Australia is now beginning to shift its attention to closer markets such as the Far East, Japan, and Middle East. New Zealand gained greater access to the European market as Australia shifted its emphasis, but is now suffering from the effects of the European Community's Common Agricultural Policy as Europe approaches self sufficiency and moves towards surpluses generated by the CAP farm support programs.[10] Canada and the U.S. have increased their

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[9]The U.S. and Canadian beef industries are considerably more specialized in their production and marketing functions as compared to the other beef production areas of the world. Thus the U.S. beef trade is a classic example of interdependence in a world economy. Although the United States has the capacity to easily produce enough beef for domestic consumption, it is the largest beef imports in the world because other countries have comparative advantage in production of low quality, nonfed beef that makes up a larger part of the U.S. consumer's diet ground beef and beef for processing account for about 40 percent of beef consumption. These beef imports (about 8 percent of U.S. production) are, however, more or less offset of by exports of fed beef hides, fallow and other by-products. The new result was a positive trade balance of $63 million for bovine products in 1978, but a deficit of $183 million in 1979. . . . '[E]conomic analysis clearly show that with grain/beef price ratios found in the United States, feedlot fattening will be the lowest cost alternative for years to come' [74].

[10]Some significant changes have taken place in world trade in the last few years.

foothold in Europe and Japan for high quality trade prime and choice table grades of beef. Japan with pressure from the United States has slowly opened up its market to more beef imports by gradually increasing the accounts being tendered by the Livestock Industry Promotion Corporation. Limited imports of feeder cattle under 300 kilograms have been permitted in Japan duty free (1979-14000 head), but cattle imports have been constrained by the limited availability of quarantine facilities [75]. The beef and cattle trade between the United States and Canada has been considerable, though erratic, due to the impositions of nontariff barriers by one or the other country that at times have effectively cut off all beef trade. The migration of cattle back and forth across the Canada/U.S. border has been quite extensive. The changing patterns of trade between these two countries during the last decade or so can be clearly seen in Figures 8 and 11. The present beef trade situation for five selected countries and E.C. (plus Argentina) is as follows[11]

Major Exporters	Major Importers
Australia	U.S.
European Community	Japan
(Argentina)	European Community
New Zealand	
Minor Exporters	**Minor Importers**
U.S.	Canada
Canada	

- The EEC is now a net exporter of beef, second only to Australia; EEC exports are heavily subsidized and hence, compete unfairly with traditional exports in third markets, such as the Middle East.
- The U.S.A. has captured a substantial proportion of Australia's share of the Japanese market for high-quality beef [76].

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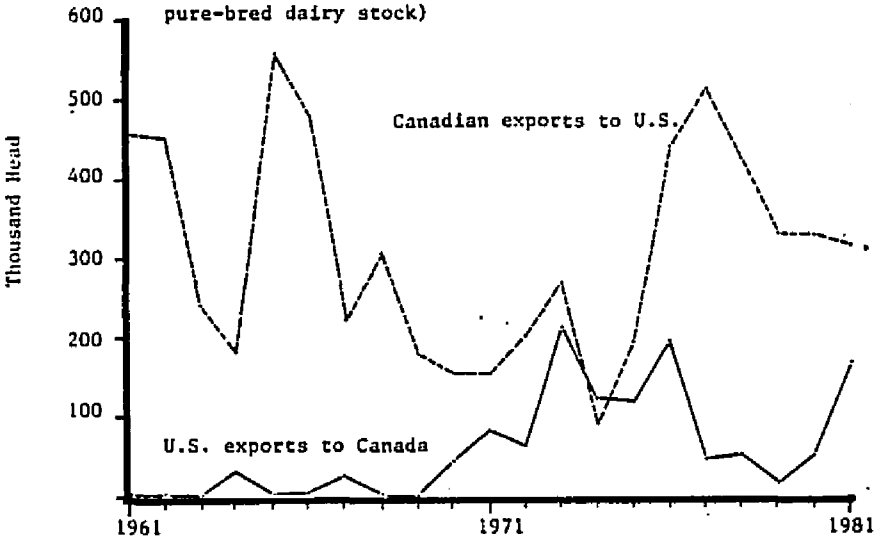
[11] Refer to Appendix C for individual country's trade patterns.

(a) Live cattle trade between Canada and the U.S., 1961-1981 (excludes pure-bred dairy stock)



(b) Beef, fresh and frozen, trade between Canada and the U.S., 1961-1981

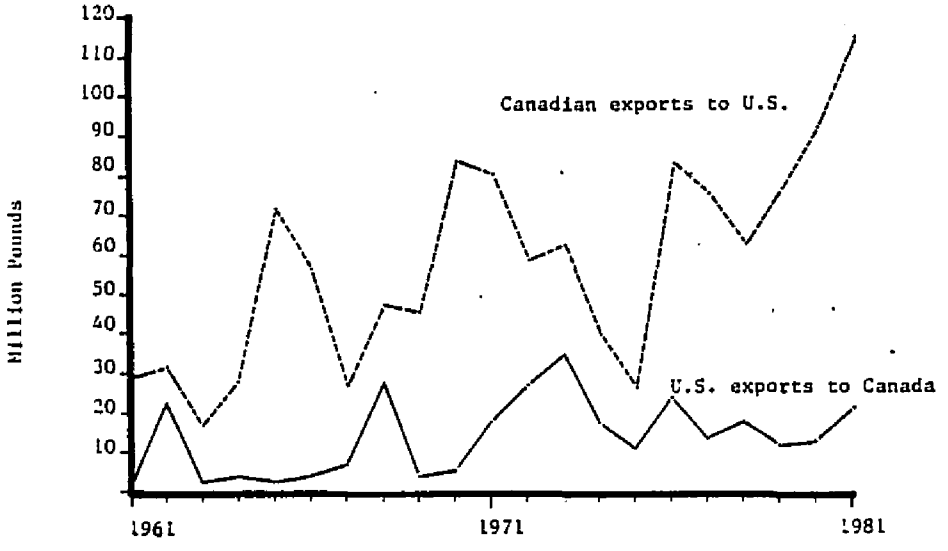


Figure 11. The trade pattern for beef and cattle between the U.S. and Canada

Source: IED Staff Report, Menzie and Prentice (1983, pp. 12-13)

CHAPTER 5

POLICIES THAT INFLUENCE INTERNATIONAL BEEF AND LIVESTOCK PRODUCT TRADE

The beef and livestock product trade is constrained by complex restrictions imposed by the trading nations. The kinds of restrictions include the traditional tariffs, and quotas, as well as a variety of more subtle forms of nontariff barriers such as specifying dyes for carcass markings, the use of veterinarians as meat inspectors, and specified shipping document formats. All of them restrict an importers access to a market and reduce the comparative advantage a producer might have had. The governments of the beef exporting and importing countries have numerous goals in domestic policy, such as obtaining and preserving self sufficiency or stabilizing prices and incomes in the agricultural sector. In foreign policy, they often use trade as a policy tool through concessionary quotas and preferential tariff rates or embargoes.

Tariffs and quotas or tariff quotas are still widely used to regulate much of the beef trade. The European Community uses a tariff quota system as one means of regulating the imports of beef, the tariff rate being 20 percent of value. Beef imports that fall outside the quotas are subject to a variable levy payment on top of the duty. The United States regulates the quantity and origin of its beef imports,

through a voluntary export quota imposed by other countries, also known as voluntary export restraint (VER), whereby a country agrees to voluntarily restrict its exports to an annually negotiated quantity. The overall annual quota,which is divided among countries exporting beef to the United States, is determined by using a formula that includes the counter cyclical measure where U.S. imports and production vary inversely. The measure is discussed more fully later. At the Tokyo round of the GATT negotiations an agreement was reached to gradually reduce tariffs within a specified time but many of the countries still impose tariffs to restrict the meat trade e.g., Taiwan has 30 percent import duty on high quality beef and the Philippines has 100 percent tariff rate on meat products.

Other impediments or means of distorting the trade in beef are domestic subsidies, which take many forms of direct or indirect payments to producers such as transport regulation or bonuses for greater degree of finish on cattle (South Korea) (United States, Canada, and Australia) or export subsidies such as the European Community uses in order to compete on the world market.[1] Countervailing duties are used by importing nations as a means of countering export subsidies by other nations that may cause injury to domestic producers and industries. They continue a form or retaliatory trade policy tool.

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[1] In the Report of the Australian Meat and Livestock Corporation:

> [In Eastern Europe] Australian product is currently too expensive compared with subsidized exports from the EC. In addition, the EC arranged last year to provide Poland with a substantial food package of meat and grains at 15 percent below world prices [77].

Government procurement of domestic beef for domestic programs (e.g., school lunches) was discussed in the Tokyo Round with an agreement to use open or selective tendering procedures wherever possible, though some exceptions were made [78]. For a list of tariff and nontariff measures applied by countries as they affect the exports and imports of beef and livestock products refer to the tables in Appendix D. It can be seen from the tables that Australia and New Zealand restrict the imports of beef through strict application of health standard requirements, and Japan controls the quantity of beef and livestock imported with a quasi-governmental institution through which all foreign beef and cattle purchases are made [79]. The European Community has a host of measures that are applied to regulate and restrict the importation of beef and cattle from outside the member nations. The Canadian market is restricted by having both a centralized and strongly decentralized authority, in the provinces, which control the flow of trade in and out.

The United States has the most liberal of the six selected markets[2] but has the measures to restrict the beef imports to specific categories, such as the manufacturing grades and cooked prepared meat, and to impose a maximum quantity that can be imported through a voluntary export program and quota system, one of which is Public Law 88-482, August 22, 1964.[3] The law states that the maximum quantity

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[2]United States, European Community, Canada, Japan, Australia, and New Zealand.

> [The] First fraction [of the formula] is a three-year moving average of [the] domestic production of specific meat articles. The denominator is the average annual production of such meat in 1968-1977. The numerator of the second fraction is a five-year moving average of per capita domestic production of cow beef. The denominator is a two-year moving average of per capita domestic production of cow beef. The second of the two fractions is counter-cyclical, because it increases the import quota when domestic production declines, and it reduces the quota when production increases[4] [80].

Another piece of U.S. legislation, Section 22 of the Agricultural Adjustment Act of 1933, provides for the imposition of quotas if imports are determined to interfere with government price support and stabilization programs. Other U.S. laws enacted such as those dealing with health and disease standards or regulations, or with product standards and technical details, are currently harassing to the

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[3]Menzie, et al., in discussing the U.S. markets state: "The duplication of regulations and overlap of jurisdictions can create of beef to be imported in any given year is determined by using a specific formula that accounts for the cyclical nature of the cattle industry. complexities for potential exporters that serves to discourage trade." A Canadian exporter stated: "In dealing with the U.S. government we are dealing with many government agencies which throw the ball one to the other. One is in charge of labels, another takes care of classification, still another is in charge of the customs entry. Then another sees to licensing, etc. Hence, we need a good customs-broker and a buyer eager to purchase one's product. This demands one to be very patient" [81]. Undoubtedly, this same comment could have been made as easily by a U.S. exporter regarding the Canadian government.

[4]Formula to determine annual beef quota:

Annual Quota	Average Annual Imports (68-77)	3-year moving average of domestic production 10-year avg of domestic production (1968-1977)	5-year moving avg. of domestic cow beef prod. 2-year moving avg. of domestic cow beef prod.

Source: Simpson and Farris, 1982.

foreign exporters and they could definitely restrict trade if strictly enforced. The restriction of trade resulting from the U.S. grading system will be discussed later.

Canada established import and export controls on beef and veal that became effective in October, 1976. The controls on the beef and veal trade were reinforced through the requirements of permits beginning in 1977. Thus, permitted import levels, broken down by countries, are established annually." The quotas are set in relation to the average level of beef and veal imports between 1971 and 1975, adjusted for changes in domestic beef consumption since this base period" [82].

The European Community has come up with a "Third Country Meat Directive" after numerous years of negotiating and haggling amongst member countries. The Directive is a set of health and sanitary standards, regulations, and technical standard requirements that third country beef and cattle exporters will have to adhere to. A milder version of the proposed Directive was established earlier but not all EEC countries followed the rules and regulations with respect to the import of meat and livestock. Some countries for example the German Federal Republic, were strict in compliance while others, for example the United Kingdom, were more lenient. The new Directive will come into force in 1985. It will effectively hinder, by greatly reducing—if not eliminating--meat imports from many countries which find it hard or costly to comply. Of course, the major exporters of beef, such as Australia and New Zealand, are already adapting their industries to comply with the Directive in order to maintain their meat exports to the

European Community. Details of the Third Country Meat Directive will be discussed later.

The Tokyo Round of Multilateral Trade Negotiations

The proliferation of nontariff trade barriers was discussed in the Tokyo Round of Multilateral Trade negotiations, (MTN) which culminated in 1979, with somewhat nebulous agreements being reached, on a number of NTB issues as follows:

1. The Agreement on Interpretation and Application of Articles VI, XVI, and XXIII of the GATT (known as the Code on Subsidies and Counterveiling Duties),
2. Texts of an Agreement on Implementation of Article VII of the GATT (known as the Customs Valuation Code),
3. Agreement on Government Procurement
4. Agreement on Technical Barriers to Trade (known as the Standards Code),
5. Agreements on Import Licensing Procedures.

Three other agreements related specifically to agriculture one of which was: Arrangement Regarding Bovine Meat [83].

A number of agricultural concessions had been made in the multilateral trade negotiations of the Kennedy round whereby tariffs would be further reduced in a maximum of eight equal stages, with final reduction being completed by January 1, 1987. A list of tariff and nontariff concession made by the selected countries and the European Community with regards to the meat and livestock trade are tabulated in Appendix F.

Several papers and reports have been completed with regards to the Tokyo Round GATT itself released publications which covered the essential results of the Tokyo Round [84] the U.S. Department of Agriculture completed the Report on Agricultural Concessions in the Multilateral Trade Negotiations [85], which listed the tariff and nontariff concessions made by the GATT member countries.[5]

Animal Health and Cattle Diseases

One of the major sources for nontariff barriers in the meat and livestock industry derives from legislation and regulations of diseases and parasites in cattle. The spread of cattle disease and parasites can in some cases be harmful to consumers and costly to producers. Consumers expect their government to assure that safe meat is sold by suppliers, while producers rely on the government to prevent infection and to minimize the spread of disease especially infectious diseases, such as foot-and-mouth disease or aftosa, and parasites.[6]

Australia and New Zealand consider themselves disease free zones and thus enforce strict health standards. Japan, Canada, and the

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[5]The Food and Agricultural Organization of the United Nations the United Nations Conference on Trade and Development, the Organization for Economic and Cultural Development, and the International Chamber of Commerce have completed reports on nontariff measures applied in trade that included the commodities of meat and livestock [86][87][88][89]. The U.S. Tariff Commission completed a work on nontariff trade barriers [90] and the U.S. International Trade Commission published a summary of trade and tariff information [91]. The various publications by international organizations and national agencies indicate the gravity of the nontariff issue in international trade.

[6](For a list of some major cattle diseases see Appendix G.)

United States have strict controls that have greatly reduced or eliminated many of the cattle diseases. Europe has minimized the prevalence of cattle diseases but not all the E.C. countries can be considered disease free; Ireland is considered disease free. Outbreaks occur occasionally, especially of foot-and-mouth disease, principally as a result of inadequate inspection facilities or from relaxing the requirements.[7]

Even though the health standards and sanitary measures are among the main obstacles to the international beef and cattle trade, the prevalence of diseases and their control is of great importance "in planning strategies aimed at reducing beef prices to consumers and simultaneously attempting to improve producers incomes" [92].

Elaboration of and Commentary on Nontariff Trade Barriers in the Meat and Livestock Trade

Any country in the world today that trades in beef and/or cattle, domestically and internationally, has some form of trade restraint such as health standards and sanitary regulations. Because of the very nature and characteristics of cattle production and the beef industry the flow of live cattle, meat, and livestock products between countries has to be regulated to ensure that only clean and healthy products and animals enter a country. The consumer's health and cattlemen's herd have to be protected from contaminated products and infectious bovine diseases. "Although restrictions based on sanitary grounds are impediments to trade, it has to be stated that they

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[7]Most European countries inoculate against food-and-mouth disease, but the United Kingdom destroys infected herds.

are to a large extent justified" [93]. The net economic effect of nontariff trade barriers in the beef and cattle trade is hard to determine though the original reason for its application was straight forward. The impact of health measures on trade are difficult to be quantified when the health measures are only one part of a whole range of different factors which affect national as well as international meat economies [94].

The meat and livestock industry is regulated as to the feed, chemicals, and antibiotics administered to the animal from birth to slaughter. The processor of the slaughtered steer, cow, or calf has to comply with a set of standards and regulations enforced for domestic purposes and other standards and regulations required by foreign countries if the product is for export. The traders (exporters and importers) and shippers must complete requirements and follow certain procedures in order to ensure safe passage and complete the trade transactions. Thus, from calving to the supermarket freezer/cooler or butcher's slab there are a host of standards, regulations, and requirements that must be adhered to in order to carry out the trade in beef and cattle. Figures 12 and 13 are flow diagrams showing the cattle raising system and the sectors of the meat industry (within the slaughter and meat packing plants). Most of the major measures that are required by various governments are listed in Table 5 with comments.

Table 5 shows the restrictions to the trade in beef that are encountered by the exporter and the importer. Even though this is not an exhaustive list, the table shows the proliferation of nontariff restrictions that hinder and hamper the beef industry. Any one of the

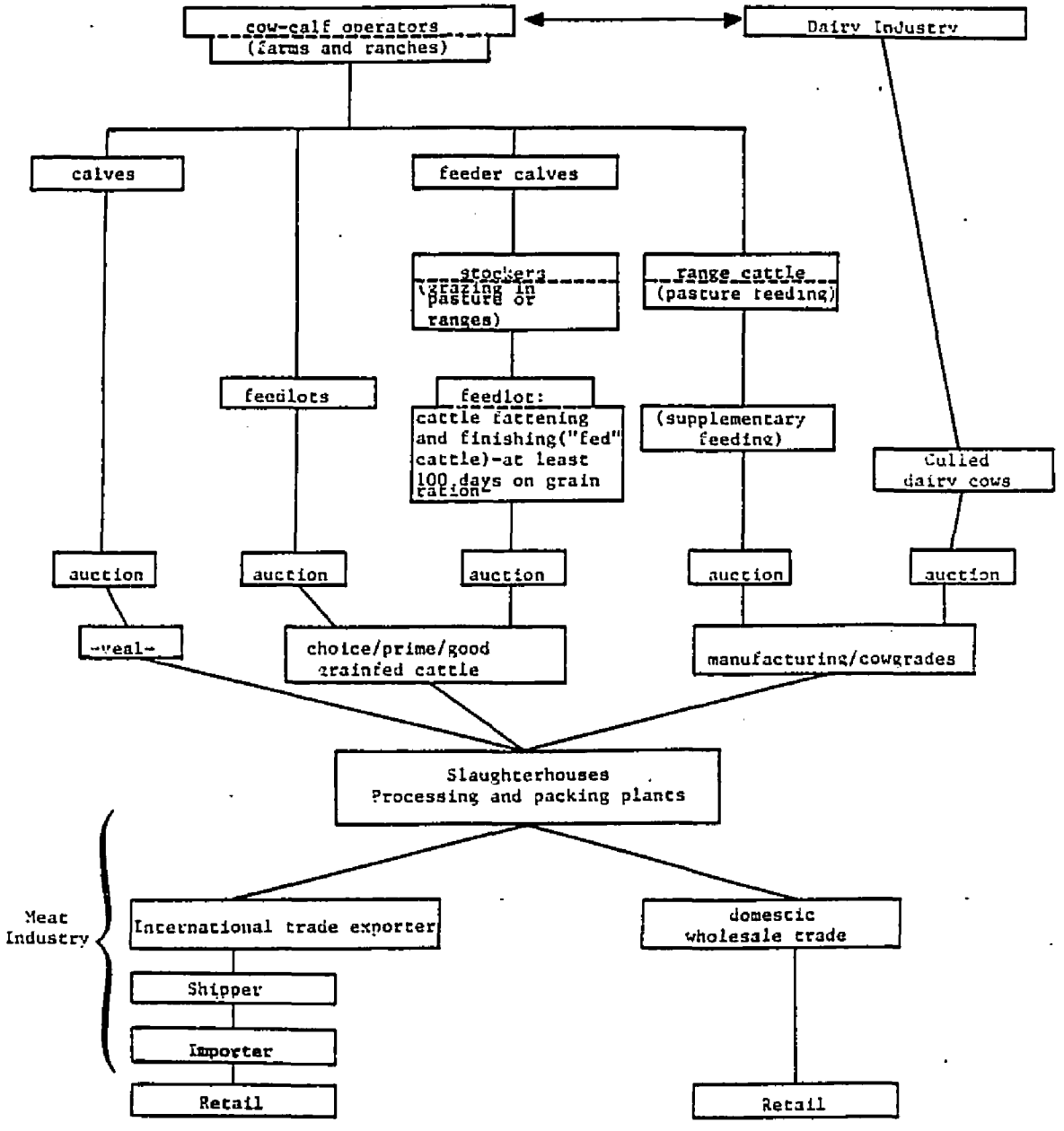

Figure 12. Cattle raising systems and meat industry (beef).

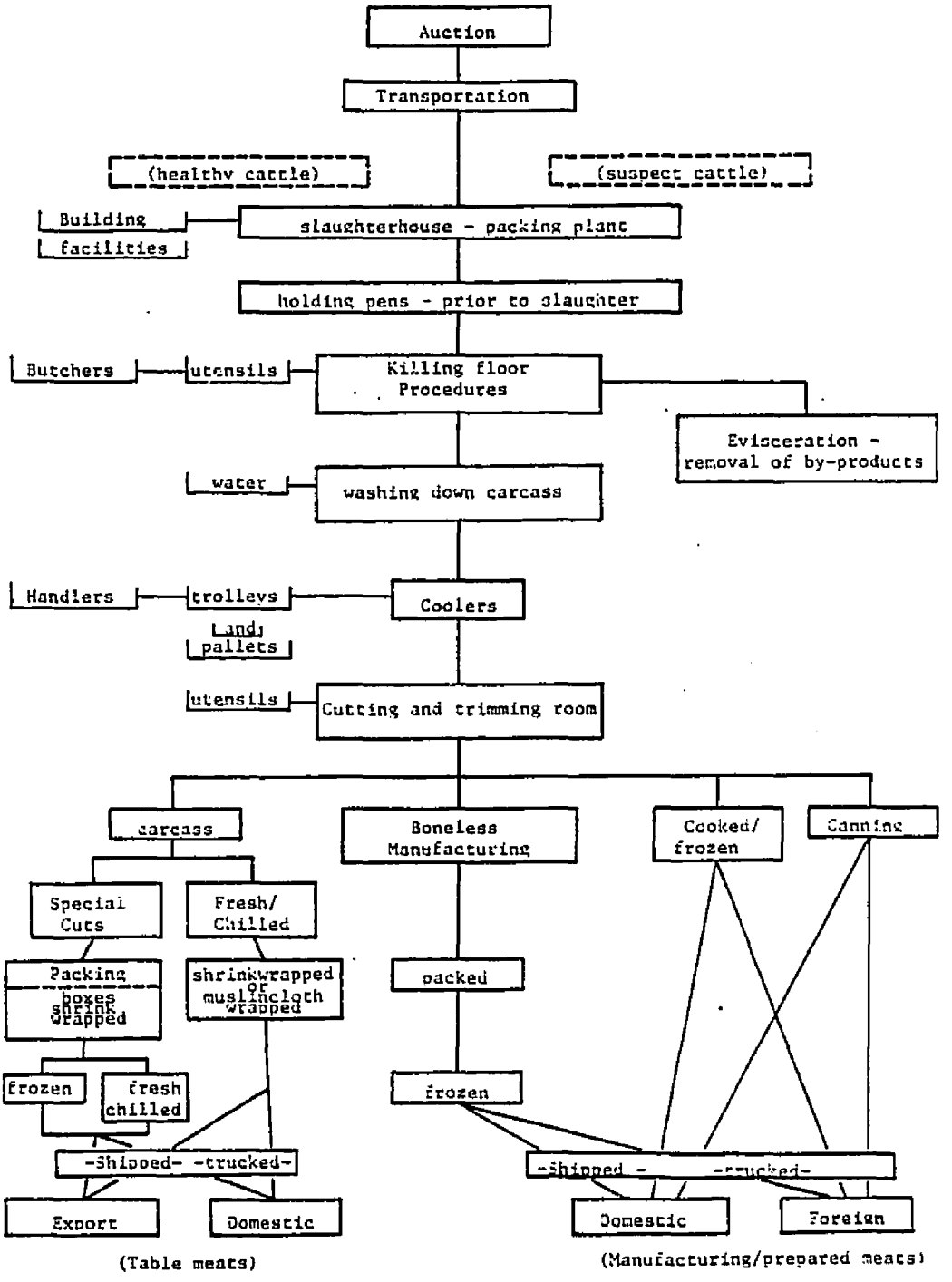

Figure 13. Processing and packing plant.

