AGRICULTURAL COUNTERTRADE: PERSPECTIVES, ECONOMICS, AND CANADIAN COMMERCIAL POLICY

by

Barry E. Prentice

A thesis
presented to the University of Manitoba
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
Agricultural Economics and Farm Management

Winnipeg, Manitoba

ISBN Ø-315-33929-2

AGRICULTURAL COUNTERTRADE: PERSPECTIVES, ECONOMICS, AND CANADIAN COMMERCIAL POLICY

BY

BARRY E. PRENTICE

A thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

DOCTOR OF PHILOSOPHY

ABSTRACT

AGRICULTURAL COUNTERTRADE: PERSPECTIVES, ECONOMICS, AND CANADIAN COMMERCIAL POLICY

by

Barry E. Prentice

Major Advisor: Dr. E. W. Tyrchniewicz

Countertrade tends to generate strong opinions. Critics view countertrade as a retreat to bilateralism, as distorting, and in general, as a method of trade financing that has few redeeming virtues. Supporters of the practice acknowledge certain limitations of countertrade, but point out that it is often trade creating rather than trade diverting because it occurs in situations which preclude conventional trade. Neither critics, nor supporters, however, can defend their positions with rigorous quantitative evidence. Although countertrade is estimated to represent 5-10 percent of world trade, data are rarely available because traders are not required to report these details of their transactions.

The objective of this thesis is to evaluate the potential use of countertrade in the development of export markets for Canadian food products in Third World Countries (TWCs). Because primary countertrade data are unavailable, this study relies on secondary sources of information and employs a conceptual theoretical method to explore the topic.

The thesis begins with an overview of countertrade which surveys its forms, growth and current orientation. This is followed by a discussion of the potential merits of using countertrade to finance agricultural exports from the Canadian perspective and the perspective of the TWCs. Subsequently, the theoretical basis for countertrade is considered and some potential applications are suggested. The focus of the study then turns to an evaluation of the legal and political status of countertrade and its compatibility with Canadian commercial policy. Based on these findings, a conceptual model is developed for evaluating the use of countertrade as a method for distributing Canadian food aid.

The principal recommendation of this thesis is that Canada should develop a countertrade/food aid program. The precedent for using countertrade in conjunction with food aid has been established by the U.S. Food Barter Program (1950-73, 1982-present). However, the proposed Canadian program would be operated differently from its U.S. counterpart. Whereas the U.S. Government takes a direct role in food barter, the program envisioned for Canada would be operated through cooperative agreements with commercial trading houses.

In addition to assisting the TWCs with their food deficits, the countertrade approach to food aid could help these countries to establish new export industries which would improve their long term balance of payments situation. From the Canadian point of view, countertrade could be used to stretch the existing food aid budget to assist more TWCs, while improving Canada's commercial relations with these countries.

ACKNOWLEDGEMENTS

There are few aspects of writing a thesis that are more joyous or difficult than phrasing one's acknowledgements. Looking back I recognize that my thesis has benefited from the intellectual input and unselfish efforts of many individuals. Foremost I wish to thank my major advisor, Dr. E.W. Tyrchniewicz, for his sound counsel and continuous support. In addition to his considerate and understanding approach, I appreciate that he was prepared to be flexible and entertain the risk involved in pursuing a less than conventional topic.

I am grateful for the many constructive criticisms and helpful suggestions which I received from my thesis committee: Dr. C.A. Carter, Dr. J.C. Gilson, and Dr. R.A. Lobdell. Each member of the committee made a significant individual contribution which greatly assisted to improve the clarity and balance of the final dissertation. Also, I wish to thank Dr. Michele Veeman who served as external examinar, and Dr. B.L. Dronzek who chaired the oral examination.

Financial support to pursue my graduate studies was provided by the Canadian Wheat Board Fellowship Program. In addition the Board generously permitted me to use their library facilities and helped me to locate relevant sources of information. I wish to thank the Board, and the grain producers of Western Canada, for their assistance and the Fellowship which enabled me to devote all my efforts to the completion of this thesis.

Also I wish to thank Agriculture Canada for sponsoring a discussion paper and seminar on countertrade during an early phase of my research. The many comments received, and in particular the perceptive review by Dr. D. McClathy, were instrumental in defining the primary issues.

Finally, I would be remiss if I failed to acknowledge the contribution of my wife, Mary. Her cheerful patience, encourgement, and understanding have been of immeasurable importance.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter I

INTRODUCTION AND OVERVIEW

The growth rate of world trade (volume) declined during the late-1970s, stagnated in 1980-81 and turned negative in 1982. Total world output followed a similar trend, creating record levels of unemployment and bankruptcies in the industrial democracies, and the threat of widespread financial default in Third World Countries (TWCs). Since 1983, the world economy has begun a modest recovery, but the effects have been very uneven. In North America, the agricultural sector has continued to suffer as a result of high interest rates, low commodity prices and depressed export demand. In the TWCs, a financial collapse has been averted, but balance of payments deficits remain a primary constraint on the economic progress of most nations.