Table 5. Major Nontariff Trade Barriers that Restrict the Meat and Livestock Trade

Section of the Industry	The Nontariff Restrictions	Countries Imposing the Restrictive Practices	Comments	Purpose
Cattle raising	Animal Health Standards: Veterinary checks and certificate of health.	All countries,	Beneficial to both consumers and producers. It could help reduce production costs through disease prevention and lower consumer prices.	Ensure healthy cattle for slaughter & prevent the spread of disease & parasites.
	Prohibition of the use of certain chemicals (nitrites), antibiotics, and hormone (growth stimulants such as DES).	All countries but not to all products. DES can be used in U.S.	Beneficial to the consumers. But has been used to eliminate trade (i.e., Canada banned DES and stopped U.S. beef trade). The United States attempted to stipulate the use of chemicals by brand names not by chemical name. Italian and French consumers had adverse reaction to meat with high hormone residues.	Reduce or eliminate possible adverse effects in consuming products treated or contaminated with chemicals, growth stimulants, antibiotics, drugs, or potentially harmful products.
	Feed regulations.	EC, U.S., Japan, and Canada.	U.S. prime and choice high-quality beef grade description stipulates steers not older than 40 months and that have been a minimum of 100 days on grain feed—U.S. Table and hotel/restaurant trade demand, and Japanese consumer preference. It restricts trade in certain categories of meat.	Grading stipulation.
	Distinction between Grain fed (feedlot) vs. range or pasture fed cattle. Also culling cows from dairy herds.	U.S., Canada.	In the United States Range fed and culled cows are designated for manufacturing beef or prepared meat.	
	U.S. government grades (cattle on the hoof)	U.S., Canada.	Enables fair cattle purchases. Beneficial to cattlemen and helps processing industry.	Efficient and fair cattle market.
	Certificates of origin (ranch or farm) and of method of raising and finishing cattle.	EC, Japan.	A harassment to the industry—especially to small holders, auction centers, and packers. An effective restriction to trade.	To ensure grade standard requirements are met.
Trade of live cattle (for breeding or feeder)	Certificates issued by salaried veterinarian to accompany cattle	U.S., Australia, New Zealand.	Refer to Title 9, Animals and Animal Products, USDA.	To prevent the spread of disease
	Accept only cattle from listed herds or those qualified for export.	U.S., Australia New Zealand.	This is necessary practice to prevent the spread of diseases and to protect producers.	A health standard. A preventive measure.

Table 5. Major Nontariff Trade Barriers that Restrict the Meat and Livestock Trade , Continued.

Section of the Industry	The Nontariff Restrictions	Countries Imposing the Restrictive Practices	Comments	Purpose
Transportation of cattle auctions	No wood (railings or stockade).	EC.	The requirement is meant to benefit consumers, by ensuring that the product is free of foreign matter. In some cses changes from wood to metal could mean large capital outlay and thus an increase in cost.	Avoid foreign matter entering product.
Slaughter houses	Metal rails in holding pens and flues.	EC.	Benefits consumers. Could prove costly to change from the traditional wood fencing to metal.	Avoid splinters in the hides or meat.
	Animals to be fed and watered if held longer than six hours.	U.S.	Increases costs and if cattle is fed difficulties are encountered in the butchering process.	Animal welfare.
	Areas where meat is handled must not have corners, areas must be painted specific color	EC.	Other alternatives are available. Specification increaes costs and can effectively restrict trade.	Sanitation (Technical standard) Ensure clean premises.
	Labor must shower and change before entering area of facility designated for handling carcases and meat.	EC.	Other alternatives are available	Sanitation. Prevent contamination of Product
	Labor must be healthy and have had a medical check.	All Countries	The consumer benefits	Health and Sanitation Standard. Ensure wholesome product.
	Labor require periodic medical check and certificate of health.	EC.	Other beef exporting nations claim it is a harsh requirement and adds to the cost.	Health Standard.
	Equipment: No part of the equipment to be made of wood; i.e., knife handles, pallets	EC.	Excessive requirements: Restricts U.S. plants that can export to the European Community. U.S. labor unions claim plastic knife handle hard to grip (slippery). And thus dangerous. Packers do not want to be first to replace wooden pallets with costly plastic pallets. (Note: pallets are exchanged between U.S. plants.)	Sanitation--to avoid splinters, foreign matter in the product (Technical Standard).
	Veterinary check of animals ante-mortem	All countries.	U.S. uses veterinary assistants, E.C. stipulates only qualified veterinarian, which would increase the variable cost of the products.	To ensure health standard requirements are adhered to.
	Inspection for grading ante-mortem.	U.S. (domestic).	An important phase if beef is to be exported The Japanese and EC high quality quota system require specific standards. It effectively restricts trade in certain meat categories.	Grading stipulation.

Table 5. Major Nontariff Trade Barriers that Restrict the Meat and Livestock Trade , Continued.

Section of the Industry	The Nontariff Restrictions	Countries Imposing the Restrictive Practices	Comments	Purpose
	Facility must be inspected and then issued with an export authorization certificate.	EC, U.S., Canada.	Considerable delays can be experienced between inspection by a team of veterinarians and authorization. Improvements and costly changes will not ensure authorization. EC requirements are numerous, stringent, and can be costly. U.S. and Canadian requirements are less stringent, requiring that facilities be sanitary, and hygienic; also they accept other country's authorized inspectors.	Technical Standard that is designed to ensure high standards in the meat processing industry
	Periodic inspection of the meat processing and packing plants.	EC.	Creates uncertainty in the meat industry.	Technical Standards that are the same as above.
Killing floor	Procedures: Wash the knife in hot water after each slaughter.	EC.	Slows the slaughter process and requires extra labor (butcher). This adds to varible costs and reduces productivity.	Technical Standard and Health Standard prevent contamination of product.
	Separate time for slaughtering of suspect animals.	U.S., Canada, Australia, New Zealand, Japan.	Beneficial to the consumers.	Health and Technical Standard. Ensures wholesome product.
	Separate facility for slaughtering of suspect animals.	EC.	Excessive requirement and increases capital cost. Other alternative procedure is available.	Health and Technical Standard. Ensures wholesome product.
Butchering, removing of byproducts, and meat processing.	Separate area (room) to the killing floor floor	EC.	Would require capital costs outlay. Other alternaives are possible.	Health and Technical Standard. To avoid product contamination
	Carcass shrouding of carcasses prohibited (the wrapping in a muslin soaked in chlorinated solution.	Canada, EC.	The procedure helps to preserve the carcasses. According to industry procedure not detrimental benefits retail traders.	Technical Standard.
	Banning of "hypochlorination" wash.	Canada.	The procedure helps to preserve carcass and improve color. Not harmful. Impoves presentation of product, benefits traders.	Technical Standard.
	Carcasses graded, stamped, and recorded; certificates required to accompany meat shipment (that has veterinary checks, grade, etc.)	All countries.	Some countries are more stringent with regards to the records and certificate required. With regards to high quality meat this is very important phase as EC, Japanese and U.S. quota system is based on the beef grades. EC and Japanese have "high quality" beef quotas. U.S. imports only frozen manufacturing beef and prepared meats.	Technical Standard. To ensure that product is as consigned; and that requirements are met.

Table 5. Major Nontariff Trade Barriers that Restrict the Meat and Livestock Trade, Continued.

Section of the Industry	The Nontariff Restrictions	Countries Imposing the Restrictive Practices	Comments	Purpose
	Only specific ink or dyes can be used to stamp the carcasses or meat.	Some countries in the EC.	Germany specifies methyl violet ink (dye) only, which contains carcinogen according to some countries, such as Britain. Whereas other countries accept brown dye only.	Technical Standard. Prevent the contamination of the product with carcinogens.
	Carcass inspection by veterinarian and specimens taken from meat, offal, and by-products for testing in laboratory.	All countries.	Beneficial to processor, traders, and consumers. Specimens are checked for disease and residues. The major problem is the procedures used to analyze the residues are not standard throughout the world. Thus, different results can be obtained in the U.S. Federal Food and Drug and Cosmetic Act with the Delaney clause of the Food Safety Laws—drug (animal) amendment, 1962 and Wholesome Meat Act of 1967—if stringently applied would be totally restrictive to the trade in the U.S. The EC insists on qualified veterinarians doing the actual checking, whereas U.S. insists on qualified veterinarian signature on the certificates.	Health Standard. To ensure that consumers receive a wholesome product that is not diseased.
	Inspection of individual cuts.	Japan	Each cut must be inspected, graded, and then recorded. Add costs to the processing that is estimated to be up to 40 cents (U.S.) per kg.	To ensure that Health Standard and Grading Requirements are met.
	Meat "bone in" and "bone out".	All countries.	Manufacturing beef has the bone removed while meat for the table, hotel and restaurant trade can have bone left in. Meat with bone removed reduced packing, handling, and shipping costs.	Product Specification
	Cuts have to be of minimum size and weight.	Most countries in EC.	A minimum weight of 3 kilograms per cut was recently changed to a minimum of 400 grams. Previous measure increased handling costs, and in some cases totally restricted trade.	Technical Standard Size of cuts to be large enough to recognize the product & part of the animal it came from.
Packing	Not allowed shrink wrap or carcasses.	EC (Greece)	Greece requires meat in muslim wrap. This means separate production runs.	Technical Standard.
Labelling	Specific requirements such as authentication of grade specification, authority of signatures, origin of product, grade issued, health and sanitary certificates. Also: nature of product, name and place of business of manufacturer, packer, distributor, gives authority or net weight of contents. Label placement, size of type, terminology used are sometimes specified.	All countries	Most countries require specific data and information, especially for cook/frozen and prepared meats. The U.S. Federal Meat Inspection Act states that only wholesome unadulterated, and truthfully labelled products may be sold in commerce.	Technical Standard. To ensure the product is legitimate and that the meat standards and specifications are met.

Table 5. Major Nontariff Trade Barriers that Restrict the Meat and Livestock Trade , Continued.

Section of the Industry	The Nontariff Restrictions	Countries Imposing the Restrictive Practices	Comments	Purpose
	Language specification on the labels, marking, and shipping documents.	EC, Canada, U.S., Australia, New Zealand.	EC requires two to three languages on labels and on documents. Canada requires French and English. U.S., Australia, and New Zealand, require English. If more than one language is required the specification can increase costs . The consumer greatly benefits if the markings or labels are written in his own language.	Technical Standard. To facilitate processing of documents and shipment.
	Metric system.		Only affects the U.S.	Technical Standard.
Meat Processing	Cooked meat requirements	All Countries.	Some countries require meat cooked above 145°F Others require lower temperatures but for longer time. Humidity controls for cooking are also requirements.	Health Standard. To eliminate Salmonella and ensure destruction of other bovine diseases.
	Canned meat labels must have data on date of production, and shelf life.	U.S., EC.	The requirement benefits consumers and removes risks of contaminated products.	Health Standard To ensure a wholesome product.
	Standard sizes of containers or packages	Canada.	Canada has only a few specific package sizes that are allowed to be imported. Other sizes require that special permission be obtained prior to importation.	
Storage	Either chilled or frozen	U.S., EC, Japan, Canada.	This is another important phase in distinguihing the product as the beef quota system stipulates either frozen (as the U.S.) or fresh-chilled. The product differentiation can increase cost, increase uncertainty, and it does restrict trade.	Technical Standard. To differentiate the meat product.

Source: Personal interviews with persons in the U.S. meat industry, National Cattlemens Associations, U.S. Meat Export Federation, Meat and Livestock Commission, (U.K), Australian Meat and Livestock Corporation, New Zealand Meat Producers Board, U.S. Department of Agriculture, Agricultural and Veterenary attachees in the Australian, New Zealand, United Kingdom and United States Embassies and Missions.

restrictions can cause the elimination of the beef trade as experienced by the United States when Canada banned first the use of the hormone growth stimulant Diethyl Stilbesterol (DES) and then later banned the "hyperchlorination" wash of the beef carcasses after slaughtering and splitting.

Exporters and importers experience frustration through the delays brought about by the bureaucratic process of the European community system in obtaining import licenses. The procedure for obtaining the import license is complex and the data and information required by the authorities considerable. Additional problems are encountered because the import licenses are for a limited time period. The EC import licenses, or permits, are issued every quarter except for the licenses for the import of "high quality" beef which are now (1983) being issued every month. The change reduced slightly the risks in the trade of the "high quality" beef, i.e., that result from exchange rate fluctuations, but the additional paper work and time required in some instances increased importation costs. Beef shipments can only be handled by certain ports in some countries due to the lack of adequate facilities and equipment. The United Kingdom has one shipping port that can handle refrigerated cargo and up until recently the only authorized port of entry for flight cargo into the European Community was Heathrow Airport, London. The facilities at Gatwick airport have been recently upgraded.

The customs inspection of beef shipments vary from country to country. The U.S. system is based very much on the honor system whereby a computer selects random shipments. The frequency of the random selection depends on the past performance of the country, the exporting

packers, exporters, and the shipping line. The discovery of kangaroo meat in a shipment of Australian beef hurt the reputation of the Australian meat and livestock industry, and for a time the U.S. customs increased the frequency of the sampling. The action delayed shipments and increased importation costs. It is for this reason that the Australian and New Zealand government issue export licenses only to those meat packing facilities and shippers that comply with the strict standards set by the governments of the Oceania countries.

Beef exporting nations encounter a number of problems that obstruct competitive trade. Practices, such as long-term bilateral agreements with respect to certain products, stabilize the market and reduce the producers' risks, but exclude potential third party traders. Thus, competition is reduced or eliminated; and with the likelihood of a domestic monopoly situation arising, the consumer's welfare is detrimentally affected. Bartering is similar to the bilateral agreements and can limit the competition in the trade. Another obstruction to competitive trade is that of bribery, which is on the increase. The bribing of officials can take a number of forms from outright payments to that of misrepresenting the quantity or grade of all or part of a meat consignment shipment.[8] Sir William Gunn was quoted by the Queensland Cattle and Livestock paper [95] as saying that in order to gain access to new markets in the Third World

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[8]In the case of misrepresentation of cargos, the grade of meat shipped is higher, or the consignment has more product than stipulated in the shipping documents, thus officials gain by up-grading the consignment or by retaining the extra boxes of meat or carcasses added to the shipment. This practice is frequently carried out by Latin American shippers.

exporters must bribe officials. The terminology is changed in that instead of using the word "bribery" the more socially acceptable phrase "commissions of introduction" is used.[9] Bribing officials also seems to be a common practice between the Community and Latin America. Those countries that do not pay "commissions" are at a distinct disadvantage. Misrepresentation of product is also a lucrative practice for certain beef traders importing into the European Community. Instances of water buffalo meat, venison, or even suspect meat, which has been rejected by another importing nation, have entered the European Community successfully. The manipulation of administrative officials facilitates such practices which reduces the quantity of the legitimate trade if the illegal shipment enter under established quotas.[10]

The subtleties of the nontariff trade restrictions in the beef industry is evident in every phase of the meat and livestock industry. One encounters it from the cow-calf operation all the way through to

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[9]Sir William Gunn argued: "If this (bribing) is what is necessary for us to gain access to the markets, I say we should do it. . . . Everybody knows it goes on, but nobody likes to talk about it or admit they are involved." Mr. David Harpham, the Australian Meat and Livestock Corporation representative was quoted as saying:

> Indonesia, Iran, Iraq, and Egypt—the practice is rife. I know of a case a few years ago of a shipload of live sheep to the Middle East--the fee was [A]$30,000 which worked out at 50 a sheep. I suppose it would be around [A]$50,000 a shipload now.
>
> No organization set up by Australian producers could deal in this manner. I would leave it to the exporters to make their own arrangements [96].

[10]Many of the officials and exporters complained about the practice of paying "commissions" and also about how prevalent misrepresentation had become. The danger to the legitimate trade is that the quantities imported are included in the total set quota.

the retailing of the beef or beef products. The trade has become so competitive and in some instances lucrative, especially in the European Community, that illegitimate practices are increasing. But there are two nontariff restraints that overshadow most of the other restrictive practices in the beef trade. The new EC "Third Country Red Meat Directive" which will go into force in 1985, could prohibitively restrict the trade in cattle, meat, and livestock products between the United States and European Community. Compliance with the Directive will also be costly to the U.S. industry and to the other beef exporting nations. The second nontariff constraint, the USDA beef grading requirements, has both beneficial and detrimental effects on U.S. beef exports. It also benefits the U.S. domestic beef production. These two trade restraints will be discussed in more detail because of their effect on beef trade patterns and on the terms of trade.

European Community Third Country Red Meat Directive[11]

In 1972, the Council of the European Communities issued a directive covering animal health and inspection requirements for third countries exporting livestock and red meat to the community. The Council Directive 72/462/EEC is concerned with the health and veterinary inspection of bovine animals, swine, and fresh meat being imported into the European community of 10 countries. The Directive also covers the

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[11]Third Country in this context means any country outside of the European Community which, in 1983, is made up of ten countries: West Germany, France, Holland, Belgium, Luxemburg, Italy, United Kingdom of Great Britain, Denmark, Ireland (Eire), and Greece.

European technical standards and requirements for the processing handling and shipping of red meat destined for the European Community.

The reason for the EC Third Country Red Meat Directive is to standardize the various health and sanitary standards that are enforced by the individual community countries. A major objective of the Treaty of Rome is to foster free trade between the community members, but the health and sanitation standards for livestock and red meats required by certain individual nations are prohibitive barriers to the intra-community meat and livestock trade. The Directive which was accepted in 1972, after much negotiation, did not preclude a member nation having its own standards and requirements besides those of the European Community. In some cases the requirements of an individual country do not coincide with those of the Community. At present the Directive is being enforced by individual member countries rather than the EC Commission in Brussels. For these reasons, exporting nations still encounter different levels of enforcement. In fact, the situation is only slightly different than it was prior to 1972.[12]

The meat and livestock trade has continued to be restricted within the Community in spite of the Red Meat Directive of 1972. The

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[12]The directive of 1972 has been amended many times. Beef exporters claim that it is not possible to find an up-to-date copy of the Third Country Red Meat Directive. Only the original directive and the various separate amendments can be obtained from the EC. It is possible to purchase a current version of the directive from certain European agricultural consultancy firms who for an annual fee keep it updated. The practice hinders the beef trade between the EC and Third Countries.

EC Commission on veterinary matters was instructed to negotiate with the veterinary and meat authorities of each member country. The negotiators had to accede to certain strict demands being made by some of the six original countries in order to obtain a general agreement for a new proposed EC Council Directive on health and veterinary inspection problems for more strict than those of the previous directives and takes into account the advances in specific knowledge and technology:

> Since [the adoption of the Directive 72/462/EEC and the subsequent amendment 81/478/EEC] there has been developments in the scientific and technological fields which need to be taken into account so that the most effective steps are taken for the hygienic production, and inspection and supervision of fresh meat. At the same time, experience has been gained at the Community level of the application of the requirements of the Directive in Third Countries. In parallel with modernization of the Directive 64/433/EEC on health problems of intra-Community trade in fresh meat it is necessary also to modernize the rules concerning importation from Third Countries to take account of these considerations and ensure that at least the same requirements as are required for intra-Community trade are applied to Third Countries [97].

Whether the countries in the Community will enforce the Directive 64/433/EEC in their meat and livestock industry is a moot point. The U.S. Department of Agriculture sent a representative to Europe to find out whether the countries themselves try to comply with the regulations stipulated in the Directives. The report of the mission is not available at this time. If it is shown that the EC member states do not comply with their own Directive of 1972 or the new proposed Directive the application and enforcement of the new health standards and hygiene requirement would be construed as a nontariff barrier to the red meat and livestock trade between the European Community and third countries.

The proposed EC Third Country Red Meat Directive, which has been approved by all ten Community nations, will go into effect in 1985. FAS/ITP report, published in 1981, still holds in 1983:

> The United States still faces some problems with the Directive's requirements. Following implementation, U.S. red meat slaughter plants not complying with the Directive can no longer ship to the EC. However, the high cost of making major structural changes to meet the Directive requirements may not be justified, especially when the changes would make little difference in the quality of the final product. Principal problems include requirements for separate cut-up and packaging areas, separate slaughter facilities for hauling suspect animals, and separate rooms for emptying stomachs [98].

Many of the other requirements have been resolved especially those regarding the inspection procedure of the animals. One remaining problem is the ante mortem inspection procedures where the Community insists on the inspection being done on the farm by a veterinarian, whereas the U.S. Department of Agriculture requires the ante mortem inspection of the steer, at rest and in motion be carried out in the holding pens just prior to slaughter. The EC proposed Directive states an ante mortem inspection in the holding pens as well. The U.S. inspection is done by trained inspectors who assist the veterinarians, which apparently is not acceptable to the European Community.[13] A list of

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[13]The U.S. Department of Agriculture compared the new proposed EC Third Country Meat Directive with its own standards and leaves requirements. They have found a USDA equivalency having the same goal and outcome as that of most EC requirements. But the European Community has refused equivalency and thus does not accept the U.S. procedures. A spokesman for the U.S. meat industry state that the Community seems to be more worried about the procedures and the methods used, assuming that wholesome and good product will be obtained by the following the specific procedures, while the U.S. Department of Agriculture, by censuring that the final product is wholesome, assumes that a proper procedure had been taken.

major differences between the Directive requirements and those required by the major beef exporting countries is shown in Table 6.

The proposed Directive which amends the Council Directive, 72/462/EEC, is fairly specific in stating the requirements but still room for individual interpretation. The major problem will be the manner in which requirements of the Directive will be interpreted by the inspectors inspecting the Third Country facilities and by the customs officials. Every meat processing facility that wishes to export to the European Community has to be inspected by a group of veterinarians from Brussels who report back to the EC Commission and makes recommendations with respect to approval. The plant, if approved, is later issued a license or approval certificate to process meat and livestock products for the Community which can be up to two years after the inspection. Most meat processing plants in the United States are reluctant to make the structural changes because of the uncertainty of being approved and because of the delay in issuing permits. The U.S. meat processing and packing plant, which possibly makes one consignment a year for Europe, would more likely cease shipping meat to Europe than make a large capital expenditure to conform with the Directive. In Australia and New Zealand, the meat packers are likely to conform because of the importance of the red meat and livestock product trade to them.

The attitude of the United States is different because the export of beef is a small percentage of the total national beef production. U.S. beef and veal exports are about 1 percent of the U.S.

Table 6. EEC Third Country Meat Directive—Major Technical Standards and Requirements and How They Affect Beef Exporting Nations.

The Proposed Council Directive to Amend the Council Directive 72/462/EEC on Health and Veterinary Inspection Problems Upon Importation of Bovine Animals and Swine and Fresh Meat From Third Countries--Annex B: General Condition for the Approval of Establishments.

Section or Area of the Processing Industry	Technical Standards and Requirements	The Effect on Beef and Livestock Exporters[a] Australia	New Zealand	Canada	U.S.A[b]
General establishment working areas where fresh meat is prosessed or stored -floor-	(1) Waterproof flooring which is easy to clean and disinfect, rot proof, and laid in such a way as to facilitate the draining of water; the water must be channeled towards drains fitted with gratings and with traps to prevent odors.	K, I	(K, I)	S	K, S
-walls-	(2) Smooth durable impervious walls, with light colored, washable coating up to a height of at least two meters, in the slaughter rooms up to a height of at least three meters, and in chilling rooms or stores at least to storage height.	I	(I)	M, C	M, C, S
	Wall to floor junctions shall be rounded or similarly finished . . .	K, I	(K, I)	K	R, K, E
-door-	(3) Doors must be in hard wearing material, and if made of wood, must have a smooth impermeable covering on both sides.	I	(I)	S	S
-insulation-	(4) Insulation material must be root proof and odorless.	I	(I)	(.)	S
-ventilation-	(5) Adequate ventilation and if necessary extraction of steam.	S	(S)	S	S
-lighting-	(6) Adequate natural or artificial lighting which does not distort colors.	I	(I)	S	S
cleaning facilities	(1)(a.) Cleaning facilities must be near work stations for cleaning and disinfecting hands and for cleaning tools with hot water	K, I, S	(K, I, S)	(S)	K, S
-faucets (taps)-	(b) Taps must not be hand operable.	I, I	(I)	M, K	C, S
	(c) Taps must have hot and cold running water (either separate or premixed)	S	(S)	S	S
-towels-	(d) Hand towels to be used once only.	C, (I)	(C, I)	(C)	C
-temperature-	(2) Temperature of water must be no less than 82°C (180°F).	S	(S)	S	S
-pests and rodents-	(3) Appropriate arrangements for protection against pests of all kinds.	S	(S)	S	S
-equipment, material-	(4) Equipment must be of noncorrodible material and be easy to clean and disinfect.	I	(I)	(S)	S

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C Increases Costs of Processing
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F Restricts Facilities
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*Authors emphasis--the requirements that is claimed to be excessive by one or all countries.

Table 6. EEC Third Country Meat Directive—Major Technical Standards and Requirements and How They Affect Beef Exporting Nations, Continued

Section or Area of the Processing Industry	Technical Standards and Requirements	The Effect on Beef and Livestock Exporters[a] Australia	New Zealand	Canada	U.S.A[b]
-no wood-	(5) There must never be any wood equipment in any areas where unpacked fresh meat is handled	K, I	(K, I)	K	R, K, P
-bay areas-	(6) There must be adequate facilities for the hygienic handling and protection of meat during loading and unloading, in other words, separate bay areas.	K, I	(K, I)	(S)	K
-disposal room, or containers-	(7) There must be available special water tight noncorridible containers with lids and fasteners or lockable room to prevent unauthorized removal of meat and offal not for human consumption.	C or K (I)	(C or K, I)	(S)	C or K, S
-veterinary room-	(8) Lockable room exclusively for veterinary service must be provided.	I	(I)	(S)	S
	(9) Facilities enabling the required veterinary inspection to be efficiently carried out at any time must be available.	K, I	(K, I)	(K)	K, S
	(10) Must have adequate number of changing rooms with smooth, impervious washable walls and floors, wash basins, showers, and flush lavatories which do not open directly on to the work rooms.	(I)	(I)	(S)	S
-vehicular areas-	(11) Must provide adequate facilities for cleaning and disinfecting vehicles. (Not compulsory if vehicles are cleaned and disinfected at officially authorized facilities).	I	(I)	S	S
Refrigeration					
-waste-	(1) Must have available refrigeration equipment must include drainage system linked directly to the waste water pipes.	I	(I)	(I)	K, S
Water System and Waste Disposal System					
	(1) Must have available adequate supply, under pressure, of potable water	S	(S)	S	S
	(2) Nonpotable water pipes (if present) must be clearly distinguished for those used for potable water	I	(I)	(K)	M, K
	(3) Waste water disposal system must meet hygiene requirements	S	(S)	S	S

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Table 6. EEC Third Country Meat Directive—Major Technical Standards and Requirements and How They Affect Beef Exporting Nation: , Continued

Section or Area of the Processing Industry	Technical Standards and Requirements	The Effect on Beef and Livestock Exporters[1] Australia	New Zealand	Canada	U.S.A.[b]
Animal Health Standards					
Ante Mortem	(1) Animals must be inspected on the day of arrival by an official veterinarian	S	(S)	S	S
	to determine any abnormalities, or whether tired, agitated or injured;	S	(S)	S	S
	The tired and agitated animals will be rested 24 hours before slaughtering.	S	(S)	S	S
	(2) All animals must be rested for an adequate period before slaughtering.	(I)	(I)	( )	M
Post Mortem Inspection	(1) The official veterinarian must make:				
	(a) Visual inspection of slaughtered animal;	S	(S)	S	S
	(b) Palpate and incise major organs and lymph nodes;	S	(S)	S	S
	(c) Investigate anomalies, using color, smell, and taste (where appropriate);	S	(S)	S	S
	(d) Test in laboratory if necessary.				
	(2) The official veterinarian must examine all major parts of all animals such as: organs, intestines, stomach, head, passages, nodes, etc.	I	(I)	(S)	M, C
	(a) They must investigate for distomatosis and trichinae.				
	(3) It is strictly prohibited the cutting of carcass and removal of any part before inspection.	S	(S)	S	S
	(4) If blood or offal of several animals are collected in the same container before final inspection, the consignment (or batch) will be rejected for export if one animal of that batch is declared unfit.	S	(S)	M	MC
Hygiene Requirements					
-slaughter-	(1) Animals brought into the slaughter premises must be slaughtered immediately.	I	(I)	(M, S)	M, S
-bleeding-	(2) Bleeding must be complete, with blood for the human consumption collected in absolutely clean containers.	S	(S)	S	S
-skinning-	(3) Immediate and complete skinning of slaughtered animal shall be compulsory.	I	(M)	M	M
	(4)(a) Evisceration must be carried out immediately.	I	I	M	M
-organs-	(b) Organs if detached must be numbered and identified for inspection.	I	I	M	M
-cleansing-	(5) Cleansing of meat by wiping with a cloth or other material, or cleansing with air is prohibited.	I	I	( )	M

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Table 6. EEC Third Country Meat Directive—Major Technical Standards and Requirements and How They Affect Beef Exporting Nation , Continued

Section or Area of the Processing Industry	Technical Standards and Requirements	The Effect on Beef and Livestock Exporters[1] Australia	New Zealand	Canada	U.S.A.[b]
Slaughterhouse -waiting pens-	(1) Must provide waiting pens for lodging the animals, with walls, and durable, impervious floors while easy to clean and disinfect; it must be equipped for watering and feeding animals; it must have a suitable drainage system for draining off liquids towards drains fitted with traps and gratings	I, I	(K, I)	(R, K)	R, K, F
-slaughter premises-	(2) Slaughter premises must be large enough for work to be carried out satisfactorily.	I	(I)	S	S
-separate rooms-	(3) Must provide separate rooms sufficiently large and exclusively reserved for: (4 additional rooms)				
	- emptying, cleaning, and dressing stomachs and intestines	K, I	(I)	(R, K)	R, K, F
	- further processing of guts and tripe;	K, I	(K)	(R, K)	R, K, F
	- preparing and cleaning other offal, including a separate place for heads;	K, I	(I)	(K)	R, K
	- the storage of hides, horns, hooves.	I, S	(I, S)	S	S
	(4) Separate area for packaging offal must be available.	I	(I)		K
-lockable premises-	(5)(a) Must provide lockable premises or pens for sick or suspect animals; and	K, I	(K, I)	(R, K)	R, C, K, F
	(b) Lockable premises reserved for the slaughter of sick and suspect animals, the storage of detained and seized meat. (Note: not compulsory if sick or suspect animals are not killed on the same day as healthy animals, and provided the premises are specially cleaned and disinfected under official supervision.	K, I	(I)	(K)	R, K
-overhead rails-	(6) Should have overhead system of rails, or noncorrodible metal cradles high off the floor.	I	(I)	S	S
-manure section-	(7) Special manure section must be provided.	I	(I)	S	S
-examination room-	(8) Room suitably equipped for carrying out an examination for trichinella (if done in establishment) must be available.	K, I	(I)	K	R, K, F
-establishment-	(9) There must be effective separation between contaminated and clean parts of the building (to protect from pollution).	S, I	(S, I)	S	S
Chilling or Refrigerating Room	(1) Must be sufficiently large and incorrodible fittings (no wood).	I, K	(I, K)	S, K	S, K

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Table 6. EEC Third Country Meat Directive—Major Technical Standards and Requirements and How They Affect Beef Exporting Nations, Continued

Section or Area of the Processing Industry	Technical Standards and Requirements	The Effect on Beef and Livestock Exporters[1] Australia	New Zealand	Canada	U.S.A.[2]
Cutting Plant	Should have:				
-separate rooms-	(1) Separate room for cutting and boning	I	(I)	(K)	K
	(2) Room for packaging	I	(I)	(.)	K
	(3) Room for the storage of packaging and wrapping material	I, S	(I, S)	S	S
	(4) Temperature sensors	I	(I)	S	S
Stores	(1) Must be sufficiently large, adequate, and be easy to clean and disinfect.	S	(S)	S	S
	(2) Temperature sensors must be available.	S	(S)	S	S
Staff, Staff Facilities and Equipment					
-staff clothing-	(1) Wear clean working clothes, headgear, and neck shields (where necessary).	C	(C)	C	C
	(2) Persons prohibited from working:				
-health of workers-	(a) That are suffering or suspected of suffering of any contagious disease;	S	(S)	S	S
	(b) That are wearing any other bandage than waterproof ones.	S	(S)	S	S
	(3)(a) Medical certificate shall be required of any person working on meat,	S	(S)	S	S
	(b) Which was be renewal every year.	I	(I)	M	MC
	(4) No unauthorized animals or rodents allowed in the buildings.	S	S	S	S
-equipment-	(5) Equipment must always be in good condition; cleaned and disinfected several times a day, and used only for the specified work.	C, I	(C)	C	C
-containers-	(6) Meat and meat containers must never touch the floor.	S	(S)	(S)	C, S
	(7) No sawdust to be used where meat or carcasses are handled or stored.	I	(I)	(I)	M
	(8) Can only use authorized detergent, disinfectants and pesticides	S	(S)	S	S

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Table 6. EEC Third Country Meat Directive—Major Technical Standards and Requirements and How They Affect Beef Exporting Nations, Continued

Section or Area of the Processing Industry	Technical Standards and Requirements	The Effect on Beef and Livestock Exports* Australia	New Zealand	Canada	U.S.A.
Requirements for Meat Intended for Cutting	(1) Cutting of meat into smaller pieces or de-boning shall only be allowed in the cutting plants.	I	(I)	(I)	M
-origin of meat-	(2) Origin of meat brought into cutting plant must be known	C, I	(C, I)	C, M	C, M
-processing-	(3) The flow of meat must be orderly (progressive) and after processing immediately taken to appropriate cutting rooms.	S	(S)	S	S
	(4) Meat must be kept at not more than 7°C during processing. The processing of meat (cutting) can only be done after the internal meat temperature has reached 7°C; also the pH of the meat must not exceed a certain level.	I	(I)	S	S
	(5) All bone splinters and blood clots must be removed.	I	(I)	(S)	M, S
Health Control of Cut Meat and Stored Meat	(1) The operation in the cutting plant will be supervised by an official veterinarian whose task will include supervising: (a) the entry and exit registered fresh meat; (b) the health inspection of meat; (c) the drawing up of and issuing of required documents; (d) ensure the cleanliness of the facility; (e) sample, test in laboratory, and record results of the tests.	C, I	(C, I)	M, C	M, C
Technical Requirements Health Markings					
-marking instruments-	(1) The health markings total responsibility of official veterinarian (a) must keep the marking instruments, except when his assistant is using it; (b) must closely check all health labels.	I	(I)	M	M
-size of markings-	(2) Markings are to be of a specific size (6.5 cm wide by 4.5 cm high) and must be oval, with lettering 0.8 cm high and figures 1 cm high	I	(I)	M	M
-information required-	(3) The information required which must be perfectly legible, is:	I	(I)	M	M
	(a) On the upper part, of the marking the name of the exporting country in capitals, or approved initials can be used; (b) In the center, the veterinary approval number of the slaughter house must be shown.				

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Table 6. EEC Third Country Meat Directive—Major Technical Standards and Requirements and How They Affect Beef Exporting Nations, Continued

Section or Area of the Processing Industry	Technical Standards and Requirements	The Effect on Beef and Livestock Exporters[a] Australia	New Zealand	Canada	U.S.A.[b]
-number of markings-	(4) Carcasses will be marked in ink or hot branded . . .	I	(I)	M	M
	carcasses of 65 kg or more must have at least five markings on their external part, and carcasses less than 65 kg must have at least four markings				
	(5) All animal organs must be hot branded.	I	(I)	M	M
	(6) Unwrapped cuts of meat must be marked or branded.				
	(7) Packaged meat and offals must be labelled inside or in such a way as the label or marking will be destroyed if the package is opened—with official health markings appearing on the label.	I	(I)	M	M
-ink-	(8) Only violate coloring may be used to stamp fresh meat.	C, I	(C, I)	C, M	R, C, M
Wrapping and Packaging	(1) Packaging material must not alter the (organoleptic nature), meat it must not transmit harmful substances, and must be solid to ensure effective protection.				
	(2) Packaging material cannot be reused.	C, I	(I)	(C, M)	C, M
	(3) Wrapping of the meat must be done immediately after processing.	I	(I)	M	M
	(4) The wrapping material must be transparent and colorless.	I	(I)	M	M
	(5) All wrapped meat must be packaged.	I	(I)	M	M
	(6) If the wrapping fulfills all the protective conditions, packaging of the meat is not necessary nor is translucent material required.	I	(I)	S	S
	(7) Cutting, boning, wrapping, and packaging of the meat may take place in same area (room) provided: (a) the area is sufficiently large; (b) that the material is hygienically wrapped and has arrived in good condition; and . . . (c) is stored in a separate vermin proof room and off the floor; (d) the material is hygienically introduced and not handled by any personnel handling fresh meat; (e) the packaged meat is stored immediately.				

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Table 6. EEC Third Country Meat Directive—Major Technical Standards and Requirements and How They Affect Beef Exporting Nations, Continued

Section or Area of the Processing Industry	Technical Standards and Requirements	The Effect on Beef and Livestock Exporters[d] Australia	New Zealand	Canada	U.S.A.[b]
Health Certificate	(1) Health certificates must be issued by official veterinarian and accompany consignment.	S	S	C, M	S
	(2) The certificates must at least be expressed in language of the country of destination.	C, I	(C, I)	(R, C I)	R, C, I
Storage of Fresh Meat	(1) Fresh meat (carcasses and cuts) intended for export must be chilled to 7°C immediately after post mortem inspection and the offal to must be chilled to +3°C.	S	(S)	S	S
	(2) No other product can be stored in the fresh meat storage area.	I	(I)	S	M, S
	(3) Storage temperature must be recorded at all times.	S	(S)	S	S
Transport	(1) Fresh meat must be transported in sealed and cooled, or refrigerated, means of transportation	C, S	(C, S)	C, S	R, C, S
	(2) Vehicles must meet the following requirements:				
	(a) the inside surface of van must be of noncorrodible material; (b) be effectively protected from insects and dust, and be water tight to prevent leakage; (c) For the transport of carcasses must have high, noncorrodible hangings.	C, S	(C, S)	C,S	R, C, S
	(3) Cannot use the same vehicle for meat and for live cattle transport.	C, I	(I)	C, I	R, C, I
	(4) Cannot transport fresh meat with other parts of the animal, such as heads, and hooves.	S	(S)	S	S
	(5) Prior to transorting fresh meat and edible parts, vehicles, or containers must be cleaned, disinfected, and the official veterinarian must ensures that the vehicles or containers and the bay area meet the required hygiene standards.	S	(S)	S	C, S

P Prohibitive Barrier
R Restricts Trade
M Minor Adjustments
C Increases Costs of Processing
K Requires Capital Outlay
S Country has similar requirements or recommendations
I Standards Already Implemented
F Restricts Facilities
( ) Unable to confirm verbal information
*Authors emphasis—the requirements that is claimed to be excessive by one or all countries.

Sources: [a]Commission of the European Communities COM (81) 496 final, Brussels, 14 September 1981.
[b]USDA, U.S. Inspected Meat and Poultry Pacing Plant, A Guide to construction and Layout Agricultural Handbook 570, Food Safety and Quality Service, Washington, D.C., U.S. government, 1981.
[c]Report of the Australian Meat and Live-Stock Corporation, Canberra, AMLC, various years and Bureau of Economics, Livestock and Meat Marketing in Australia: An Economic Evaluation, Industry Monograph No. 1, Canberra: B.A.E., 1981.
[d]Information obtained from interviews with A.M.L.C. (New York, London), N.Z., M.L.B. (New York and London), U.S. Meat Export federation, U.S. Cattlemens Association, and official veterinarians and Agricultural Attache's from Australia (Brussels, London, Washington), New Zealand (London, Washington), and U.S. Embassies and Missions (Brussels, Geneva, London), also, U.S. F.S.I.S. (Washington, D.C.).

production. Large meat packers could make the adjustment in an industry whose margin is very small and whose survival depends on volume. But this stifles the competition in the export field. Only the efficient and larger packers, through economies of size, will survive in the beef and livestock product export market. A very real danger to the U.S. beef and livestock product export market is not so much the problem of the U.S. red meat exports, but that of losing the EC market for U.S. variety meats.[14] The U.S. domestic demand for variety meats is very low. Thus, the majority of the variety meats have to be exported, mostly to Europe and at the extremely favorable terms of trade to the importers. France is one of the major importers of U.S. variety meats. The value of this trade to The U.S. is about 300 million dollars, which helps towards offsetting the value of the manufacturing and cooked meats imported into the U.S. (Appendix I). The U.S. export trade in variety meats is crucial to the meat and livestock product industry. At present the variety meats trade is not directly affected by the Third Country Directive, but this could change if the output of variety meats in the European Community approaches self-sufficiency due to tenure increases in the subsidized red meat exports to Eastern Europe and the Middle Eastern countries.

The Beef Grading System

The USDA beef grading system greatly affects the beef trade. The grading system works in favor of the U.S. beef industry by acting

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[14]Variety meats are livers, kidneys, hearts, tongues, offal, etc. of cattle, swine, and sheep.

as a nontariff restriction on the imports of beef, but also adversely affects the U.S. beef exports. The U.S. Meat Import Law places quotas on fresh, frozen, chilled beef but excludes canned and preserved beef products. While the quota does not stipulate grades, the USDA beef grade specification requirement in essence precludes the importation of table and hotel/restaurant trade beef into the United States from regions producing range fed beef. Range fed cattle are leaner than grain fed, thus fall into the lower U.S. manufacturing categories: Australia and New Zealand cattle are mostly range fed while Canadian beef is somewhat similar to the United States. Because the Canadian beef grading descriptions and nomenclature are different from those of the United States,[15] beef must be regraded for entry into the United States thus incurring extra costs. Therefore, the majority of the fresh, chilled, and frozen beef enters the United States classified as lower quality manufacturing beef. Very little is able to enter as the higher priced prime and choice beef.

During the GATT multilateral trade negotiations, the European Community granted the United States a levy-free quota for 10,000 metric tons of "high quality beef." They negotiated the GATT definition for high quality beef, with the United States recommending the USDA definition for prime and choice beef. The basic definition was subsequently accepted by the European Community and the other GATT

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[15]The Canadian and U.S. Department of Agriculture beef grade definitions are given in Appendix E.

members,[16] but it also stipulates that the beef must originate from carcasses of steers which are no more than 30 months old and have been fed no less than 100 days on a minimum of 20 lb. of high protein rations containing no less than 70 percent grain. The definition further stipulates that USDA prime and choice graded beef automatically meets the conditions. These are stricter than the USDA official standards for prime and choice beef, which do not specifically stipulate the fattening or the finishing process. The USDA standards indicate that the maximum maturity for prime and choice cattle is around 40 months old,[17] as shown in Figure 14.

The GATT high quality beef description does not take into account the consumers' preference but indicates the U.S. producers' and trade preferences. Japan and the United States are the two major importing countries whose consumers prefer more heavily marbled meat. Yet the present trend in the United States is noticeably towards leaner beef for economic and dietary reasons [99] The European consumer is acquiring a taste for grain fed beef because of the beef raising industry in Europe is using supplementary grain to finish the cattle before slaughter.

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[16]The United States delegation to GATT and the U.S. beef industry possibly saw an opportunity to dominate the high quality beef market in the European Community and later Japan.

[17]The USDA beef grading system was originally established to standardize the products in the industry and was not designed for the meat trade. The grading system is not a classification system but a category system. The standard requiring highly predominant marbling in the top two grades penalizes the feeders and cattlemen as the marbling is obtained within the last 30 to 60 days prior to slaughtering, at which time the feed conversion ratio diminishes considerably.

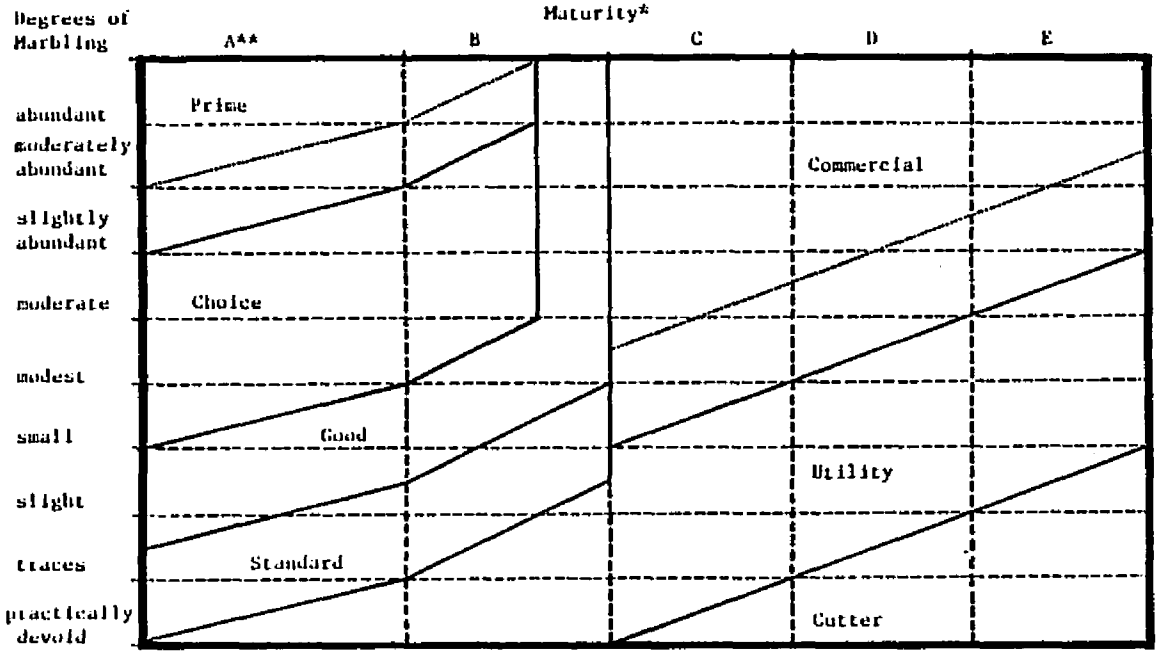

Figure 14. Relationship between marbling, maturity, and quality.

* Maturity increases from left to right (A through E)

** The A maturitiy portion of the figure is the only portion applicable to bullock carcasses

..... Represents midpoints of prime and commercial grades

Source: USDA

The U.S. Meat Export Federation field reports indicate that there is a substantial demand for a leaner type of U.S. beef in the EC countries, but very little demand for the U.S. high quality beef as presently defined by GATT. The Community import buyers would like to avoid the 20 percent duty on leaner beef by importing this beef under the EC high quality beef quota. Thus, the buyers stipulate that they want tenderloins from cows. To comply with these stipulations U.S. packers are hard pressed to come up with grain fed cows that meet the GATT standards. Most cows are much older than 30 months of age, and if cows are found that have been grain fed, there is the additional problem of obtaining a certificate of authentication from the feeder verifying that the cows have met the GATT standards. As a consequence, what little beef the U.S. packers have shipped to the European Community under the 10,000 metric ton quota barely passes the GATT standards. Most of the U.S. beef is used by the hotel and restaurant trade. Some beef, due to heavy promotion by the U.S. beef industry, is being sold in the retail chain stores in the United Kingdom. Because the GATT accepted the USDA definition of high quality beef, and the European community demand for less marbled beef, exports to the Community are severely hindered. If the U.S. exporters lower the marbling of the beef, they will become subject to the 20 percent import tariff.

In 1981, proposals were submitted to change the official USDA standards for grades of carcass beef. The initial thrust for the change came from the National Cattlemens Association (NCA) which advocated less marbling in all grades. That would reduce production costs

and improve net returns for the cattlemen. With strong lobbying against the initiative by the purveyors and the hotel/restaurant trade, the U.S. Department of Agriculture dropped the proposal. Three proposals are outlined in the Federal Register [100]. The Meat Export Federation in its support of the NCA proposal, claimed that a "lowering" of the beef grading standards--meaning a reduction in the fat content-- would improve the chances of the United States to expand its beef export trade to the European Community. It is clear therefore, that the USDA grade specification requirements are acting as a nontariff trade barrier for the U.S. beef export to the Community.