As with previous cycles of depressed economic activity, the 1980s have witnessed the rise of new protectionist trade measures. The current cycle of protectionism has taken the form of quantitative controls and/or other non-tariff measures to defend domestic markets, while subsidies and "industrial targeting" have been used to maintain or enlarge export sales. Although protectionism in general has increased, the impetus for using such measures differs between the TWCs and the industrialized countries. In the TWCs, protectionism has served mainly as a tool for rationing "hard currency" supplies in order to control their balance of payments deficits. On the other hand, the protectionist policies of the industrialized countries have focused on efforts to reduce domestic unemployment and to counter the trade initiatives of competing suppliers.

In the case of agricultural trade, the already highly subsidized and restrictive nature of international markets have been subject to intensified competition as price levels have declined. As a result, the export earnings of U.S. and Canadian farmers have been depressed and demands for government action have increased. These demands have not gone unnoticed, particularly in the United States where the government has declared its intention to compete with the European Economic Community (EEC) in the use of generous export subsidies to win foreign markets.

1.1 ECONOMIC PROBLEM

The increased use of subsidies by the EEC and USA to promote agricultural exports has serious implications for Canada.[1] These subsidies will maintain downward pressure on international prices and place Canadian farmers at a relative disadvantage in the markets of importing Third World and centrally planned countries. Having a small domestic market, the prosperity of Canadian agriculture depends on its ability to sell on foreign markets. Canada can neither afford to enter into a bidding war with the treasuries of these larger economies nor acquiese to the erosion of our international market share. The economic problem is to find a method of helping the TWCs and/or Communist nations to finance Canadian food imports which does not require large outlays of public money.

---

[1] The use of public funds to subsidize the cost of transporting and financing agricultural exports is already widespread.

A new export strategy that Canada could explore is the use of barter trade to finance the sale of agricultural products. It is becoming apparent that exporters which will accept partial payment in goods instead of hard currencies have a competitive edge in negotiating sales in countries with severe balance of payments problems. Canada imports large quantities of goods which do not compete directly with domestic production, e.g., tropical products, certain minerals and chemicals. These products could be used as either full or partial payment for the import of Canadian food products.

1.2 RESEARCH PROBLEM

International barters are usually arranged as two separate contracts which are individually executed by a transfer of convertible currency. These new forms of barter-like trade have been given various names, but are most often referred to as countertrade. The principle of barter which is retained in countertrade is the obligation of the seller (exporter) to purchase a specified quantity of goods from the buyer (importer) within an agreed time frame. In the remainder of this study, countertrade will be used as a generic term to represent a wide spectrum of international trade agreements which have reciprocal purchase requirements.

The Government of Canada has been critical of countertrade, and has refused to become directly involved except in the area of military procurement. There are fears that if the government did adopt an accommodating countertrade policy, it could expose Canadian exporters to excessive demands by the TWCs and COMECON.[2] Concern has also been expressed about the potential impact of countertrade on the multilateral trading system which Canada supports.

On the other hand, using countertrade to increase exports of Canadian food products may offer an interim solution to the problems of depressed foreign sales and an offset to competition from US and EEC export subsidies. Requests for countertrade appear certain to grow given the burdensome foreign debts and balance of payments problems of the TWCs. Those countries that accomodate countertrade may gain a foothold in TWC markets and establish commercial relations which could be used to long term advantage.

The research problem is to determine the scope for using countertrade as a means of financing the development of agricultural markets and the appropriate mechanism for dealing with countertrade in the TWCs.

1.3 OBJECTIVES AND SCOPE OF THE STUDY

The general objective of the thesis is to evaluate the potential use of countertrade in the development of TWC markets for Canadian agricultural exports. The scope of the study is comprised of five specific objectives:

1. to survey the history and development of countertrade, its growth and orientation;

---

[2] COMECON is an acronym for Council for Mutual Economic Assistance which includes the USSR and the Eastern European Countries.

2. to examine the advantages and disadvantages of the use of countertrade to finance agricultural exports from the Canadian perspective and from the perspective of the TWCs;
3. to review the theoretical basis for countertrade and its principal applications;
4. to evaluate the legal and political status of countertrade with respect to Canadian commercial trade policy; and,
5. to propose a practicable policy option.

1.4 OUTLINE

The remainder of this chapter is devoted to the definition and historical development of countertrade, its importance, and the orientation of its growth. This is followed by a summary of the perceived advantages and disadvantages of countertrade from the Canadian perspective and from the perspective of Third World Countries. The focus of the thesis then turns to an examination of the economics of countertrade and how it might be used to obtain certain trade objectives. Subsequently, the legal status of countertrade is reviewed in the light of Canadian commercial policy. In the penultimate chapter, a proposal for combining agricultural countertrade with food aid is discussed and a conceptual model for implementation is presented. A summary is provided in the final chapter with some comments on the potential impacts and consequences of countertrade.