The Japanese also have a high quality grain fed beef quota. The GATT definition is used to define the Japanese high quality grain fed beef. In this case the definition favors the U.S. exporter over the Oceania exporters because a major criterion is the requirement that the beef must be from grain fed cattle.[18] When the Japanese increased their high quality beef quota in 1982, stipulating grain fed beef, the Australians protested and accused them of applying a nontariff barrier to their beef trade. Subsequently, the Australians, through negotiations with the Japanese Livestock Industry Promotion Corporation (LIPC), redefined high quality beef to include cattle that have four permanent incisor teeth.[19] This allows the Australian beef

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[18]See Appendix E.

[19]The new LIPC definition of high quality grain fed beef fits the Australian cattle industry program, where the cattle are first range fed then go on to grain fed ration at a later age than the U.S. counterparts. The LIPC definition gives more latitude and thus allows more competition in the high quality grain fed beef category, as opposed to the rigid and precise GATT definition.

industry to bid on the LIPC high quality grain fed beef tenders. The redefinition also allows the Canadians to bid on the same LIPC tenders for high quality grain fed beef. The U.S. beef industry protested the change in the LIPC definition for high quality grain fed beef. At present, the Australian and Canadian exports to Japan in this category are insignificant when compared to U.S. exports. However, the U.S. Meat Export Federation foresees a possible erosion of its position in the Japanese market. The above account shows an inconsistency in the actions of the United States between its exports of beef to Europe and Japan.

As would be expected from any profit oriented organization, the U.S. beef industry supports principally the liberalization of international trade where such liberalization benefits its own exports of beef. Needless to say, such actions when condoned by official U.S. policy are inconsistent with the stated policy of free trade.

Examples of Trade Restriction Evasion

As new barriers to trade are imposed traders seek ways to circumvent them. Innovative trade procedures are applied, which, if shown to be profitable, are soon immitated and become a normal way of business until prohibitive regulations to counter the innovative procedures are imposed to close the loopholes. A few innovative procedures are being used to get around the EC Third Country Red Meat Directive and the Japanese beef quota system controlled by LIPC.

One U.S. meat packer, in order to greatly reduce the problems involved in obtaining an EC export processing license and in order to

reduce the uncertainty in the beef and livestock trade, has vertically integrated its operation. It has set up an import and wholesale distribution subsidiary in the United Kingdom. In the United States the packer integrated the feedlot operation, the slaughter and packing plant, and the shipping operation. The firm fattens and finishes cattle, processes and packs the meat, and ships direct to its subsidiary in Europe, which originates the order. The U.K. subsidiary promotes the product, emphasizing the differential qualities and using in-house quality brand names and descriptions. The required papers and certificates are easily obtainable. The consignment can be taken as a single unit for quality, health, and technical standard requirements. The economies of scale can be fully appreciated and utilized in order supply a desired product, such as leaner grain fed beef, at a reasonable and competitive price, even with the 20 percent duty that has to be paid on non-quota beef. The venture is fairly new but is proving profitable.

Japanese investors recently purchased a large ranch in California. Their intention is to raise grain-fed steers, taking advantage of the efficient U.S. system, then ship the live cattle to Japan for finishing and slaughtering. All the feed grain purchased in the United States of which part is shipped to Japan for the cattle finishing process. This avoids the strict grade and health certification that is required by Japan on all beef imports, which can add up to 40 cents per pound to the price of the product. The major consideration is that live cattle and feeders for slaughter, are not considered under

the LIPC meat import quota system but under a tariff quota system.[20] "To the extent that live cattle are imported for slaughter, the effectiveness of other import restrictions is diminished" [101].

Some of the procedures frequently used to evade restrictive trade practices are more subtle and at times covert. Bribery has already been mentioned as a means to circumvent restrictions. Also previously mentioned was the personal contact approach. Another common practice that is flourishing in the European Community is the shipping of consignments by countries outside the community to more lenient countries, within the Community, who then re-export, legally or illegally, to another country within the Community, by taking advantage of the Common Market trade regulations towards Community members. The intermediate European Community country finds such transactions extremely profitable because of the price differences within the Community itself.

Evaluation of the Restrictive Trade Policies

The two principal trade restraints, the EC Third Country Red Meat Directive and the USDA beef grading standards, provide technical requirements. The Directive also stipulates health and hygiene standards to which foreign producers must adhere. The U.S. grading standards, though initially created for the benefit of the cattle raising sector and beef processors, could indirectly be considered a health standard. The declared objectives of governments in imposing such standards are to ensure a safe, clean, and wholesome product of

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[20] The quotas are set periodically, generally about twice a year. If the import exceeds quota levels than a more restrictive tariff is applied [102].

uniform quality which benefit consumers. But both the Directive and grading standards inhibit the beef trade between countries, and, the United States if they are strictly enforced, trade can be further restricted. They also incur administrative and enforcement costs. Thus consumers must accept higher prices and greater public expenditure in order to ensure that they receive a safe and wholesome product.

The effective protection given the beef industry and the added economic burden generated in the public sector must be equated with the consumers peace of mind. In this light, the cost-benefit analysis of imposing standards and requirements becomes more complicated.[21] The costs could be calculated, though, as previously mentioned, a tariff equivalent has to be estimated; this would require that a value be estimated on intrinsic commodity such as physical health and mental well being? Fatalities and hospitalization caused by food poisoning are the risks that must be born by the consumer in an unregulated market.[22] A scarcity of beef, or even rationing, are possibilities

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[21]Power and Harris published a study on the cost/benefit evaluation of different policies for foot-and-mouth disease in the United Kingdom [103].

[22]J. E. Melville, a counsellor (veterinary service) in the Australian Mission to the European Community in Brussels stated:

> Increased legislation effectively decreases the professional responsibility of veterinary food hygienists by reducing their scope to exercise professional judgments based on scientific knowledge and reasoning. A legislation becomes more detailed, there may, indeed, be a reduced need for highly trained professional staff.
>
> Has the consumer gained? In some respects the consumer does not appear to have gained despite having to pay for increased processing and inspection costs either through taxes or through higher prices for the end product [104].

if herds are stricken with contagious diseases. Europeans have experienced both at one time or another and are willing to pay the price to ensure a sufficient supply of safe and wholesome meat. They are willing to pay for a specific quality of meat. It is exogenous factors such as administrative and political abuses that truly distort the market.

Whether the objective of protecting the European consumer is accomplished depends partially on the zeal with which the meat Directive is applied to the beef industries of both the Community and of countries outside the Community. If the application of the Directive discriminates against a foreign country, the consumer is not fully protected and the standards and requirements became blatant nontariff trade barriers. A discriminatory factor of the Directive is the difference in the times it takes to issue licenses or permits to the domestic industry and to the industry of foreign countries. The delay in issuing export beef production permits causes uncertainty within the foreign beef industries. The costly revamping of facilities prior to inspection, without the assurance of obtaining a permit, deters firms from entering the export trade. This discriminatory action restricts international trade, and therefore is a nontariff trade barrier, which indirectly affects the consumer in a detrimental way.

In the U.S. meat industry, where the beef export trade is insignificant when compared to the domestic production, most firms are unwilling to risk entering the EC market. At present (1983), the U.S.

variety meats encounter very few problems and restriction in entering the European Common Market. But as the European subsidizes domestic beef production, and as its complimentary products increase in volume, the U.S. beef industry will face stricter enforcement of the proposed red meat Directive in areas of health and of hygiene standards and technical requirements. The tougher enforcement of the Directive by the Community will not only further restrict the insignificant U.S. beef exports but it will also affect the important U.S. variety meat trade to the Community.

The USDA beef grading standards are a two-edged sword when it comes to the United States beef exports and imports. On the one hand, they effectively restrict the imports of beef in the prime and choice categories, the most lucrative grades, which are specifically for the retail table meat and hotel/restaurant customer. As it is, few countries can compete with the U.S. beef industry in this category due to the structure of the grain fed cattle industry which is capital intensive, benefitting from the economies of scale, and which has a large supply of comparatively cheap feed grain.

On the other hand, the USDA beef grading standards, by being accepted as the GATT standard, restrict the exports of U.S. beef to EC markets, where the estimated potential demand for grain-fed beef is high.

Again the USDA grade standard requirements as adopted by LIPC favor the U.S. beef exporters over others in trading—specifically, with Japan in the bids for the high quality grain-fed beef category.

With the broadening of the definition of the LIPC grade standard requirements, the comparative advantage the U.S. beef industry had had under the more precise grade definition was reduced, and it allowed Australia and Canada to bid on the LIPC annual tender under the high quality grain-fed beef quota. The revised LIPC standards, by accepting older animals while still maintaining a general differentiation between grain and range fed cattle, made it possible to change feeding requirements of cattle and thus easier to switch the product from one category to another.

The number and the proliferation of nontariff trade barriers are limited only by the ingenuity of the importing countries. At the same time, if the price is right and if the opportunity permits high returns, firms and individuals will seek the means and the ways to evade or circumvent, the trade barriers. In the European Community and Japan, beef trades present these opportunities for high returns, where the international price of certain categories of beef are comparatively low and the domestic retail price of meat relatively high; the high domestic price could be due to three possible factors: the restrictive import practices, the domestic trading structure, and/or the farm support policies. The consumer loses in both the European Community and Japan through having to pay much higher prices for beef. The very strict health, hygiene, and technical standards that are required in the beef and livestock product industry by governments induce individuals, firms, and even government agencies to flaunt the system in search of high returns.

APPENDIX A

THREE TAXONOMIES OF NONTARIFF TRADE BARRIERS

(1) United Nations Conference on Trade and Development

(2) Ingo Walter

(3) Jimmye S. Hillman

A1. Taxonomy of Nontariff Trade Barriers--UNCTAD, 1969

Type I—Commercial policy measure designed primarily to protect import-competing suppliers from foreign competition, or to assist exporters in expanding foreign markets:

Group A--Measures operating through quantitative restraint of trade:

1. Import quotas: globally administered including unspecified import quotas.
2. Import quotas: selectively or bilaterally administered.
3. Licensing: discretionary and restrictive.
4. Licensing: libera, including licensing for statistical purposes.
5. Export restraints of a voluntary nature, imposed by trading partners, both bilateral and multilateral.
6. Import prohibitions: embargoes.
7. Import prohibitions; selective with respect to origin.
8. State trading.
9. Domestic procurement practices by public units.
10. Domestic content and other mixing regulations.

Group B—Measures operating primarily through costs and prices:

1. Variable levies or supplementary import charges, including minimum price regimes.
2. Advanced deposit requirements.
3. Anti-dumping and countervailing charges.
4. Credit or other restraints on imports through the financial sector.

5. Tax benefits for import-competing industries.
6. Direct or indirect subsidization of import-competing industries, including credit subsidization.
7. Special discriminatory internal transport charges.

Type II--Measures designed to deal with problems not directly related to commercial policy questions, but which are from time to time intentionally employed to restrict imports or to stimulate exports.

Group A: Measures operating through quantitative restraint of trade:

1. Communication-media restrictions.
2. Quantitative marketing restraints.

Group B--Measures operating through quantitative restraint of trade:

1. Packaging and labeling regulations, including mark-of-origin rules.
2. Health and sanitary regulations and quality standards.
3. Safety and industrial standards and regulations.
4. Border tax adjustments.
5. Use taxes and excises.
6. Customs clearance and related practices.
7. Customs valuation procedures and related practices.
8. Customs classification procedures and related practices.

Type III--Measures consistently applied with little or no intent to protect domestic industry, but which unavoidably produce certain spill-over effects in the trade sector.

1. Government manufacturing, sales and trading monopolies covering individual products.
2. Government structural and regional development policy measures.
3. Government balance of payments policy measures.
4. Variations in national tax systems.
5. Variations in national social insurance and related programs.
6. Variations in allowable depreciation methods.
7. Government financed research and development, and technology spill-overs from defence and other programs.
8. Scale effects induced by government procurement.
9. Variations in national weights and measures.
10. Discriminatory external transport charges.

Source: Per Lundborg, Trade Policy and Development: Income Distributional Effects in the Less Developed Countries of the U.S. and EEC Policies for Agriculture, Götenborg, Sweden: University of Gothenburg, 1981.

A2, Taxonomy of Nontariff Barriers--Ingo Walter, 1969

Type I classification —(NTBs) implemented with the specific intent of impeding imports or stimulating exports in a manner distortive of trade. It includes measure designed to restrict the exports of trading partners for the purpose of protecting domestic industry . . . (import-directed).

1. quantitative restrictions;
2. variable levies;
3. supplementary charges;
4. minimum import prices;
5. conditional imports;
6. import calendars;
7. mixing, willing and domestic-content regulations;
8. discriminatory government purchasing;
9. buy-domestic extensions;
10. subsidies;
11. antidumping measures;
12. state trading.

Type I Classification—(NTBs) specifically aimed at promoting or restraining exports. . . . (Export-directed.)

1. subsidies;
2. export-credit-insurance subsidization;
3. dumping;
4. state trading;
5. quantitative export restrictions;
6. export charges

Type II Classification—More numerous than those policies and practices specifically aimed at affecting imports or exports are measures employed as trade barriers collaterally with their primary intent of dealing with other economic, social, or political problems . . .

1. customs valuation;
2. customs classification;
3. border tax adjustments;
4. Mark-of-origin regulations;
5. marketing standards;
6. safety requirements;
7. health requirements;
8. internal transport charges;
9. customs procedures;
10. use taxes;
11. advance deposits;
12. exchange restrictions;
13. media restrictions;
14. government entrepreneurship;
15. government financing;
16. trade agreements;
17. monetary restrictions.

Type III Classification—(These) NTBs . . . may be considered ancillary effects of policies and measures applied substantially without regard to their probable impact on imports or exports.

1. variation in tariff classification and valuation;
2. variation in indirect tax systems;
3. variation in depreciation methods;
4. variation in weights and measures;
5. variation in national consumption patterns and related governmental policies;
6. variation in economic policies;
7. variation in social changes;
8. government sponsored R & D;
9. government-induced scale-effects;
10. direct defense spillovers;
11. transfer costs;
12. international cartels.

Source: Robert Hawkins and Ingo Walter, The United States and International Markets, 1972, pp. 77-84.

A3. Taxonomy of Nontariff Barriers--Jimmye S. Hillman, 1978

Section 1—Government participation in trade, including:

1. production subsidies;
2. export subsidies;
3. Countervailing duties;
4. government procurement and restrictive business and union practices;
5. state-trading enterprises in market-economy countries.

Section 2--Customs and administrative entry procedures, including:

1. Customs valuation;
2. Anti-dumping practices;
3. Customs classification;
4. Formalities connected with importation.

Section 3--Industrial, health, and safety standards and packaging, labeling, and market regulations.

Section 4--Specific limitations on imports and exports, including:

1. licensing arrangements;
2. quantitative restrictions including embargoes;
3. bilateral agreements;
4. voluntary restrains;
5. motion picture restrictions;
6. minimum prices on imports (e.g., textiles)

Section 5--Restraints on imports and exports by the price mechanism, including:

1. prior deposits;
2. administrative and statistical duties;
3. restrictions on produces (e.g., foreign wines and spirits);
4. discriminatory taxes on products (e.g., motor cars);
5. special duties on imports;
6. credit restrictions for importers;
7. variable levies;

Source: Jimmye S. Hillman, Nontariff Agricultural Trade Barriers, 1978, pp. 50, 51.

APPENDIX B

TABLES

Table B1. Relative importance of various meat categories in production—Million MT.

	1973-1975	%	1976	%	1977	%	1978	%	1979	%	1980	%	1981	%
Beef	43.2	38	47.5	40	48.4	38	48.4	37	47.2	35	46.8	33	46.7	33
Sheep Meat	7.1	6	7.2	6	7.3	6	7.3	6	7.5	5	7.7	6	7.7	5
Pig Meat (Pork)	42.3	37	42.0	35	47.4	37	48.9	37	53.3	39	55.5	40	54.1	39
Poultry Meat	21.4	19	23.2	19	24.7	19	25.9	20	25.6	19	27.0	19	28.6	20
Other Meat	---	—	---	—	---	—	---	—	3.3	2	3.3	2	3.3	2
Total Meat	114.0	100	119.9	100	127.8	100	130.5	100	136.9	100	139.8	100	140.4	100

Source: FAO Commodity Review and Outlook 1977-79, 1979-80, 1981-82.

Relative importance of various meat categories in trade.

	EXPORTS (1000 MT)								IMPORTS (1000 MT)			
	1976-78	%	1979	%	1980	%	1981	%	76-78	1979	1980	1981
Beef	5,235	45	5,882	45	5,547	41	5,150	38	5,141	5,743	5,564	5,200
Sheep Meat	983	8	1,060	8	1,099	8	1,100	8	913	1,066	1,142	1,150
Pig Meat	3,019	26	3,366	26	3,721	28	3,800	28	2,781	2,994	3,303	3,450
Poultry	1,221	11	1,551	12	1,862	14	2,200	16.5	1,174	1,542	1,774	2,100
Other Meat	1,117	10	1,214	9	1,211	9	1,250	9.5	1,174	1,296	1,252	1,300
Total	11,575	100	13,073	100	13,440	100	13,500	100	11,183	12,641	13,035	13,200

Source: F.A.O. Commodity Review and Outlook: 1981-82.

Table B2. Retail meat prices in selected world capitals, May 6, 1980, November 3, 1981, and May 6, 1983.

City	Steak Sirloin Boneless	Roast Chuck Boneless	Pork Chop	Roast Pork Boneless	Broilers Whole
			(U.S. $/kg)		
-1980-					
Bonn, W. Germany	11.06	8.02	5.24	6.35	2.82
Brussels, Belgium	13.20	7.31	5.72	6.06	3.36
London, U.K.	11.66	6.04	5.22	4.25	2.36
Paris, France	10.37	10.61	5.94	6.82	3.82
Canberra, Australia	8.96	5.33	6.13	4.93	2.55
Ottawa, Canada	6.98	4.53	3.76	3.15	1.95
Tokyo	34.48	24.39	7.30	7.83	3.56
Washington, D.C.	6.81	4.72	3.73	4.39	0.93
Wellington, N.Z.	---	---	---	---	---
-1981-					
Bonn, W. Germany	11.64	7.15	5.79	5.44	2.16
Brussels, Belgium	10.97	6.38	4.94	5.28	2.98
London, U.K.	12.89	5.28	5.41	4.81	1.95
Paris, France	10.03	10.03	6.25	7.75	3.52
Rome	10.95	6.69	6.32	6.32	3.03
Canberra, Australia	8.78	5.56	5.96	5.35	2.30
Ottawa, Canada	6.28	3.77	5.66	5.18	2.92
Tokyo	31.57	22.34	8.66	8.73	3.68
Washington, D.C.	7.61	4.26	4.15	2.94	1.08
-1983-					
Bonn, W. Germany	10.17	---	---	5.25	1.84
London, U.K.	11.77	---	---	3.45	2.61
Paris, France	8.43	---	---	5.44	3.51
Rome	8.94	---	---	5.43	3.09
Canberra, Australia	11.40	---	---	4.55	3.94
Ottawa, Canada	6.26	---	---	4.39	1.77
Tokyo	28.41	---	---	9.23	3.24
Washington, D.C.	8.80	---	---	7.25	1.08

Source: Compiled from USDA, Foreign Agriculture, 1980; November 1981, June 1983.

Table B3. Consumption of main meats in selected countries

	Total Consumption (100 MT)		Beef		Pig Meat		Sheep and Goat Meat		Poultry	
				%		%		%		%
-1970-										
Austr.	1,469	114.8	503	39.3	162	12.7	551	43.0	162	11.3
N.Z.	317	111.2	133	46.6	39	13.7	114	40.0	17	5.6
Japan	2,042	19.7	301	2.9	751	7.3	112	1.1	597	5.0
U.S.A.	22,696	112.4	10,663	52.8	6,075	30.1	298	1.5	4,518	22.0
Canada	1,982	92.9	871	40.8	596	27.9	44	2.1	436	20.5
EC Total	19,662	75.6	6,543	25.1	7,451	28.6	951	3.7	2,730	10.2
-1975-										
				%		%		%		%
Austr.	1,779	128.5	959	69.2	150	10.8	337	24.3	201	14.5
N.Z.	359	114.7	164	52.4	36	11.5	116	37.1	27	8.6
Japan	2,850	25.5	398	3.6	1,165	10.4	131	1.2	781	7.0
U.S.A.	23,426	109.6	11,917	55.7	5,376	25.1	195	0.9	4,710	22.0
Canada	2,850	25.5	398	3.6	1,165	10.4	131	1.2	781	7.0
EC Total	21,653	81.0	6,663	24.9	8,453	31.6	960	3.6	3,245	12.1
-1980-										
				%		%		%		%
Austr.	1,602	108.9	673	45.7	190	12.9	19	20.7	308	20.9
N.Z.	333	105.2	151	47.7	36	11.4	98	31.0	32	10.1
Japan	3,658	31.3	540	4.6	1,584	13.6	79	0.7	1,076	9.2
U.S.A.	25,862	114.6	10,765	47.7	7,512	33.3	159	0.7	6,177	27.4
Canada	2,335	97.5	987	41.2	774	32.3	304	0.8	547	22.8
EC Total	24,346	89.9	6,975	25.8	10,068	37.2	973	3.6	3,752	13.9

Sources: OECD, Meat Balances in OECD Member Countries: 1975-1980, Paris, 1982, pp. 20-26.

Table B4. Changes in meat consumption by meat categories in selected countries and regions between 1970, 1979.

	Trend	1970 Total Consumption (Millions MT)	b	1979 Total Consumption (Millions MT)	b
All Meat	Increase	48.2	(53.5)	57.1	(65.0)
Beef	Increase	19.0	(20.5)	20.2	(22.1)
Pig Meat	Increase	15.1	(16.9)	19.3	(22.3)
Sheep & Goat Meat	Decrease	2.1	(2.6)	1.6	(23.2)
Poultry	Increase	8.5	(9.1)	11.7	(13.2)

b Figures in brackets are the total OECD consumption in Million MT.

Source: Compiled from OECD, Meat Balances in OECD Member Countries: 1975-1980, Paris, 1982.

Table B5. World cattle inventory by region, late 1930s to 1979[a]

Region	Late 1930s	Year[b] 1950	1960	1970	1979	Year 1960	Year 1979	Increase 1950 to 1979	Increase 1960 to 1979
	1000 Head					Percent			
Africa	80,000	88,000	114,000	156,766	170,110	12	14	93	49
North & Central America (Other than USA)	28,971	31,679	46,664	56,170	63,521	5	5	101	36
U.S.A.	66,029	77,321	96,236	112,303	110,864	10	09	43	15
South America	107,000	133,000	160,000	198,350	216,119	17	18	63	35
Asia	228,000	215,000	292,990	351,731	366,579	32	30	70	25
Europe	103,000	96,000	113,400	124,020	134,535	12	11	40	19
Oceania	18,000	19,000	22,800	31,414	36,203	2	3	91	59
USSR	59,700	53,300	74,115	95,161	114,086	8	10	114	54
TOTAL WORLD	690,700	713,300	920,300	1,125,915	1,212,017	100	100	70	32
Developed World					425,019	---	35		
Developing World					786,997	---	65		
Centrally Planned					217,751	---	18		

[a]Does not include buffaloes.
[b]Totals contain an estimate of missing countries. Thus, columns may not add to totals.

Source: Simpson, 1981.

Table B6. World beef and buffalo meat production by region, late 1930s to 1979[a]

Region	Late 1930s	Year[b] 1950	1960	1970	1979	Year 1960	Year 1979	Increase 1950 to 1979	Increase 1960 to 1979
	1000 Head							Percent	
Africa	1,210	1,520	1,800	2,490	2,852	06	06	88	58
North & Central America (Other than USA)	953	1,056	1,497	1,925	2,333	05	05	121	56
USA	3,617	4,844	7,183	10,006	9,704	26	21	100	35
South America	3,380	4,020	4,360	6,041	6,865	16	15	71	57
Asia	1,900	1,750	1,330	4,048	5,016	05	11	187	227
Europe	4,800	3,900	6,320	8,896	10,508	23	22	169	66
Oceania	720	800	890	1,458	2,525	03	05	216	184
USSR	b	b	b	5,381	6,966	16	15	---	---
TOTAL WORLD	16,580	17,890	28,000	40,245	46,769	100	100	---	67
Developed World				20,090	31,530		67		
Developing World				10,899	15,239		33		
Centrally Planned				9,256	11,685		25		

[a]Indigenous production only, i.e., does not include imported animals.

[b]USSR and Mainland China excluded until 1970, but world totals from 1960 contain an estimate of missing countries.

Source: Simpson, 1981, p. 21.

Table B7. Bovine Meat: Production, trade, and price developments, 1972-1981

	1972-1974	1975	1976	1977	1978	1979	1980	1981
				(In 1,000 Tons)				
Production (Total)	41,313	45,447	47,515	47,548	48,397	47,200	46,800	46,700
Developing Countries	10,542	11,238	14,272	4,550	15,274	15,200	15,40	15,500
Developed Countries	30,771	34,209	33,242	32,998	33,123	32,000	31,400	31,200
Exports	2,377	2,483	2,623	2,928	3,193	3,389	3,080	2,860
(% of Production)	(5.75)	(5.46)	(5.52)	(6.16)	(6.61)	(7.18)	(6.58)	(6.12)
Developing Countries	691	368	585	624	723	625	500	505
(% of Production)	(6.55)	(3.27)	(4.10)	(4.29)	(4.73)	(4.11)	(3.25)	(3.26)
Developed Countries	1,686	2,115	2,038	2,304	2,470	2,764	2,580	2.355
(% of Production)	(5.48)	(6.18)	(6.13)	(6.98)	(7.46)	(8.64)	(8.22)	(7.55)
Imports	2,437	2,443	2,617	3,024	3,040	3,467	3,210	3,000
Developing Countries	151	185	283	368	529	553	500	495
Developed Countries	2,286	2,258	2,334	2,656	2,511	2,914	2,710	2,505
Value of Exports	3,604	3,772	3,901	4,795	5,951	7,967	8,422	
(% of Total Ag. Exports)		(4.88)	(4.33)	(4.74)	(5.29)	(5.80)	(5.48)	
(Price Index	100	78	94	89	127	171	162	150
Price Index of Feed Grain				(1972-74 = 100)				
U.S. (Export)[a]	100	161	184	150	180	238	300	286
World[b] Brant & Milling Prod	100	146	177	186	168	188	193	176
World[b] All Grain	100	152	143	129	157	181	239	259
Total Agricultural				(In Billions $)				
Exports		77.9	90.0	101.3	113.5	138.0	158.7	

Table B8. Trade—Meat of bovine animals, fresh, chilled or frozen—1000 metric tons

	1948-1952		1956		1957		1958	
	Export	Import	Export	Import	Export	Import	Export	Import
Austria	0.1	0.6	0.2	2.6	0.3	2.1	0.2	1.9
Belgium-Lux	1.8	18.3	2.1	10.3	0.6	10.8	8.3	7.5
Denmark	18.5	—	46.1	—	82.8	0.1	71.7	—
France	6.2	6.6	15.2	15.7	10.8	32.6	4.5	23.1
Germany (West)	1.2	9.7	4.2	92.7	7.2	53.9	15.9	23.3
Ireland	10.5	—	16.3	—	27.1	—	26.6	—
Italy	0.1	23.0	0.1	68.0	—	93.2	0.1	117.2
Netherlands	5.1	16.8	16.4	22.3	26.5	11.2	22.3	11.6
Norway	...	...	1.3	0.1	0.3	0.2	—	1.5
Sweden	0.4	9.5	6.4	7.2	0.6	23.7	0.3	13.2
Switzerland	...	0.1	—	...	—	...	—	...
U.K.	...	279.0	...	439.6	...	461.2	...	408.7
Canada	42.0	0.4	5.8	2.4	21.5	3.6	24.4	5.7
U.S.A.	2.0	35.9	31.2	14.0	32.2	57.3	3.6	162.6
Argentina	195.0	—	363.1	—	354.7	—	369.5	—
Brazil	12.4	2.0	8.6	—	26.5	—	33.3	—
Uruguay	53.4	—	26.5	—	32.2	—	19.1	—
Japan	—	0.5	0.1	2.4	0.1	22.7	0.2	4.9
Australia	69.5	—	125.4	—	160.7	—	166.3	—
New Zealand	58.0	—	119.5	—	117.1	—	117.6	—

F.A.O., Trade Yearbook, 1959, Volume 13. pp. 54-61.

Table B8. Trade—Meat of bovine animals, fresh, chilled or frozen Continued—1000 metric tons

	1959[1]		1960[1]		1961[1]		1962[1]		1963[2]		1964[2]	
	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import
Austria	0.67	2.14	4.37	2.83	0.11	3.29	0.67	3.14	3.87	2.31	0.60	5.20
Belgium-Lux	6.60	5.53	4.30	8.53	0.46	12.47	2.17	16.89	10.75	20.41	2.98	22.76
Denmark	59.57	0.18	70.92	0.05	49.70	0.08	76.67	0.12	94.46	0.11	70.00	0.08
France	30.04	27.67	62.53	27.04	103.35	10.88	154.86	9.62	98.91	15.76	70.24	72.91
Germany (West)	14.72	53.41	19.89	64.67	10.74	83.66	12.52	105.51	12.50	91.13	10.60	117.61
Ireland	35.40	—	47.93	—	74.69	—	59.77	—	61.69	—	52.73	—
Italy	0.07	100.38	0.15	136.76	0.15	53.79	0.12	94.75	0.09	258.09	0.10	283.61
Netherlands	28.09	17.52	37.37	14.47	24.05	21.65	35.78	21.11	61.64	17.79	70.21	30.54
Norway	—	0.73	0.22	1.37	1.28	0.90	5.43	0.59	2.34	0.62	0.17	1.40
Sweden	1.74	8.02	0.34	7.17	0.28	18.01	8.07	7.85	20.08	5.03	10.38	6.63
Switzerland	—	14.91	0.01	16.12	0.003	17.17	0.002	21.24	0.001	16.72	0.12	34.07
U.K.	—	361.60	—	358.43	—	292.48	—	332.81	2.33	363.55	7.35	350.45
Canada	10.39	9.51	8.42	7.89	13.37	7.44	9.25	10.49	8.77	10.97	15.23	6.30
U.S.A.	3.87	237.89	4.62	187.71	4.82	258.14	4.47	391.60	3.97	448.38	16.03	320.48
Argentina	344.96	—	280.02	—	270.71	—	388.69	—	531.53	—	420.90	—
Brazil	23.43	1.49	5.99	—	14.73	—	12.95	—	12.58	—	19.00	—
Uruguay	22.07	—	52.15	—	42.86	—	54.55	—	64.51	—	122.09	—
Japan	0.28	2.78	0.12	5.79	0.05	5.36	0.01	4.76	0.03	4.69	0.02	6.20
Australia	231.48	—	191.22	—	138.16	—	204.40	—	264.96	—	286.21	—
New Zealand	90.28	—	100.30	—	97.02	—	117.73	0.06	128.50	0.09	121.60	0.02
Total of World Trade	978.94	954.96	972.80	962.66	978.65	933.03	1,341.72	1,214.82	1,604.61	1,554.41	1,449.03	1,462.32

[1] F.A.O., Trade Yearbook, 1963, Vol. 17, pp. 49-52.

[2] F.A.O., Trade Yearbook, 1966, Volume 20, pp. 18-21.

Table B8. Trade—Meat of bovine animals, fresh, chilled, or frozen Continued-- 1000 metric tons

	1965		1966		1967		1968		1969	
	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import
Austria	1.99	8.48	5.24	3.85	4.54	2.35	2.42	3.93	2.79	9.20
Belgium-Lux	2.44	17.68	7.11	14.18	23.62	30.10	26.58	36.14	15.41	20.89
Denmark	63.48	0.08.	83.75	0.35	107.61	0.82	98.58	0.79	78.26	1.16
France	65.47	59.39	87.59	36.86	91.27	35.11	154.88	33.17	124.67	73.75
Germany (West)	5.17	147.36	4.48	125.52	15.27	134.00	29.55	172.20	45.97	192.77
Ireland	55.04	0.01	70.03	0.002	147.97	0.02	117.13	0.05	121.76	0.19
Italy	0.09	252.44	0.09	277.52	0.04	324.15	0.44	249.56	0.89	260.97
Netherlands	71.52	24.78	58.76	32.88	66.48	41.48	84.93	51.57	96.33	57.97
Norway	0.51	1.11	—	2.25	1.25	1.91	0.86	6.32	0.75	1.09
Sweden	15.76	7.51	21.89	4.98	26.48	6.54	15.87	9.62	24.59	10.06
Switzerland	0.09	31.18	0.004	24.90	0.04	32.72	1.39	27.50	2.43	34.47
U.K.	9.80	294.72	6.19	289.83	6.28	273.37	2.81	261.15	7.32	344.89
Canada	35.73	3.33	26.86	5.07	13.41	10.18	22.67	9.51	21.52	49.25
U.S.	15.31	264.53	8.16	346.39	8.08	381.80	7.13	429.69	7.61	470.16
Argentina	349.19	—	401.13	—	379.70	—	254.90	—	404.57	—
Brazil	35.83	—	20.79	—	11.58	—	39.25	—	77.56	—
Uruguay	64.60	—	55.08	—	57.92	—	95.59	—	106.46	—
Japan	0.05	10.81	0.10	13.49	0.02	13.79	0.02	13.50	0.03	18.62
Australia	321.35	—	278.03	0.001	262.46	.0005	255.94	0.04	256.07	0.09
New Zealand	121.39	—	101.20	0.16	106.20	0.14	129.34	0.84	133.30	0.58
Total of World Trade	1,450.30	1,347.02	1,472.10	1,495.17	1,581.33	1,612.71	1,631.74	1,641.17	1,884.02	

F.A.O., Trade Yearbook, 1971, Vol. 25, pp. 20-23.

Table B8. Meat bovine animals, frech, chilled, or frozen Continued—1000 metric tons

	1970[1]		1971[1]		1972[1]		1973[1]		1974[2]		1975[3]	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Austria	3.36	16.94	5.33	13.10	6.17	12.60	6.93	13.46	4.62	2.08	6.08	1.94
Belgum-Lux	17.42	18.70	23.40	21.71	28.96	33.26	31.75	35.70	28.84	20.44	32.07	29.19
Denmark	70.07	1.59	78.80	1.70	69.86	0.99	93.24	0.79	105.29	0.60	128.53	1.14
France	114.39	72.37	142.66	68.46	123.10	153.36	134.52	167.60	251.58	117.31	291.60	159.60
Germany (West)	55.37	185.32	54.81	178.54	45.99	257.90	76.37	236.98	116.53	175.88	137.80	197.14
Ireland	140.36	0.33	147.87	0.33	128.94	0.21	131.15	0.48	198.99	0.68	270.39	1.67
Italy	0.96	290.25	0.82	367.32	0.81	334.05	0.46	433.18	0.48	296.77	2.48	320.46
Netherlands	114.48	43.51	110.96	41.71	114.73	77.49	120.71	84.16	134.24	48.00	137.28	44.91
Norway	3.81	1.10	0.05	3.95	0.20	5.84	0.18	4.63	0.04	2.00	0.01	5.31
Sweden	24.42	8.99	16.07	7.18	10.54	7.61	3.71	5.99	3.42	8.01	0.61	13.05
Switzerland	1.94	31.36	—	31.84	0.24	38.25	0.09	36.41	—	15.92	0.02	10.89
U.K.	9.91	264.82	13.74	252.81	52.87	277.66	65.46	270.32	58.51	249.08	114.58	196.35
Canada	47.22	60.98	37.58	46.93	28.11	60.47	30.39	67.78	20.46	53.63	11.53	58.33
U.S.A.	8.55	527.15	13.90	517.65	19.63	602.31	32.38	611.65	22.17	490.40	20.36	557.26
Argentina	351.51	—	270.73	—	385.29	—	288.09	—	105.14	—	75.44	—
Brazil	98.31	0.58	88.74	6.22	155.63	1.01	98.53	1.40	19.17	51.80	5.33	23.97
Uruguay	130.78	—	80.34	—	104.93	—	99.10	—	99.59	—	78.62	—
Japan	0.02	23.05	0.02	41.50	0.02	57.57	0.02	127.22	0.01	53.60	0.01	44.92
Australia	327.90	0.12	339.13	0.31	402.07	0.06	582.66	0.04	493.32	0.09	416.52	0.21
New Zealand	177.70	0.35	180.85	0.31	186.24	0.61	202.75	0.13	183.44	0.11	192.44	0.15
USSR	—	—	—	—	—	—	—	—	27.38	395.60	17.56	406.14
Total World	2,087.91	2,135.58	1,977.83	2,085.43	2,352.22	2,359.57	2,548.62	2,619.61	2,269.12	2,317.27	2,355.18	2,470.85

[1] F.A.O., Trade Yearbook, 1975, Vol. 29, pp. 29-32

[2] F.A.O., Trade Yearbook, 1976, Vol. 30, pp. 52-53.

[3] F.A.O., Trade Yearbook, 1977, Vol. 31, pp. 52-53.

Table 88. Meat of bovine animals fresh, chilled, or frozen Continued—1000 metric tons

	1976[1]		1977[2]		1978[3]		1979[4]		1980[4]		1981[3]	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Austria	6.64	19.18	5.46	14.97	13.04	20.02	16.36	11.08	19.18	9.99	18.32	12.19
Belgium-Lux	37.60	33.08	34.78	35.54	44.78	50.03	44.38	40.97	59.14	30.29	66.6	27.69
Denmark	107.16	1.31	137.35	1.21	153.51	2.50	147.72	0.62	138.99	1.04	137.28	1.30
France	271.60	156.09	215.59	206.29	185.60	261.36	208.99	235.69	289.88	253.46	315.19	236.81
Germany (FR)	141.46	211.48	185.28	213.62	210.97	199.52	308.85	210.77	335.85	200.11	368.02	174.96
Ireland	180.05	1.27	262.05	1.58	261.65	0.21	254.93	0.46	343.88	4.21	218.97	10.03
Italy	0.46	293.21	1.80	323.21	6.19	321.63	16.92	340.72	54.61	350.26	50.12	366.20
Netherlands	133.21	58.50	153.23	67.26	168.93	70.76	179.22	77.78	210.91	103.60	250.25	76.58
Norway	0.04	12.71	0.11	11.07	0.09	9.96	0.07	8.68	0.06	12.47	0.11	3.76
Sweden	2.69	14.48	8.60	10.59	6.02	8.97	18.95	12.11	13.42	7.97	12.19	4.21
Switzerland	0.02	11.39	0.28	10.72	0.07	12.91	0.09	11.89	2.84	9.12	0.04	13.24
U.K.	100.54	213.78	87.63	257.67	94.64	273.20	92.39	271.90	152.09	232.69	108.20*	180.00*
Canada	39.73	95.07	37.11	56.10	30.92	65.67	38.62	56.46	46.02	52.97	57.60	53.50
U.S.A.	36.56	606.60	41.90	553.14	51.59	673.28	54.07	714.76	64.18	642.26	68.81	544.48
Argentina	226.97	—	278.13	—	299.21	—	338.48	—	204.00	—	220.00	—
Brazil	11.54	22.65	31.25	25.70	9.60	112.61	2.67	110.52	5.73	64.51	46.40	60.35
Uruguay	142.97	—	107.24	—	89.36	—	61.35	—	95.01	—	139.40	—
Japan	0.01	92.24	0.01	84.39	0.01	99.89	0.01	129.67	0.01	121.89	0.02	122.43
Australia	549.49	0.21	635.03	1.16	755.05	1.11	834.66	0.85	580.46	1.50	514.69	2.18
New Zealand	288.11	0.04	260.64	0.01	225.78	0.09	244.63	0.05	215.58	0.03	231.53	0.13
USSR	7.95	225.75	7.74	437.65	9.53	40.00	5.40	210.00	8.06	333.00		
Total	2,664.52	2,622.03	2,910.92	3,050.42	3,123.83	3,032.94	3,433.38	3,231.49	3,404.35	3,218.32	3,384.09	3,204.14

[1] F.A.O. Trade Yearbook, 1978, Vol.32, pp. 55-56

[2] F.A.O. Trade Yearbook, 1979, Vol. 33, pp. 55-5

[3] F.A.O. Trade Yearbook, 1980, Vol. 34, pp. 54-56

[4] F.A.O. Trade Yearbook, 1981, Vol. 35, pp. 54-56

*Unofficial figures.

Table 89. Total U.S. beef production, beef and veal exports and imports, and beef and veal exports and imports as a percentage of U.S. beef production.[1] [2]

Year	Total U.S. production (beef & veal)	Total U.S. consumption	Beef & veal exports	Beef & veal imports	Exports as a percentage of U.S. production	Imports as a percentage of U.S. production	Imports as a percentage of consumption
	million pounds				percent		
1960	15,862	16,256	56	775	.35	4.89	4.77
1961	16,371	16,923	58	1,037	.35	6.33	6.13
1962	16,339	17,329	53	1,440	.32	8.81	8.31
1963	17,385	18,525	54	1,677	.31	9.65	9.05
1964	19,469	19,889	96	1,085	.49	5.57	5.46
1965	19,747	20,052	97	942	.49	4.77	4.70
1966	20,636	21,021	87	1,204	.42	5.83	5.73
1967	21,011	21,542	94	1,328	.45	6.32	6.16
1968	21,614	22,334	94	1,518	.44	7.02	6.80
1969	21,831	22,719	87	1,641	.40	7.52	7.22
1970	22,273	23,507	104	1,816	.47	8.15	7.73
1971	22,468	23,629	121	1,756	.54	7.82	7.43
1972	22,878	24,427	124	1,996	.54	8.72	8.17
1973	21,634	23,188	152	2,022	.70	9.35	8.72
1974	23,624	24,982	130	1,646	.55	6.97	6.59
1975	24,849	26,274	124	1,782	.50	7.17	6.78
1976	26,822	28,403	170	2,095	.63	7.81	7.40
1977	26,113	27,874	161	1,963	.69	7.52	7.04
1978	24,874	26,645	221	2,321	.89	9.33	8.71
1979	21,880	23,968	222	2,431	1.02	11.11	10.14
1980	22,044	23,732	223	2,085	1.01	9.46	8.79

Source: Western Livestock Marketing Information Project

1/ Carcass weight equivalent
2/ Livestock and Meat Statistics

Table B10. Six countries exporting beef and veal products to the U.S., 1980-1980--product weight[1]

Year	Australia	New Zealand	Argentina	Mexico	Ireland	Canada	Total imported	Percentage of total beef exported to U.S.
	million pounds						-p.w.-	-p.w.-
1960	141.7	130.7	52.6	39.1	52.8	18.9	438.8	85.6
1961	233.9	154.5	65.2	53.4	64.4	32.3	603.7	87.6
1962	441.6	213.6	55.9	59.3	70.7	19.4	860.5	88.9
1963	517.1	235.7	87.4	73.0	72.9	17.2	1,003.3	89.6
1964	377.1	168.3	54.4	48.9	20.1	28.8	697.6	87.2
1965	307.5	103.6	54.8	46.3	7.8	71.4	591.4	84.4
1966	404.1	145.0	80.6	57.1	38.4	57.2	782.4	87.6
1967	425.6	170.9	108.1	47.8	80.6	26.7	859.7	87.8
1968	444.2	203.1	132.6	65.6	56.7	46.7	948.9	84.1
1969	491.1	223.7	130.0	66.5	66.0	44.0	1,021.3	83.9
1970	535.8	241.6	141.1	78.6	69.0	80.6	1,146.7	84.9
1971	505.4	241.8	88.4	79.1	64.0	80.1	1,058.8	80.8
1972	674.7	266.4	94.1	81.9	31.1	59.6	1,207.8	81.6
1973	697.9	291.3	81.5	67.0	22.0	56.3	1,216.0	81.2
1974	514.3	259.9	89.0	38.8	44.0	36.9	982.9	80.7
1975	681.2	276.8	56.2	29.8	6.8	21.4	1,072.2	81.6
1976	675.5	270.9	95.0	52.8	4.5	84.4	1,183.1	79.8
1977	646.3	272.2	80.3	59.8	----	76.7	1,135.3	81.3
1978	811.8	339.3	106.7	63.3	----	63.3	1,384.4	83.6
1979	876.8	356.2	113.5	5.3	----	77.8	1,429.6	82.3
1980	801.8	329.3	73.8	.5	9.2	94.4	1,309.0	84.5

Source: Western Livestock Marketing Information Project

1/ Livestock and Meat Situation

Table B11. Five countries receiving U.S. beef and veal exports, 1960-1980[1]

Year	Canada	Bahamas	Jamaica	France	Japan	Total	Percentage of total beef exports (p.w.)
			(million pounds)				
1960	19.5	1.8	1.3	-	-	22.6	54.2
1961	18.9	1.8	1.6	.1	-	22.4	51.9
1962	16.9	1.9	1.2	.1	-	20.1	49.1
1963	14.9	2.2	1.4	-	.1	18.6	44.8
1964	17.2	3.0	1.9	2.1	.1	24.3	30.5
1965	9.9	3.0	1.3	1.3	.1	15.6	21.8
1966	13.1	4.0	1.0	.5	.1	18.7	30.7
1967	17.6	5.8	1.2	.3	.4	25.3	37.4
1968	11.9	7.1	1.1	.4	.4	20.9	32.4
1969	10.2	7.7	1.0	.1	.6	19.6	33.1
1970	11.6	7.5	1.6	.3	1.1	22.1	29.4
1971	24.5	7.0	1.8	.3	1.7	35.3	38.2
1972	34.3	6.6	1.9	.3	1.6	44.7	49.1
1973	34.6	7.0	1.4	.6	24.8	68.4	54.9
1974	15.5	6.7	1.5	.4	13.4	37.5	37.0
1975	7.9	6.0	1.3	.1	17.7	33.0	32.1
1976	19.0	5.2	.9	.1	34.3	59.5	41.5
1977	9.2	5.8	.5	1.2	44.5	61.2	40.5
1978	8.9	6.1	1.0	.6	74.6	91.2	53.1
1979	8.3	6.1	.8	.3	77.7	93.7	55.9
1980	10.9	7.2	.7	.1	75.5	94.4	57.0

Source: Western Livestock Marketing Information Project

1/ Livestock and Meat Statistics and Livestock & Meat Situation

Table B12. Cattle and calves; beef and beef products; value of United States imports 1960-1980[1]

Year	Cattle & calves (live)	Beef & veal	Hides & skins	Variety meats	Tallow, greases, & lards	Total
			(million dollars)			
1960	68.2	182.2	10.5	.6	.1	261.6
1961	100.8	239.4	13.1	.5	.1	353.9
1962	116.6	312.1	15.3	1.2	.1	445.3
1963	74.1	361.6	12.5	1.9	.1	450.2
1964	48.2	260.9	13.5	.7	.7	324.0
1965	104.0	241.7	10.4	.8	.8	357.7
1966	104.0	353.9	9.4	1.1	.7	469.1
1967	64.1	403.9	7.2	1.2	.8	477.2
1968	97.4	485.5	8.8	1.1	.8	593.6
1969	103.0	568.7	7.8	1.7	1.2	682.4
1970	121.5	679.8	6.2	2.5	.4	810.4
1971	116.8	734.7	4.0	2.0	.4	857.9
1972	162.0	861.7	8.3	2.8	.7	1035.5
1973	204.3	1173.7	18.6	3.4	2.5	1402.5
1974	116.7	896.7	11.7	2.8	3.2	1031.0
1975	82.2	661.4	14.3	2.0	2.7	762.6
1976	166.0	910.7	18.6	1.7	1.5	1098.5
1977	189.8	834.2	18.9	1.9	1.3	1046.1
1978	254.9	1287.4	21.2	2.9	1.2	1567.6
1979	247.0	1967.0	31.9	8.2	.6	2254.7
1980	237.0	1780.2	26.1	7.8	1.1	2052.2

Source: Western Livestock Marketing Information Project

1/ Livestock and Meat Statistics and Foreign Agriculture Circular

Table B13. Cattle and calves; beef and beef products; value of United States exports, 1960-1980[1]

Year	Cattle & calves (live)	Beef & veal	Hides & skins	Variety meats	Tallow, greases, & lards	Total
			-million dollars -			
1960	10.4	11.6	69.8	25.2	175.8	292.8
1961	9.0	12.1	77.2	27.2	181.3	306.8
1962	7.8	12.6	73.3	25.5	147.5	266.7
1963	10.6	11.8	62.7	31.9	172.2	289.2
1964	17.6	23.3	76.3	47.9	249.7	414.8
1965	17.1	22.6	100.2	56.0	225.6	421.5
1966	14.3	17.8	147.2	58.5	187.5	425.3
1967	21.2	20.2	118.4	57.1	175.9	392.8
1968	15.4	19.9	110.1	54.9	148.6	348.9
1969	16.7	21.7	140.8	61.7	164.5	405.4
1970	29.3	24.6	134.3	69.5	244.1	501.8
1971	32.7	36.0	140.3	78.2	266.0	553.2
1972	43.6	49.8	276.7	88.6	188.4	647.1
1973	126.0	97.7	349.8	123.9	310.5	1007.9
1974	112.4	64.9	309.4	113.1	540.0	1139.8
1975	77.2	70.1	269.9	109.9	331.8	858.9
1976	92.2	110.1	485.3	151.6	403.7	1242.9
1977	66.8	121.4	542.7	157.6	548.6	1437.1
1978	94.1	193.8	665.1	198.4	549.4	1700.8
1979	68.0	241.7	954.7	249.0	697.1	2210.5
1980	54.6	249.3	650.9	300.3	727.2	1982.3

Source: Western Livestock Marketing Information Project

1/ Livestock and Meat Statistics or Foreign Agriculture Cir.

Table B14. The level and trend of protectionism for agricultural products in selected countries.

(Percentages)

Country	Average Level of Agricultural Protection			Average Industrial Tariff
	Mid-1950s	Mid-1960s	Mid-1970s	Mid-1960s
Australia	0	0	NA	10-30
New Zealand	0	0	NA	20-40
Canada	25	12	NA	16
U.S.A.	21	18	NA	21
EEC Countries				
Benelux	25	51	74	33
Denmark	9	12	19	7
France	34	43	66	19
Germany Fed. Rep. of	40	58	69	8
Greece	44	66	82	NA
Ireland	6	17	22	24
Italy	44	73	78	20
U.K.	47	32	31	19

Source: Alexander J.Yeats, "Agricultural Protectionism: An Analysis of its International Economic Effect and Options for Institutional Reform," in Trade and Development: An UNCTAD Review, Geneva: United Nations, 1981, p. 4.

APPENDIX C

FIGURES

(NOTES: Total 1981: provisional)
Australia: includes fresh, chilled or frozen buffalo meat

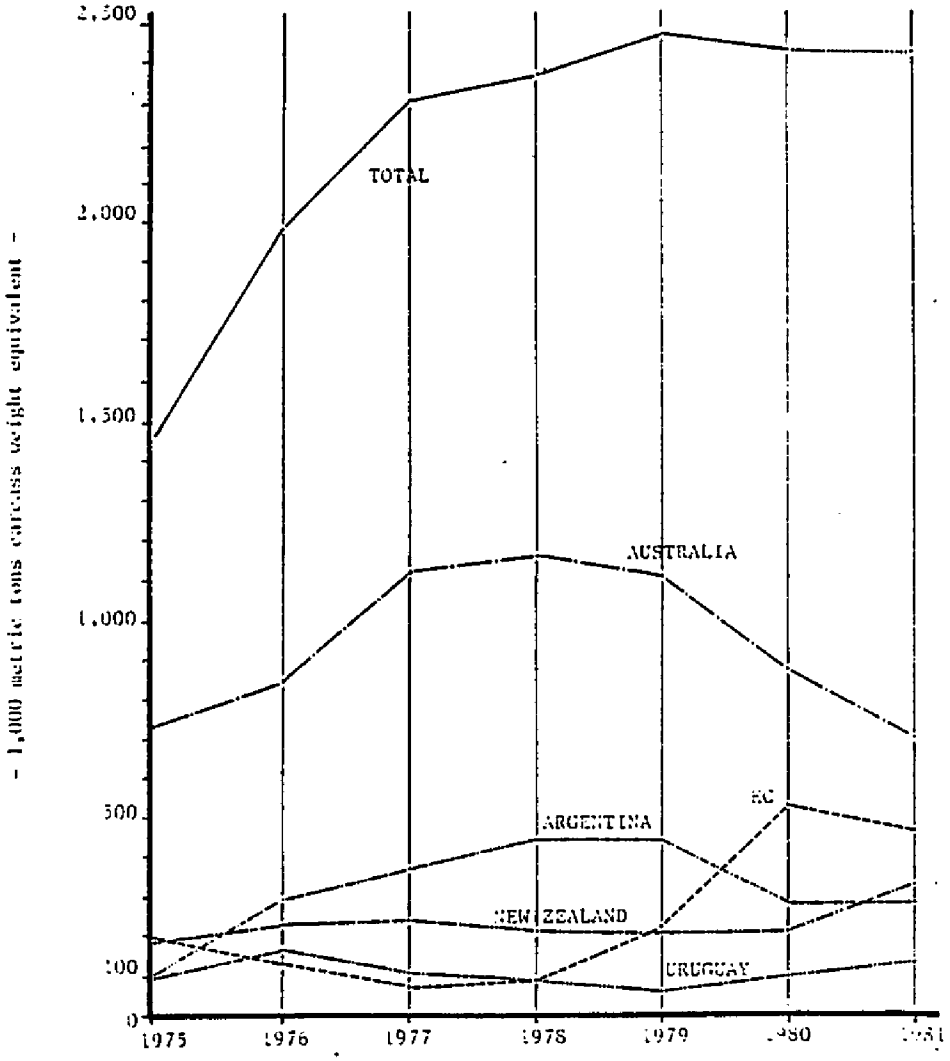


Figure C1. Exports of fresh, chilled, and frozen bovine meat.

Source: GATT, The World Market for Bovine Meat, Geneva; 1981.

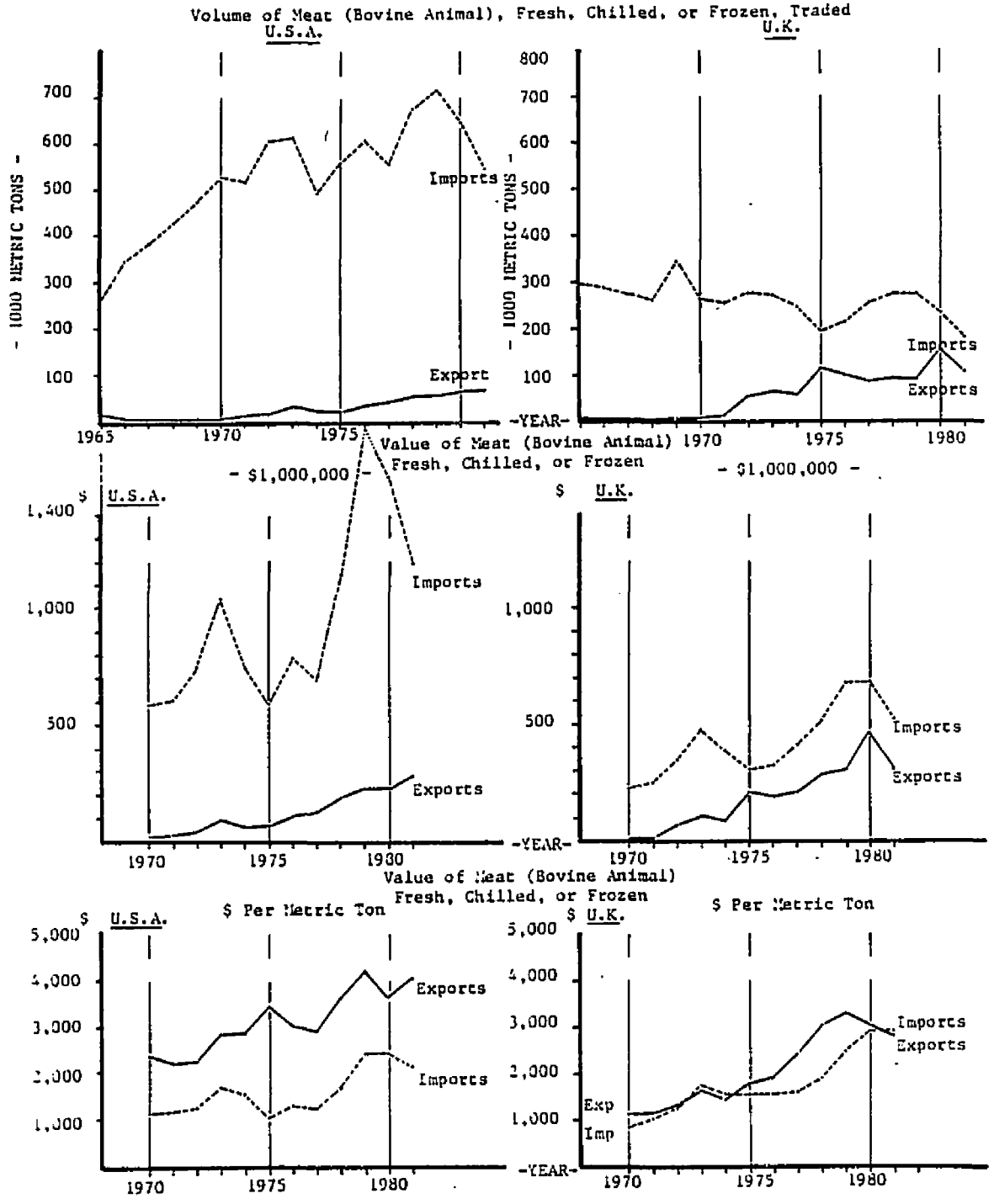


Figure C2. Volume and value of meat (bovine animal) fresh, chilled, or frozen, traded—United States and United Kingdom.

Source: F.A.O. Trade Yearbooks, 1965 through 1981.

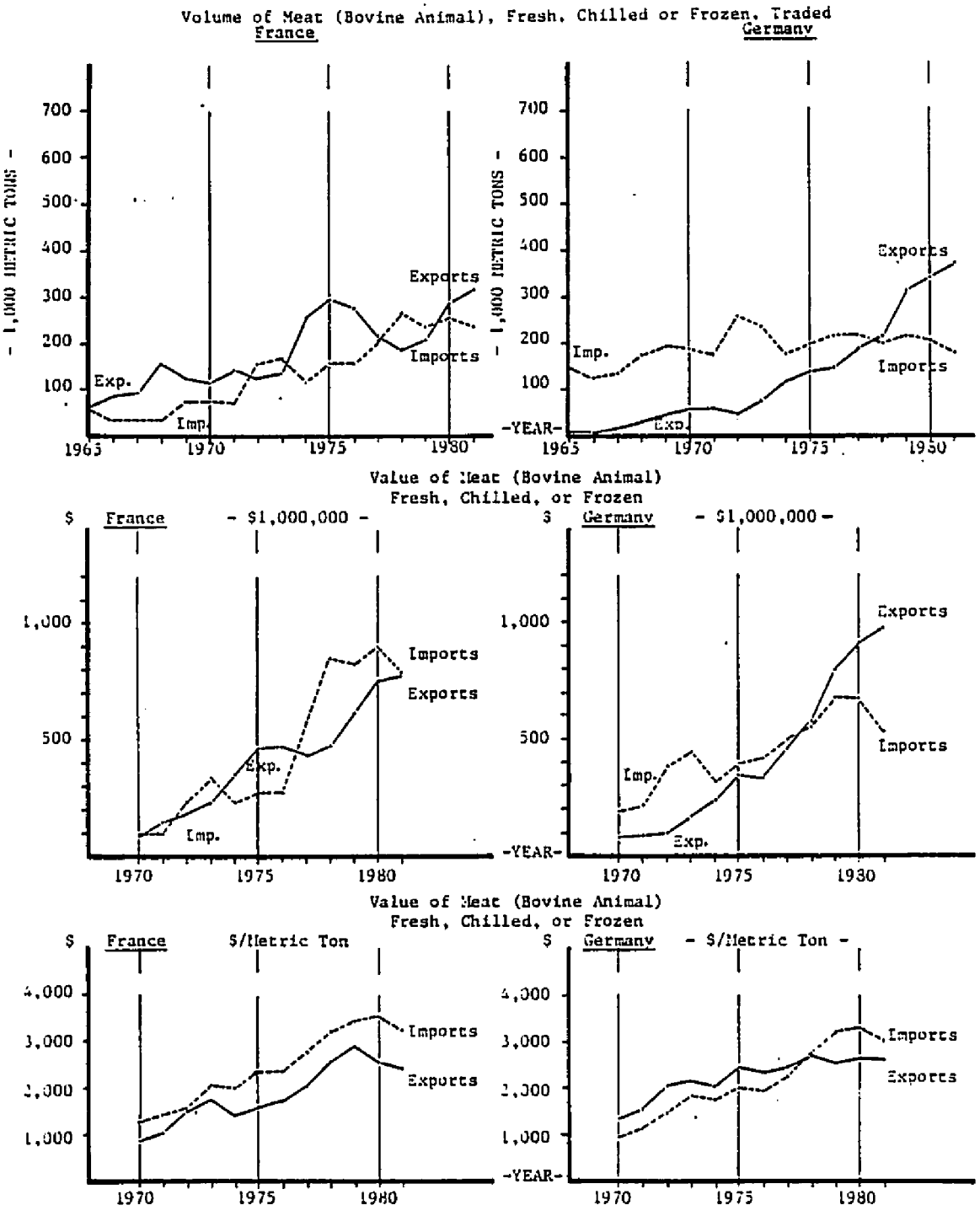


Figure C3. Volume and value of meat (bovine animal) fresh, chilled, or frozen, traded—France and Germany.

Source: F.A.O. Trade Yearbooks, 1965 through 1981.

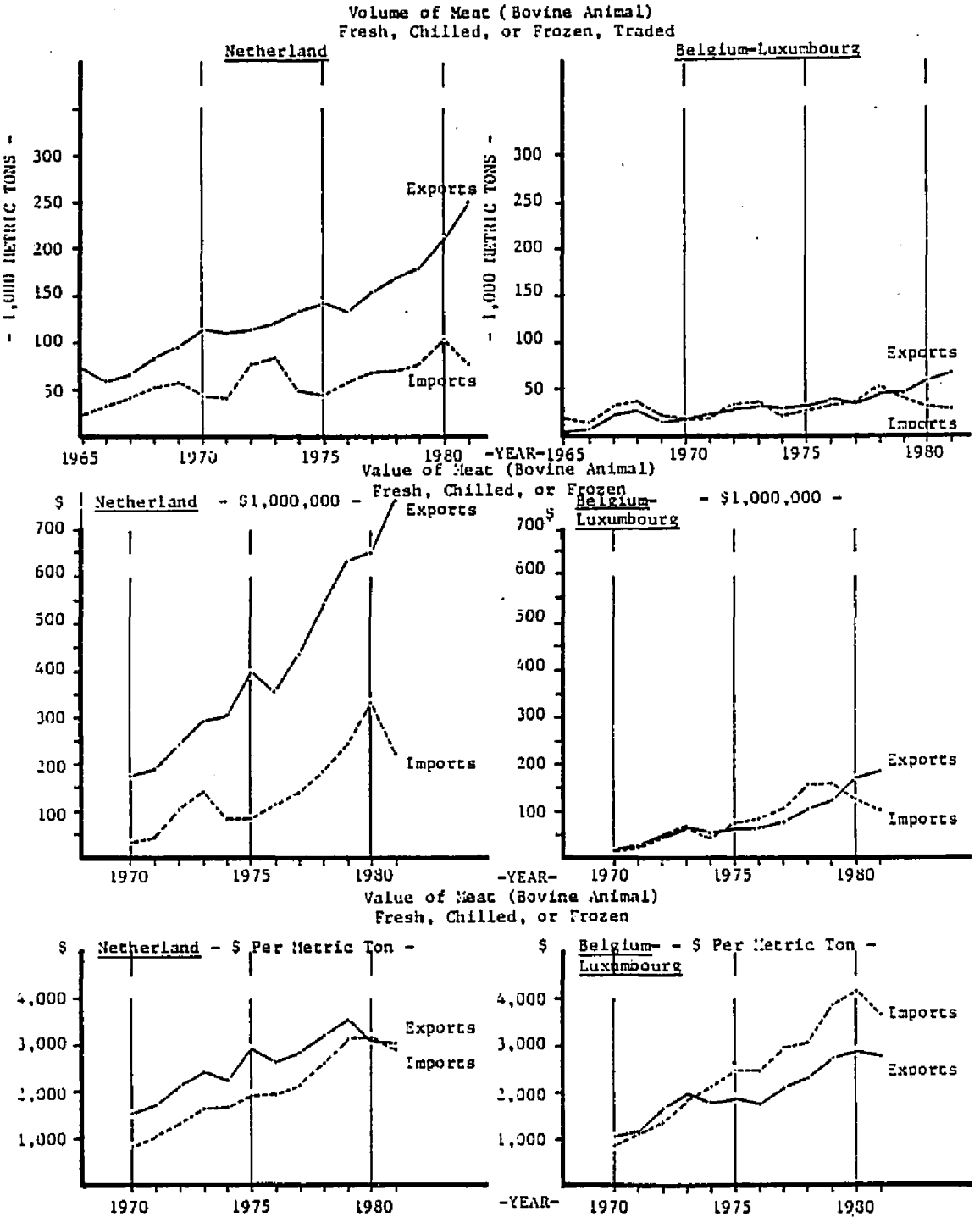


Figure C4. Volume and value of meat (bovine animal), fresh, chilled, or frozen, traded—Netherland and Belgium-Luxembourg.

Source: F.A.O. Trade Yearbooks, 1965 through 1981.

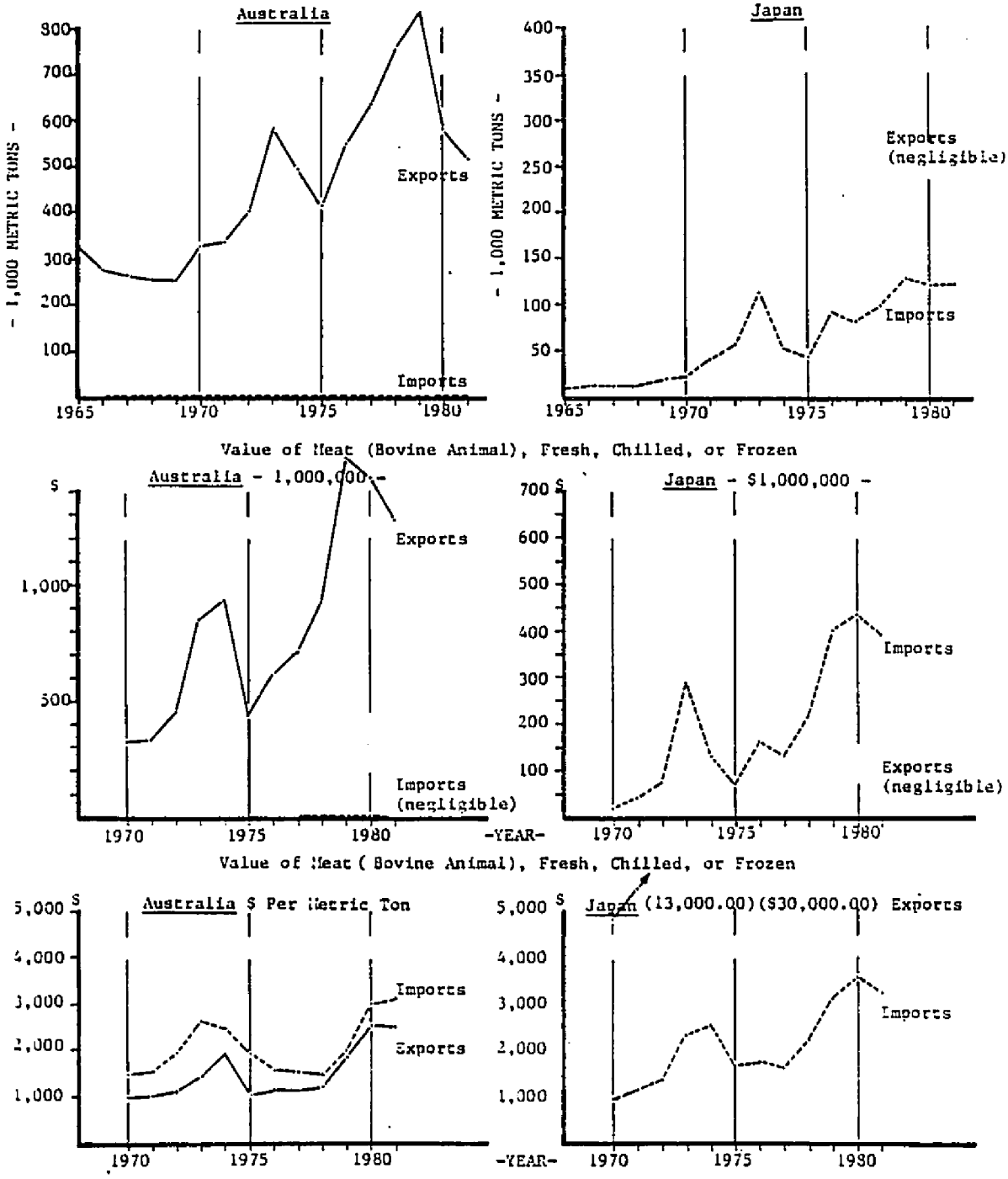


Figure C5. Volume and value of meat (bovine animal), fresh, chilled, or frozen, traded—Australia and Japan.

Source: F.A.O. Trade Yearbooks, 1965 through 1981.

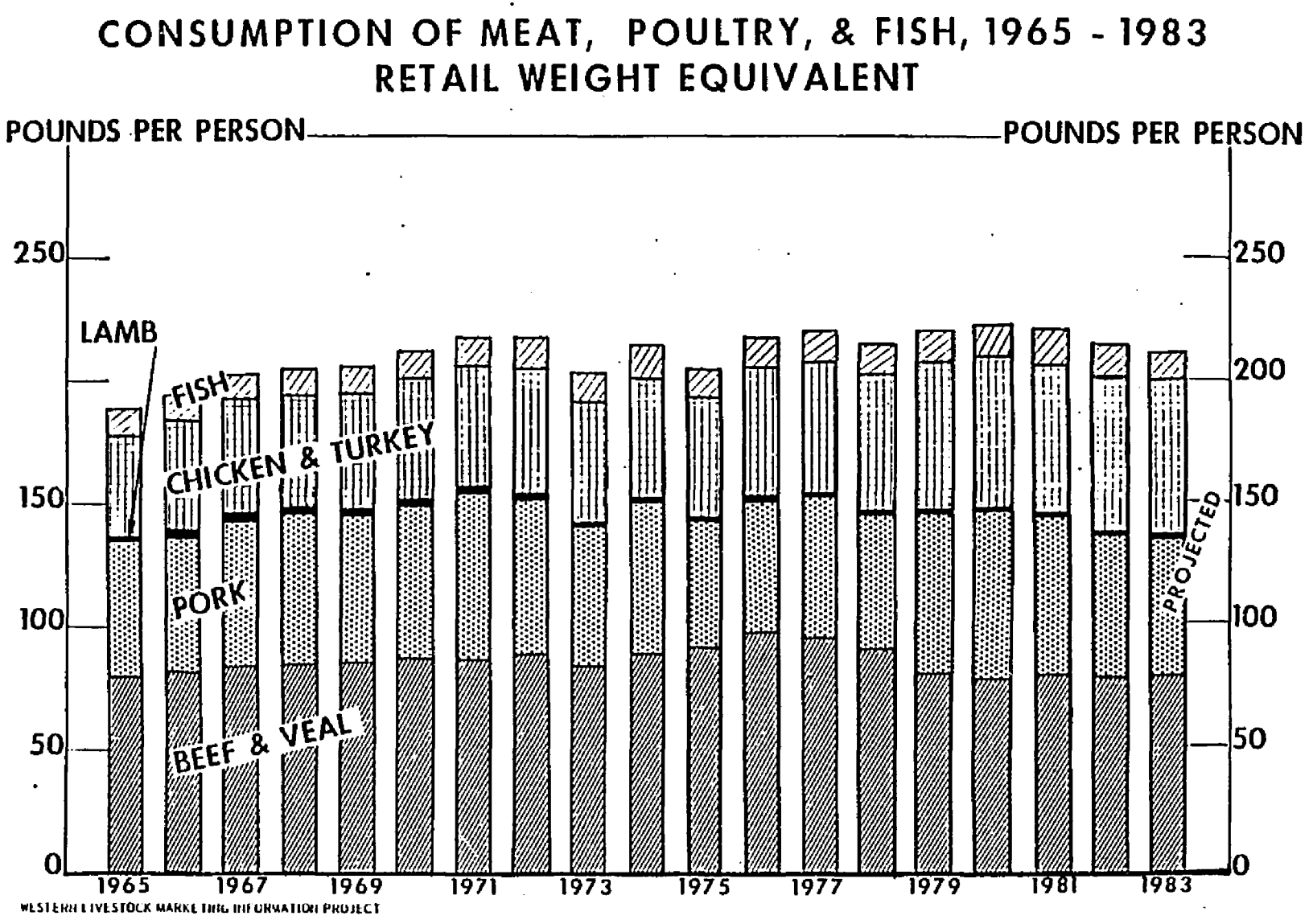

CONSUMPTION OF MEAT, POULTRY, & FISH, 1965 - 1983
RETAIL WEIGHT EQUIVALENT
POUNDS PER PERSON
POUNDS PER PERSON
250
150
100
50
0
LAMB
FISH
CHICKEN & TURKEY
PORK
BEEF & VEAL
PROJECTED
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
WESTERN LIVESTOCK MARKETING INFORMATION PROJECT

Figure C6

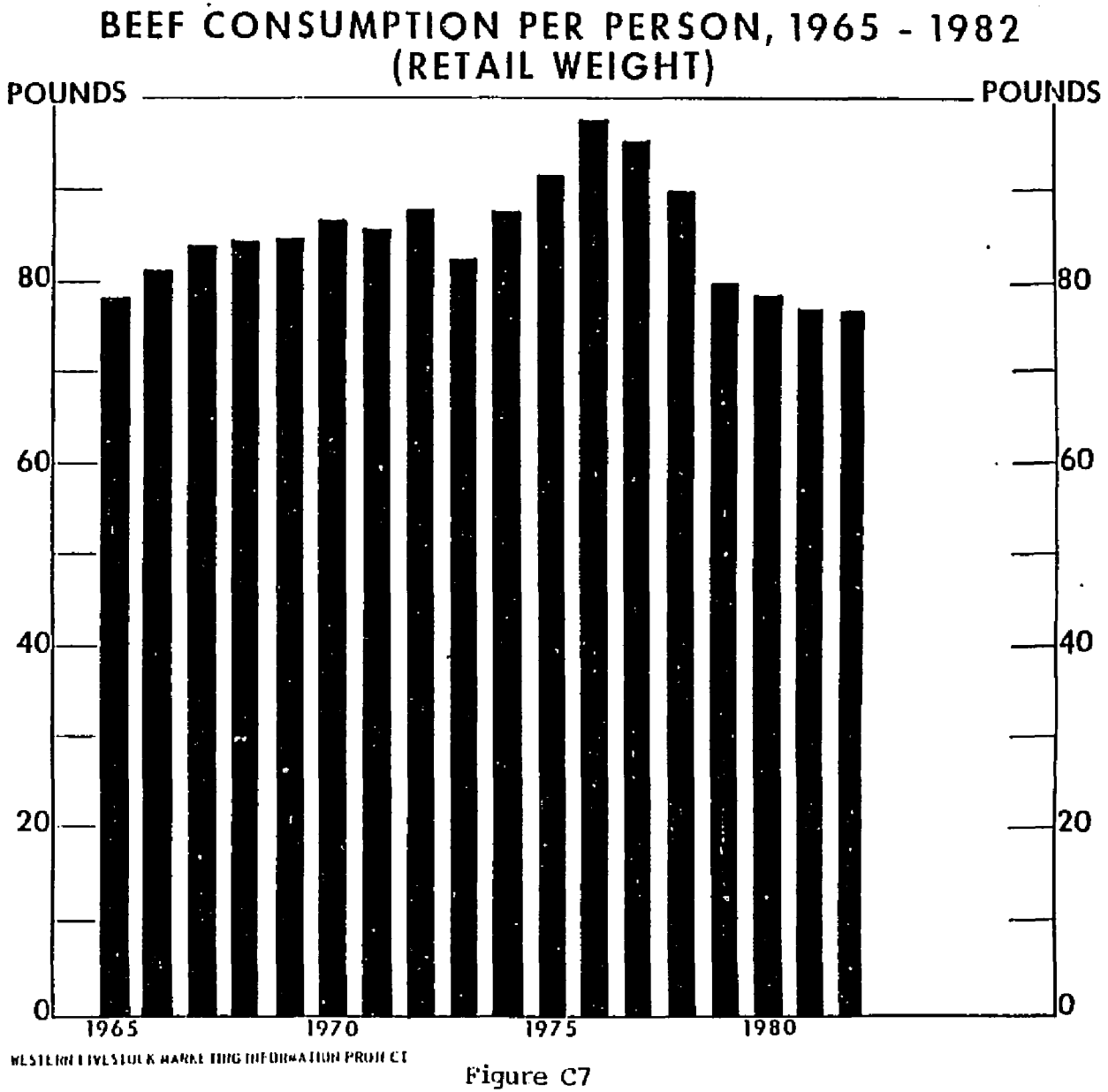

BEEF CONSUMPTION PER PERSON, 1965 - 1982
(RETAIL WEIGHT)
POUNDS
POUNDS
80
60
40
20
0
1965
1970
1975
1980

Figure C7

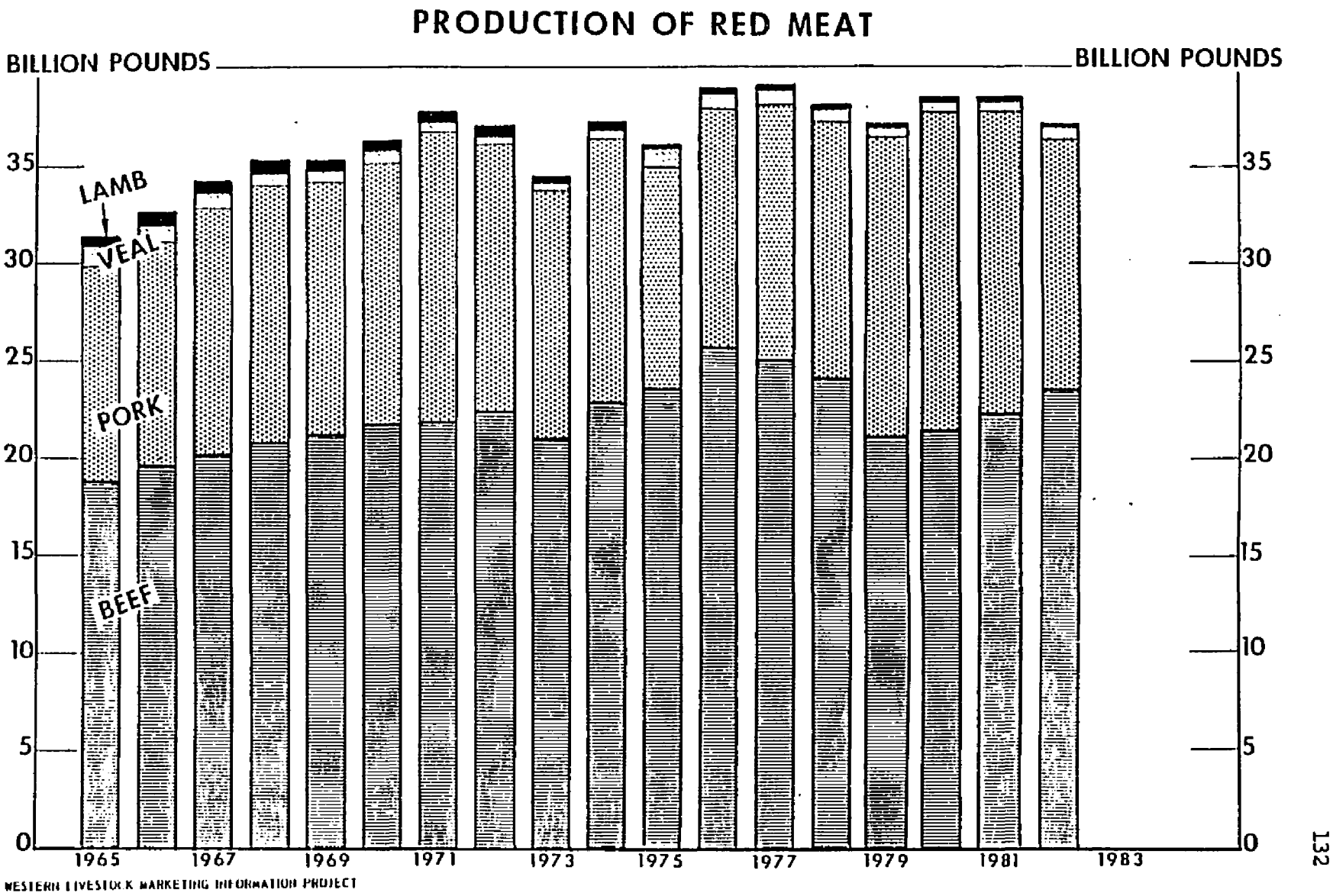
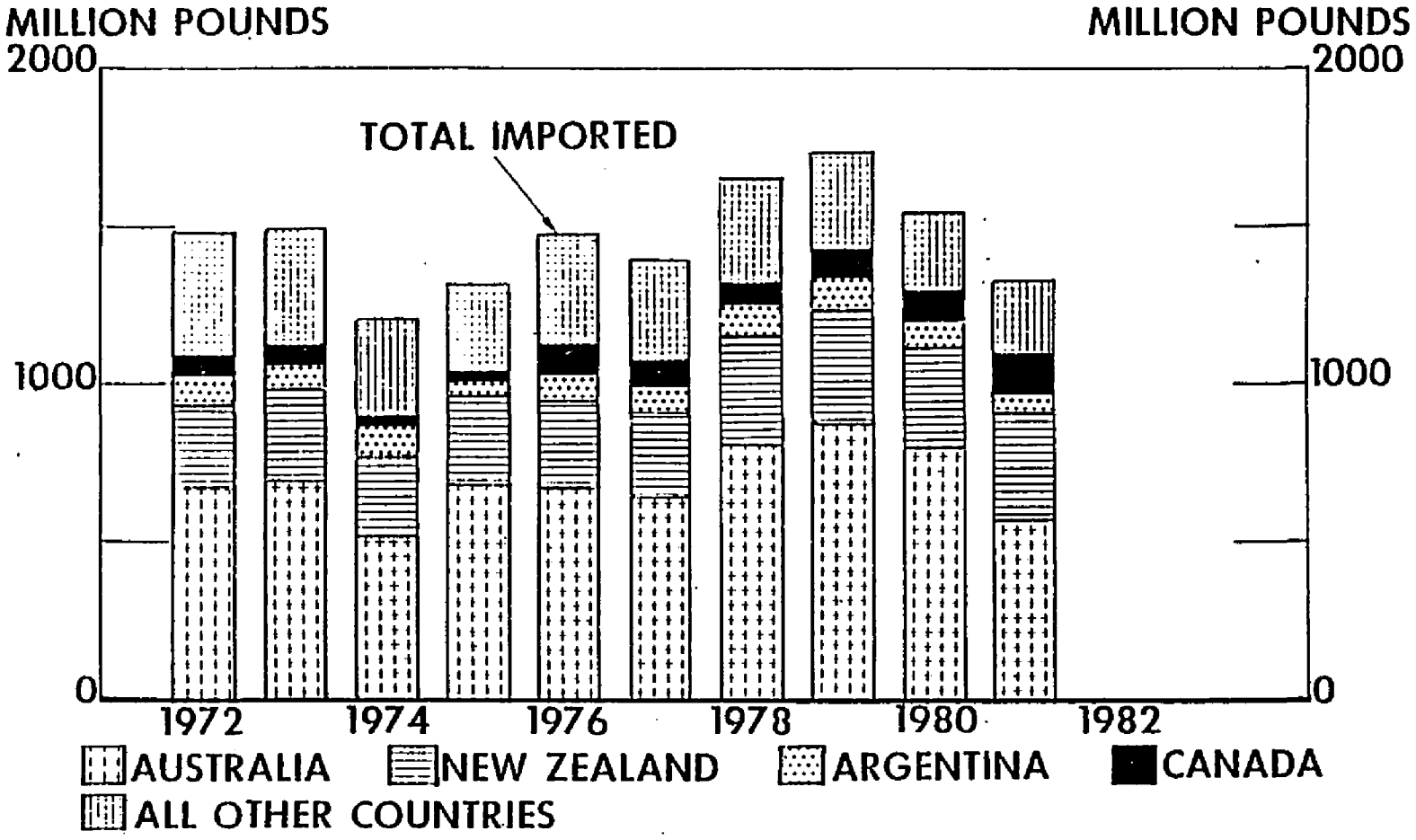

PRODUCTION OF RED MEAT
BILLION POUNDS
BILLION POUNDS
LAMB
VEAL
PORK
BEEF
0
5
10
15
20
25
30
35
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
WESTERN LIVESTOCK MARKETING INFORMATION PROJECT

Figure C8

IMPORTS OF BEEF AND VEAL, 1972 - 1981



WESTERN LIVESTOCK MARKETING INFORMATION PROJECT

Figure C9

APPENDIX D

NONTARIFF MEASURES APPLIED TO MEAT EXPORTS AND IMPORTS

Table D1. Nontariff measures applied to meat imports.

Types of Nontariff Measures	EC	U.S.	JAPAN	CANADA	NEW ZEALAND	AUSTRALIA
Tariff	X Beef Regime	X	X	X		
Quotas	X GATT Quota	X	X	X		
Global Quota	X GATT Quota	X		X		
Bilateral Quota	X	X	X			
Tariff Quotas	X					
Voluntary Export-Restraints (VER)		X				
Special Internal Taxes						
Import Licensing or Permits	X CAPP	X				X
Variable Levy	X CAPP					
Countervailing Duties		X 1939 Tariff Act Sect. 303 Ammended 19 U.S.C. 1303)				

Table D1. Nontariff measures applied to meat imports, Continued.

	EC	U.S.	JAPAN	CANADA	NEW ZEALAND	AUSTRALIA
Minimum Import	X		X			
Price Restriction						
Antidumping Action		X 1929 Anti-dumping Act				
Unfair Import Practices		X				
Cyclical Control		X Meat Import Act				
Trigger Quota		X				
Release Clause—		X 1935 AAA (Sect. 22—				
Safeguard Measure	X	X Amended 7 U.S.C. 62 21)	X			
State Trading						
Quasi Government Institution.				X		
Special labelling Requirements	X	X	X	X	X	X
Advertising restriction	Some Coun-tries					
Prohibition due to Health and Sanitary Reasons	X	X	X		X	X
Health and Sanitary Regulations	X	X Meat Inspection Act (21 U.S.C. bol et. seq.)	X	X	X	X

Table D1. Nontariff measures applied to meat imports, Continued

	EC	U.S.	JAPAN	CANADA	NEW ZEALAND	AUSTRALIA
Technical Regulations	X	X	X	X		
Packaging Standards	X		X			
Grading Differentiation	X	X	X			
Meat Cuts (Differentiation)	X	X	X			
Private Industry						
Product Differentiation by Source		X	X			
Influence of Lobbies	X	X	X	X	X	X
Industry and Labor	X	X	X	X	X	
Consumers	weak	X				
Other Unusual	X				X	X
Measures						
Offering	X				X	
Accepting	X					

Table D2. Nontariff measures to promote meat exports.

	EC	U.S.	JAPAN	CANADA	NEW ZEALAND	AUSTRALIA
Types of Nontariff Measures						
Export Subsidies	X					
Government Trading Institute			X			
Quasi-Governmental Entities	X			X	X	X
Export Financing		X	X			
Subsidized	Some Countries	X	X			X
Tax Rebates and Incentive Scheme						X
Government Agricultural Programs	X	X	X	X	X	X
Price Stabilization and Support Program	X	X AAA	X	X	X	X
Income Support Program	X	X AAA	X	X		
Subsidized Loans or Loan Guarantees Credit Assist.	X	X (PL 94-35)	X			

Table D2. Nontariff measures to promote meat exports, Continued

	EC	U.S.	JAPAN	CANADA	NEW ZEALAND	AUSTRALIA
Government Purchase for Aid		X (PL 83-480)				
for Social Programs		X School Lunch Food Stamps		X School Lunch		
Disaster Aid		X (PL 99-68)	X			
Conservation Programs	X	X SC DAA 1936				
Adjustment Assistance to Workers		X X 1974 Trade Act (Sect. 221)				
to Industry		X 1974 Trade Act (Sect. 251a)				
to Communities		X (Sect. 271a)				
Subsidies to Processors	X					X
Subsidized Loans to Processors	X					
Subsidized Freight Transport	Some Countries		X		X	

SOURCES TO APPENDIX D1 AND D2

[1] U.S. International Trade Commission, Washington, D.C., 1977.

[2] United States Tariff Commission, Trade Barriers, Part 2, Nontariff Trade Barriers, Report to the Committee on Finance of the United States Senate and its subcommittee on International Trade, Washington, D.C., 1974.

[3] U.S. International Trade Commission, Supplement to Summary of Trade and Tariff Information: Live Cattle and Meat of Cattle, US ITC publication 841 Control No. 1-1, 2-5, (Supp.), Washington, D.C., 1981.

[4] "Industry and Government Programs Which Support the Production and Marketing of New Zealand Lamb." Mimeographed, New Zealand High Commission, London.

[5] "Perspectives: Japan's Beef Market," Agricultural Policy Research Committee, Inc., Japan, 1982.

[6] Bureau of Agricultural Economics, 1981.

[7] Bureau of Agricultural Economics, 1982.

[8] Bureau of Agricultural Economics, Livestock and Meat Marketing in Australia: An Economic Evaluation, industry Monograph No. 1, Canberra, 1981.

[9] Fennell, Rosemary, The Common Agricultural Policy of the European Community, New York, Granada, 1979.

[10] Josling, Timothy E. and Scott R. Pearson, Development in the Common Agricultural Policy of the European Community, Foreign Agricultural Economic Report 712, USDA, Washington, D.C., 1982.

[11] Food and Agricultural Organisation, 1973.

[12] Yeats, Alexander T., "Agricultural Protectionism: An Analysis of its International Economic Effects and Options for International Reform," in Trade and Development, an UNCTAD Review, No. 3, Geneva: United Nations, 1981.

[13] Select Committee on the European Communities: Agricultural Trade Policy, Session 1981-82, 2d Report, House of Lords, London: Her Majesty's Stationary Office, 1981.

APPENDIX E

BEEF GRADE STANDARDS AND SPECIFICATIONS

SPECIFICATIONS FOR OFFICIAL U.S. STANDARDS FOR GRADES OF CARCASS BEEF (QUALITY-BULLOCK)

PRIME

Carcasses with minimum Prime grade conformation are thickly muscled throughout and tend to be very wide and thick in relation to their length. Loins and ribs tend to be thick and full. Rounds tend to be plump and the plumpness carries well down to the hocks. The chucks tend to be thick and the necks and shanks tend to be short.

For minimum Prime quality, the minimum degree of marbling required increases with advancing maturity from minimum slightly abundant for carcasses with the minimum maturity for beef to maximum slightly abundant for carcasses with the maximum maturity permitted in the bullock class. The ribeye muscle is moderately firm, and in carcasses having the maximum maturity for this class, the ribeye is light red in color.

A development of quality superior to that specified as minimum for the Prime grade may compensate, without limit, for a development of conformation inferior to that specified as minimum for the Prime grade at an equal rate as indicated in the following example: A carcass which has mid-point Prime quality may have conformation equal to the mid-point of the Choice grade and remain eligible for Prime. However, regardless of the extent to which the conformation of a carcass exceeds the minimum of the grade, a carcass must have minimum Prime quality to be eligible for Prime.

CHOICE

Carcasses with minimum Choice grade conformation are moderately thick-muscled throughout and tend to be moderately wide and thick in relation to their length. Loins and ribs tend to be moderately thick and full. Rounds tend to be moderately plump. The chucks tend to be moderately thick and the necks and shanks tend to be moderately short.

For minimum Choice quality, the minimum degree of marbling required increases with advancing maturity from a minimum small amount for carcasses with the minimum maturity for beef to a maximum small amount for carcasses with the maximum maturity permitted in the bullock class. The ribeye muscle is slightly soft, and in carcasses having the maximum maturity for this class, the ribeye is moderately light red in color.

A development of quality superior to that specified as minimum for the Choice grade may compensate, without limit, for a development of conformation inferior to that specified as minimum for Choice at an equal rate as indicated in the following example: A carcass which has mid-point Choice quality may have conformation equal to the mid-point of the Good grade and remain eligible for Choice. However, regardless of the extent to which the conformation of a carcass exceeds the minimum of the grade, a carcass must have minimum Choice quality to be eligible for Choice.

GOOD

Carcasses with minimum Good grade conformation are slightly thick-muscled throughout and tend to be slightly wide and thick in relation to their

length. Loins and ribs tend to be slightly thick and full. Rounds tend to be slightly plump. The chucks tend to be slightly thick and the necks and shanks tend to be slightly long and thin.

For minimum Good quality, the minimum degree of marbling required increases with advancing maturity from typical traces for carcasses with the minimum maturity for beef to a typical slight amount for carcasses with the maximum maturity permitted in the bullock class. The ribeye muscle is moderately soft, and in carcasses having the maximum maturity for this class, the ribeye is slightly light red in color.

A development of quality superior to that specified as minimum for the Good grade may compensate, without limit, for a development of conformation inferior to that specified as minimum for Good at an equal rate as indicated in the following example: A carcass which has mid-point Good grade quality may have conformation equivalent to the mid-point of the Standard grade and remain eligible for Good. Also, a carcass which has at least one-third of a grade superior conformation to that specified as minimum for the grade may qualify for Good with a development of quality equivalent to the lower limit of the upper third of the Standard grade. Compensation of superior conformation for inferior quality is limited to one-third of a quality grade.

STANDARD

Carcasses with minimum Standard grade conformation tend to be thinly muscled throughout and are slightly narrow and thin in relation to their length. Loins and ribs tend to be flat and slightly thin-fleshed. The rounds tend to be thin and slightly concave. Chucks tend to be flat and thin-fleshed.

For minimum Standard quality, the minimum degree of marbling required increases with advancing maturity from minimum practically devoid for carcasses with the minimum maturity for beef to maximum practically devoid for carcasses with the maximum maturity permitted in the bullock class. The ribeye muscle is soft, and in carcasses having the maximum maturity for this class, the ribeye is slightly dark red in color.

A development of quality superior to that specified as minimum for the Standard grade may compensate, without limit, for a development of conformation inferior to that specified as minimum for Standard at an equal rate as indicated in the following example: A carcass which has mid-point Standard quality may have conformation equal to the mid-point of the Utility grade and remain eligible for Standard. Also, a carcass which has at least one-third of a grade superior conformation to that specified as minimum for the grade may qualify for Standard with a development of quality equal to the minimum of the upper third of the Utility grade. Compensation of superior conformation for inferior quality is limited to one-third of a quality grade.

UTILITY

The Utility grade includes only those carcasses that do not meet the minimum requirements specified for the Standard grade.

SPECIFICATIONS FOR OFFICIAL UNITED STATES STANDARDS FOR GRADES OF CARCASS BEEF (YIELD)

The yield grade of a beef carcass is determined on the basis of the following equation: Yield grade--2.50 + (2.50 x adjusted fat thickness, inches) + (0.20 x percent kidney, pelvic, and heart fat) + (0.0038 x hot carcass weight, pounds) - (0.32 x area ribeye, square inches).

The yield grade of a hindquarter, forequarter, or cut eligible for grading also is determined on the basis of the above equation in which the hot carcass weight is determined by multiplying the chilled weight of the cut by an appropriate factor as applicable to the cut and its style of preparation.

The factors shown below shall be applicable to hindquarters and forequarters produced by ribbing as described herein, and to ribs, trimmed full loins, and trimmed short loins which are trimmed as described in Items 103, 172, and 173, respectively, of the Institutional Meat Purchase (IMP) Specifications for Fresh Beef--Series 100, as revised October 1961.

	Factor
Forequarter	3.30
Hindquarter	4.25
Rib	22.50
Loin, Full, trimmed	12.75
Short Loin, trimmed	29.10

A slightly larger factor, appropriate to reflect the weight of the cut as a percent of hot carcass weight, shall be used for ribs, full loins, or short loins which are more closely trimmed than described in the referenced IMP Specifications. Similarly, a smaller factor shall be used for determining the yield grade of these cuts when trimmed less closely than specified or when they include portions or all of adjacent cuts.

In addition, for forequarters, and forequarter cuts and for trimmed hindquarters and trimmed hindquarter cuts, the following standard percentages of kidney, pelvic, and heart fat, as applicable to the quality grade of the quarter or cut, also shall be used in the equation:

Grade:	Kidney, pelvic, and heart fat percent
Prime	4.5
Choice	3.5
Good	3.0
Standard	2.5
Commercial	4.5
Utility	3.0
Cutter and Canner	1.5

For untrimmed hindquarters and for untrimmed hindquarter cuts, the quantity of a kidney and pelvic fat is estimated as a percent of the hot side weight.

The following descriptions provide a guide to the characteristics of carcasses in each yield grade to aid in determining yield grades subjectively.

YIELD GRADE 1

A carcass in Yield Grade 1 usually has only a thin layer of external fat over the ribs, loins, rumps, and clods and slight deposits of fat in the flanks and cod or udder. There is usually a very thin layer of fat over the outside of the rounds and over the tops of the shoulders and necks. Muscles are usually visible through the fat in many areas of the carcass.

A 500-pound carcass of this yield grade which is near the borderline of Yield Grades 1 and 2 might have three-tenths inch of fat over the ribeye, 11.5 square inches of ribeye, and 2.5 percent of its weight in kidney, pelvic, and heart fat.

An 800-pound carcass of this yield grade which is near the borderline of Yield Grades 1 and 2 might have four-tenths inch of fat over the ribeye, 16.0 square inches of ribeye, and 2.5 percent of its weight in kidney, pelvic, and heart fat.

YIELD GRADE 2

A carcass in Yield Grade 2 usually is nearly completely covered with fat but the lean is plainly visible through the fat over the outside of the rounds, the tops of shoulders, and the necks. There usually is a slightly thin layer of fat over the loins, ribs, and inside rounds and the fat over the rumps, hips, and clods usually is slightly thick. There are usually small deposits of fat in the flanks and cod or udder.

A 500-pound carcass of this yield grade which is near the borderline of Yield Grades 2 and 3 might have five-tenths inch of fat over the ribeye, 10.5 square inches of ribeye, and 3.5 percent of its weight in kidney, pelvic, and heart fat.

An 800-pound carcass of this yield grade which is near the borderline of Yield Grades 2 and 3 might have six-tenths inch of fat over the ribeye, 15.0 square inches of ribeye, and 3.5 percent of its weight in kidney, pelvic, and heart fat.

YIELD GRADE 3

A carcass in Yield Grade 3 usually is completely covered with fat and the lean usually is visible through the fat only on the necks and the lower part of the outside of the rounds. There usually is a slightly thick layer of fat over the loins, ribs, and inside rounds and the fat over the rumps, hips, and clods usually is moderately thick. There usually are slightly large deposits of fat in the flanks and cod or udder.

A 500-pound carcass of this yield grade which is near the borderline of Yield Grades 3 and 4 might have seven-tenths inch of fat over the ribeye, 9.5 square inches of ribeye, and 4.0 percent of its weight in kidney, pelvic, and heart fat.

An 800-pound carcass of this yield grade which is near the borderline of Yield Grades 3 and 4 might have eight-tenths inch of fat over the ribeye, 14.0 square inches of ribeye, and 4.5 percent of its weight in kidney, pelvic, and heart fat.

YIELD GRADE 4

A carcass in Yield Grade 4 usually is completely covered with fat. The only muscles usually visible are those on the shanks and over the outside of the plates and flanks. There usually is a moderately thick layer of fat over the loins, ribs, and inside rounds and the fat over the rumps, hips, and clods usually is thick. There usually are large deposits of fat in the flanks and cod or udder.

A 500-pound carcass of this yield grade which is near the borderline of Yield Grades 4 and 5 might have one inch of fat over the ribeye, 9.0 square inches of ribeye, and 4.5 percent of its carcass weight in kidney, pelvic, and heart fat.

An 800-pound carcass of this yield grade which is near the borderline of Yield Grades 4 and 5 might have one and one-tenth inch of fat over the ribeye, 13.5 square inches of ribeye, and 5.0 percent of its weight in kidney, pelvic, and heart fat.

YIELD GRADE 5

A carcass in Yield Grade 5 usually has more fat on all of the various parts, a smaller area of ribeye, and more kidney, pelvic, and heart fat than a carcass in Yield Grade 4.

Source: USDA Agricultural Marketing Service (Title 7, Chapter I, Pt. 53, Section 53.100-53.105 of the Code of Federal Regulations).

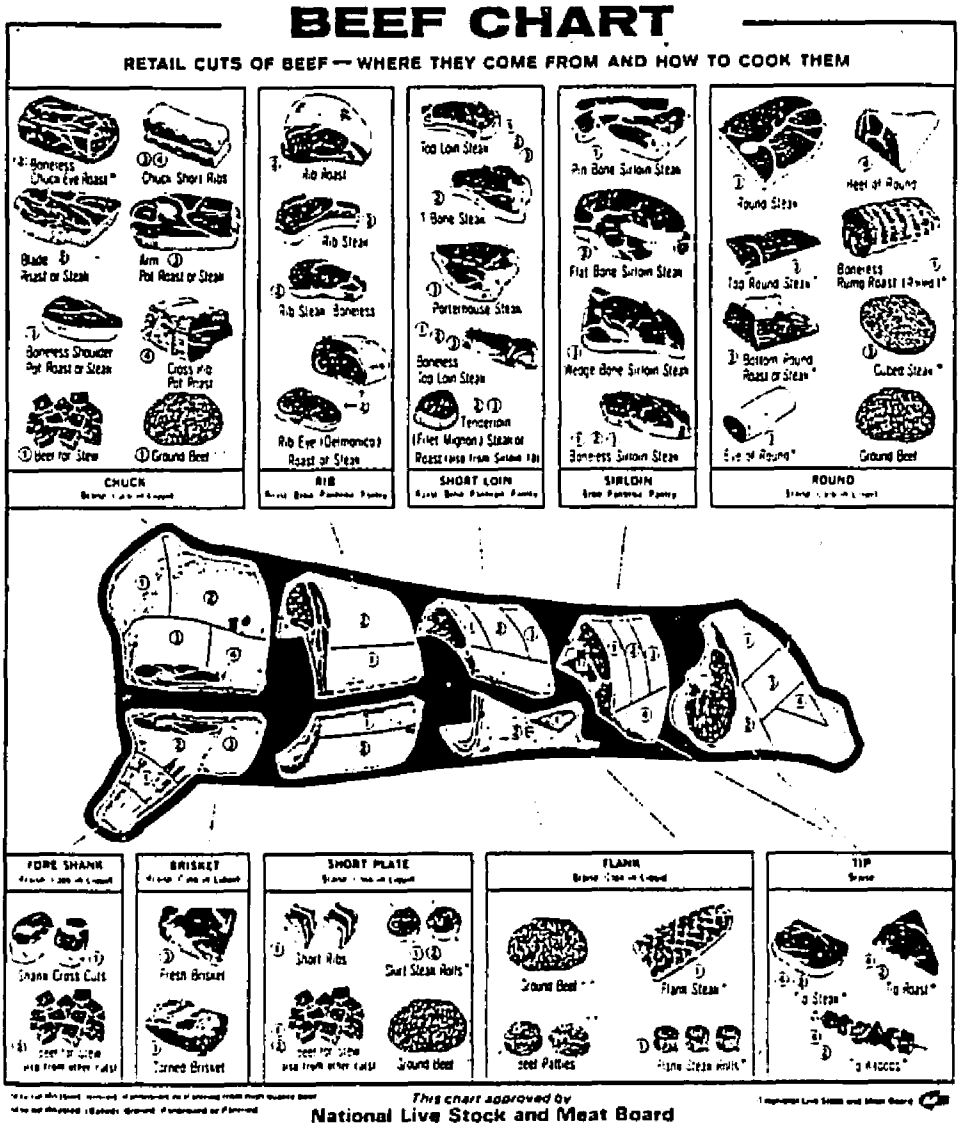


Photo: National Live Stock & Meat Board, Chicago, Ill.

CLASSIFICATION AND COMMON END USE OF CUTS FROM BEEF CARCASSES SLAUGHTERED IN CANADA

Grade Groupings	Description	Approximate % of total slaughter in 1973
A1 and A2	Top quality steer and heifer carcasses with optimum fat covering. Many chain sotres use only these grades of beef.	69.7
A3 and A4	Similar to the A1 and A2 grades, except having a greater proportion of fat, thus a lower yield of saleable meat. Most carcasses trimmed and/or broken into wholesale cuts. Some cuts used by restaurants and hotels.	5.1
B	Carcasses with less fat covering than A1, and/or medium meat quality. Most are sold as carcasses; some are broken into wholesale cuts. Sold mostly to institutions and smaller retail outlets.	2.2
C	Carcasses are generally underfinished[a] and/or poor quality. Most are sold as carcasses to institutions; some are boned.[b]	3.6
D1 and D2	Carcasses from mature cows that are moderately finished with good muscling. Often referred to as "butcher" cows. Many are sold as carcasses; some are boned and sold as boneless cuts.	8.4
D3 and D5	Carcasses from mature cows that are very thin or under-finished. Most are boned and used for further processing.	10.2
D4	Carcasses from cows which are over-fat.	negligible
E	Carcasses from mature bulls and stags. All are boned and used for further processing.	.7

a The term "finish" refers to the degree of fat cover. "Under-finished" denotes a lesser fat covering.

b The term "boning" refers to the removal of the meat from the bones. Depending on the quality, boneless beef is used for cuts, ground beef and for manufacturing.

Source: Ralph Lattimore and Harry De Gorter, "Impact of Beef Imports on the Canadian Beef Market," Working Papers Documents De Travail, Agriculture Canada, Policy. Planning, and Economics Branch, March 1980.

SUB-PRIMAL CUTS FROM A GROUP A CARCASS

HIP	-	Round Steak	7.0%
		Rump Roast	5.0%
		Sirloin Tip	3.0%
		Shank	0.5%
		Heel of Round	0.5%
LOIN	-	Porterhouse Steaks (T-Bone)	4.5%
		Sirloin	4.5%
		Wing	2.0%
RIB	-	Standing Rib	6.0%
		Short Ribs	3.0%
CHUCK	-	Blade Roast	6.0%
		Cross Rib	4.0%
		Shoulder Roast	9.0%
SHANK	-	Shank	1.5%
BRISKET	-	Brisket Point	3.5%
PLATE	-	Plate	3.5%
FLANK	-	Flank Steak	0.5%
		TRIMMINGS	11.0%
		FAT and BONE	24.0%
		CUTTING SHRINK	1.0%
		TOTAL	100%

Source: Dr. Usborne, University of Guelph, as furnished to the Food Prices Review Board.

EC Requirements For High Quality Beef

DEFINITIONS

High quality beef originating in the United States of America

Carcasses or any cuts from cattle not over 30 months of age which have been fed for 100 days or more on a nutritionally balanced, high energy feed concentration ration containing no less than 70 percent grain and at least 20 pounds total feed per day. Beef graded USDA "Choice" or "Prime" automatically meets the definition above.

Japanese Requirements for High Quality Beef

Summarized Definition of High Quality Beef (1 or 2)

1) Beef from carcasses possesing the following characteristics:
   a) minimum external fat covering the ribeye (at 12th rib) of 0.4-0.9 inch
   b) carcass weight of 600 to 850 pounds
   c) min. ribeye (at 12th rib)--9 square inches
   d) max. age---30 months
   e) min. marbling in ribeye (at 12th rib) --modest
   f) color of lean---bright, cherry red

2) Beef from cattle finished under conditions below:
   a) max. age----30 months
   b) min. feeding period---100 days
   c) finishing ration--no less than 70% grain
   d) min. average ration above fed daily-20 lbs.

Source: USDA/FAS

APPENDIX F

BEEF AND LIVESTOCK TRADE CONCESSIONS

MADE BY THE SELECTED COUNTRIES

DURING THE TOKYO ROUND OF MULTILATERAL TRADE NEGOTIATIONS

F1. Beef and Livestock Trade Concessions Made by the U.S.

Principal Concessions Made by the United States to Canada

Concessions were concentrated in the following: Livestock Area—such as live cattle in TSUS 100.53.

Principal Concessions Made by the United States to Australia

The main nontariff concession was a commitment that beef imports will not be reduced below 1.2 billion pounds per year under the Meat Import Law. Australia could withdraw concessions if imports under countercyclical legislation fall below 1.3 billion pounds.

Comments

Australia's concessions and the U.S. nontariff concessions are in effect now. The U.S. duty concession on beef will be completed in two equal annual cuts.

Principal Concessions Made by the united States to New Zealand

Duties were cut on beef and lamb (TSUS 106.10 and 106.30).

Comments

New Zealand's concessions were implemented in full January 1, 1980.

Table F1. U.S. concessions in the beef trade

TARIFF NO.	DESCRIPTION	REQUESTING COUNTRIES	CONCESSION	1976 TRADE VALUE ($1.,000)	
10040	Live cattle under 200 lb, not to exceed 200,000 head per year beginning April 1 of any year.	Canada	Cut to 1¢/lb from 1.5¢/lb in three stages		3,237
				Canada	2,859
				Mexico	378
10043	Live cattle under 200 lb and in excess of quota, beginning April 1.	Canada	Cut to 1¢/lb from 2.5¢/lb in three stages		1
				Canada	1
10050	Cows weighing 700 lb or more, imported especially for dairy purposes.	Canada	Cut to free from 0.7¢/lb, January 1, 1980.		7,631
				Canada	7,525
				Mexico	107
10053	Live cattle (o/t dairy cows) weighing 700 lbs or more, within specified quota.	Canada	Cut to 1¢/lb from 2.5¢/lb in three stages		74,527
				Canada	68,780
				EC	3,510
				Mexico	2,215
10055	Live cattle (o/t dairy cows) weighing over 700 lb each, in excess of quota	Canada	Cut to 1¢/lb from 2.5¢/lb in three stages		1,722
				Canada	1,665
				Mexico	57
10610	Beef and veal, fresh, chilled, or frozen	Australia EC New Zealand	Cut to 2¢ form 3¢/lb in two stages. Imports under Meat Law will not be less than 1.2 billion lb. Country allocations will take account of the position of traditional suppliers in a representative period. Up to 5,000 tons will be permitted from European Community countries free from hoof-and-mouth disease.		758,696
				Australia	377,261
				New Zealand	151,573
				CACAM	127,537
10680	Edible meat offal, fresh, chilled, or frozen, valued under 20¢/lb	Australia Canada	Cut to free from 0.5¢/lb in two stages.		285
				Canada	239
				Mexico	37
				CACM	7
10685	Edible meat offal, fresh, chilled, or frozen	Australia Canada	Cut to free from 2.5%, January 1980.		1,401
				Canada	960
				Australia	162
				CACM	144

Table F1. U.S. concessions in the beef trade, Continued

TARIFF NO.	DESCRIPTION	REQUESTING COUNTRIES	CONCESSION	1976 TRADE VALUE ($1.,000)	
10740	Beef or veal, cured, or pickled, valued not over 30¢/lb.	Hungary	Cut to 1¢/lb from 3¢lb in eight stages		0
10748	Corned beef in airtight containers	Argentina Canada	Cut 4.5% on October 1, 1979 and 3% on October 1, 1980 from 7.5%	 Brazil Argentina Paraguay	76,446 37,866 32,627 5,350
10752	Beef in airtight containers except corned beef	Argentina Canada	Cut 3% from 7.5%in two stages	 Argentina Paraguay Brazil	11,755 9,916 976 495
10755	Beef & veal, prepared or preserved, NES valued under 30¢/lb	Australia New Zealand	Cut to 2¢/lb from 3¢/lb in two stages	 Australia New Zealand	284 275 10
10761	Beef & veal valued over 30¢/lb, portion-controlled cuts that meet USDA specifications for prime or choice.	Canada	Cut to 4% from 10% in two stages	 Canada	293 293
10763	Beef & veal, preserved, NES, valued over 30¢/lb, except fresh, chilled, or frozen.	Argentina	Cut to 4% from 10% in two stages	 Argentina Brazil Australia	50,646 25,521 21,977 1,884
10770	Meat and edible offal NES, prepared or preserved, valued under 30¢/lb.	Haiti	Cut to 0.6¢/lb from 1.5¢/lb in eight stages.	 Haiti Philippines	2 2 2
10780	Meat extract, including fluid	Australia	Cut to free from 1¢/lb	 Australia Brazil Argentina	2,981 1,181 1,126 567

Source: United States Department of Agriculture Foreign Agricultural Service, Report on Agricultural Concessions in the Multilateral Trade Negotiations, FAS-M-301, June 1981.

F2. Beef and livestock trade concessions made by four selected countries and European Community to the United States.

Principal Concessions Made by European Community to U.S.

The most important concessions are assured entry for 10,000 tons of high quality beef (bind 20% duty and establish a new tariff quota for high-quality beef that is levy free); variety meats (40 percent cuts in duties ranging from 4 to 11 percent); poultry meat.

Comments

The EC/GATT schedule indicates that concessions on high-quality beef, offal, would be implemented without staging on January 1, 1980.

The following EC regulations describe in detail how concessions have been implemented.

EC Regulations

2974/79	Dec. 21, 1979	Beef: Import and export Licenses
2973/79	Dec. 21, 1979	Beef: EC Imports
2973/79	Dec. 21, 1979	Beef: EC Imports

Principal Concessions Made Japan to the U.S.

Japan expanded import quotas--the increase taking place in stages up to 1983--on beef.

Comments

The Diet approved Japan's concessions in April 1980 staging over 8 years began then.

Table P2. EC Concessions to the United States

TARIFF NO.	DESCRIPTION	CONCESSION	1976 TRADE VALUE ($1,000)
02.01.A2.a1.aa	High-quality beef equal to USDA grades "prime" or "choice"	Establish a levy-free quota (subject to 20% duty) for 10,000 tons. This quota is part of a 21,000-ton quota listed by the EC in its GATT schedule covering concessions to several countries.	0
02.01.A2.a1.bb	"	"	0
02.01.A2.a2.aa	"	"	0
02.01.A2.a2.bb	"	"	64
02.01.A2.a3.aa	"	"	0
02.01.A2.a3.bb	"	"	0
02.01.A2.a4.aa	"	"	2
02.01.A2.a4.bb	"	"	30
02.01.A2.b1	"	"	0
02.01.A2.b2	"	"	0
02.01.A2.b3	"	"	0
02.01.A2.b4.aa	"	"	503
02.01.A2.b4.bb.11	"	"	2
02.01.A2.b4.bb.22	"	"	0
02.01.A2.b4.bb.33	"	"	2,644
02.01.B2.b1	Livers of bovines, fresh, chilled, or frozen, not for pharmaceutical use	Cut to 7% from 11%	14,446
02.01.B2.b2	Offal (o/t livers) of bovines, fresh, chilled, or frozen, not for pharmaceutical use	Cut to 4% from 7%	81,529

Table F3. Japanese Concessions to the United States

TARIFF NO.	DESCRIPTION	CONCESSION	1976 TRADE VALUE ($1,000)
02.01.111	Meat of bovine animals, fresh, chilled, or frozen	The U.S. and Japan will exert mutual efforts to exploit the demand for high-quality beef with a view to realizing by Japanese Fiscal Year (JFY) 1983, within the hotel and general quotas, an increase in imports by 14,000 tons on a global basis, of which 4,000 tons should be realized by JFY 1980 and the remaining 10,000 tons should be distributed approximately equally each year from FJY 1981 to 1983. Hence, Japan will increase the level of imports from 16,800 tons to 30,800 tons by 1983. The Japanese will endeavor to facilitate the import of high-quality beef, based on the definition of high-quality beef (equivalent o USDA grade prime and choice), and import facilitation measures as agreed on in April 1978. In case demand is created over the levels mentioned above through the efforts of export dealers for the exploitation and expansion of demand for high-quality beef, the import of high-quality beef over the said levels shall not be hindered. The two Governments will evaluate near the end of JFY 1982 the patterns of importation and demand for high-quality beef as defined above. Based on this evaluation and the prospects for the future demand-supply relationship for beef, Japan will consult with the United States on ways to further expand the importation of high-quality beef in 1984 and thereafter to the mutual benefit of both countries. Further such consultations will be scheduled during the course of Tokyo Round implementation period on a biennial basis.	40,443
	Meat of bovine animals etc. (continued)	In addition to the foregoing commitment, Japan will import 4,000 tons a year of transversus abdominus (beef skirts) within the general quota. There should, therefore, be a hotel quota of a least 3,000 tons plus an additional commitment on high-quality beef under the general quota, which combined with the hotel quota, would equal 30,000 tons by 1983, exclusive of 4,000 tons of skirt meat within he general quota. The Government of Japan announces that it has no intention to initiate any increase in the Customs Duty on beef (stat. no. 0201-111,119, 121, 129 & 139) (the rate of 25% per cent as applied presently) under the present price stabilization system of beef. In the event that a situation makes it impossible to maintain the Customs Duty on beef at the above-mentioned level, the Government of Japan will notify the United States of such developments in advance where possible, and be prepared to enter into consultations with a view to reaching a mutually acceptable solution that may include the possibility of appropriate adjustments of the MTN concessions.	($1,000)

Table F4. Canadian Concessions to the United States

TARIFF NO.	DESCRIPTION	CONCESSION	1976 TRADE VALUE ($1,000)
501.01	Live cattle, nondairy	Cut to 1¢/lb from 11/2¢¢/lb	65,814

Table F5. New Zealand Concessions to the United States

TARIFF NO.	DESCRIPTION	CONCESSION	1976 TRADE VALUE ($1,000)
16.02.01.1	Meat or meat offal, preserved in a/t cans or jars, other than in combination with vegetables or other food substances or pastes.	Bind at 10%. Increase licenses currently allocated or create new allocation for entrants.	48
16.02.01.9	Meat or meat offal, o/t packed in airtight containers.	Bind at 10%. Increase licenses currently allocated or create new allocation for entrants.	

Source: United States Department of Agriculture, Foreign Agricultural Service, Report on Agricultural Concessions in the Multilateral Trade Negotiations, FAS-M-301, June 1981.

APPENDIX G

THE LEVEL AND PREVALENCE OF 20 BOVINE DISEASES IN THE SELECTED CONTRIES AND BY REGION, 1977, 1978

Table G. The level and prevalence of 20 bovine diseases, in the selected countries, and by region, 1977, 1978.

		Year of Data	Foot-and-Mouth Disease 1	Rinderpest 2	Bovine Rhino Tracheitis (IBR) 3	Contagious Bovine Pleuropneumonia 4	Rabies 5	"Heartwater" 6	Leptospirosis 7	Anthrax 8	Blackleg 9	Intestinal Salmonella Infection 10	Bovine Tuberculosis 11	Johne's Disease 12	Actinomycosis (Lumpy Jaw) 13	Brucella Abortus (Bang's Disease) 14	Anaplasmosis 15	Trypanosomiasis (Insect Borne) 16	Mange and Scabies 17	Warble Infestation 18	Distomatosis (Liver Fluke) 19	Echinococcosis-Hydatidosis 20
	N. & Central Amer.	(77-78)			XX		XXX		XXX	XXX	XXX	X	XXX	X	XX	XXX	XXX	X	X	XX	XXX	XX
4.02	Canada	(1977)			XX		X		X	X	XX	X	X	X	X	X			X	XX	X	
	U.S.A.	(1977)			XX		XX		XX	X	XX	XX	X	X	X	X	X		X	XX	X	
	South America	(77-78)	XX				X		XX	X	XX	X	XXX	X	X	XXX	X		XXX	X	XXX	XXX
	Asia	(77-78)	XXX	XX	XX	XX	XX		XX	XXX	XXX	XX	XX	XX	X	XXX	XX	XX	XXX	XXX	XXX	XXX
	Japan	(1977)			XX					X	X	X	X	X	X	X				X	XXX	
	Oceania	(1978)			X				XXX	X	X	X	X	X	XX	XX	X	X	XX		XX	XX
8.12	Australia	(1978)			X				X	X	X	X	X	X	X	XX	X		X		XX	XX
8.11	New Zealand	(1978)			X				XXX		X	X	X	X	X	X			X		X	X
	Africa	(1978)	XXX	X	XXX	XXX	XX	XXX	X	XX	XXX	XXX	XX	XX	X	XXX	XXX	XXX	XXX	XX	XXX	XXX
	Europe	(1977)	XX		XX		X		X	X	XX	XX	XX	X	X	XX	X		XX	XX	XXX	XX
	EC 10		XX		XX		X		X	X	X	XX	X	X	X	XX	X		X	XX	XXX	XX
5.11	Belgium				X		X		X	X	X	X	X	X	X	X			XX	X	XX	
5.12	Luxembourg						X					X		X		X				X	XX	X
5.06	Denmark				X		X			X		X	X	X	X				X		XX	
5.13	France				XX		X		X	X	X	X	X	X	X	XX			X	XX	XX	X
5.14	Germany FR		X		X		X		X	X	X	X	X	X	X	X			X	X	X	X
6.05	Greece				X		X			X	X	X	X		X	X	X		X	XX	X	XX
5.05	Ireland				X				X		X	X	X	X	X	XX				X	XXX	X
5.17	Italy		XX		X				X	X	X	X	X	X	X	X			X	X	XX	X
5.10	Netherlands (Holland)				XX				X	X	X	X	X	X	X	X			X	X	X	X
5.01	U.K.				XX				X	X	X	XX	X	X	X	X			X	X	XX	X

Source: Derived from Simpson and Harris, 1983.

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