1.5 DEFINING COUNTERTRADE

There is a lack of consensus on a comprehensive definition of countertrade. Some writers [53,62,72] adhere to a narrow interpretation of countertrade as a form of barter trade which is facilitated by cash exchanges. Other writers [79,91] consider military offsets to be the same as countertrade and still others include bilateral trade agreements [5,63] or even "best efforts" agreements [44] as part of countertrade. The absence of a strict definition for countertrade creates a certain amount of confusion in discussions of its importance or growth. This confusion is compounded by a plethora of euphemistic terminology, such as "buy-backs","compensation trading", and "industrial cooperation", all of which are used to refer to one type of countertrade. The purpose of this section is to develop an operational definition for countertrade which distinguishes it from the polar extremes of pure barter and conventional cash transactions. In Table 1, a descriptive summary of pure barter, countertrade, and conventional trade is presented.

TABLE 1

Pure Barter, Countertrade, and Conventional Trade: A Descriptive Summary

---

Pure Barter: an exchange of goods or services in which the barter exchange forms the means of payment. If the exchange of goods is not simultaneous, the trader which delivers first is providing an interest free loan to the second trader. As a result, pure barter trades are normally completed very quickly and seldom extend beyond a year. They are also infrequent in international trade because of difficulties in negotiating the terms of trade; problems in obtaining commercial credit; and, difficulties in timing simultaneous exchanges.

Counterpurchase: a linked transaction usually consisting of two separate contracts, and a protocol agreement in which the exporter of goods, technology, and/or services agrees to a reciprocal purchase from the importer. The first contract sets out the commercial terms of the exporter (price, quality, delivery conditions, etc.) which are identical to a conventional trade. The second contract sets out the terms and conditions for counterdelivers of goods which are normally "nonresultant products" (i.e. unrelated to the imported goods). The protocol agreement which links the two contracts specifies particulars, such as the time frame for completion of the countertrade, penalties for noncompliance, and other details. The normal time frame for a counterpurchase agreement is from one to five years. The value of countertrade goods taken back is usually less than 100 percent of the original export contract.

Best Efforts: this form of countertrade follows the format of counterpurchase agreements. The main difference is the penalty which the exporter faces for non-fulfillment of the countertrade obligation. In contrast to counterpurchase for which the penalty can equal 20-50 percent of the export value, the disincentive for non-fulfillment in a best efforts agreement is the threat of a "negative file" which can prejudice future business. Typically, the value of the reciprocal purchase is less in a best efforts form of countertrade than a counterpurchase.

Pre-compensation: actually a form of counterpurchase in which the seller first builds up countertrade credits in an "evidence account" before making an export sale.

Compensation or Buy-back Arrangement: a specific form of linked transaction in which payment for the origninal purchase (equipment, technology or a turnkey factory) is made in resultant products. Often the financing of the original export product is repaid in resultant goods. Consequently, the total value of the countertrade always equals or exceeds the original export. The time frame for a compensation agreement can extend over 10 to 20 years.

Bilateral Clearing Agreements: bilateral trade agreements set out the basic principles of the trading relationship, together with supplementary protocols which include specific trade plans. Bilateral clearing accounts are established in the central banks of the contracting countries to effect payments or establish credits. The time frame of bilateral agreements tends to vary considerably. The COMECON countries prefer to use three to five year agreements that correspond to their plan periods. Amongst the TWCs, one to two year agreements with automatic renegotiation and renewal are frequent. In the event that unused credits exist in one country's balance, at the end of the agreement, they may be sold to third parties (usually at a considerable discount) or rolled into a renewed agreement.

Military Offsets: these arrangements can include bits and pieces of many forms of countertrade (e.g. compensation, counterpurchase, etc.). The common element which gives offsets a special character is that they are used in military/defense procurement and in some commercial aviation transactions. The time frame for offsets is intermediate in length (between two and 10 years).

Conventional Trade: the multilateral form of trade is composed of a single export/import transaction. The seller has no contractual obligation to reciprocate with a purchase from the buyer. The time frame for conventional transactions varies with the credit arrangements which the seller extends to the buyer. Sales conducted by "irrevocable letters of credit" may be settled immediately at the exporter's bank upon presentation of the shipping documents. Sales which involve commercial credit usually are completed within one year, while exports involving government loan guarantees can extend over several years.

* Additional description of the various forms of countertrade is provided in Appendix A.

Sources: [23,28,63,90,92]

1.5.1 Countertrade versus Pure Barter

Although the terms barter and countertrade are often used interchangeably, the scope of countertrade is more limited than barter. Barter refers to a general form of exchange which may apply to trade between individuals, business enterprises or other institutions within, or among, sovereign states. Countertrade is a more restricted concept that applies only to exchanges which involve a flow of goods and services between, or among, sovereign nations. In practice this means that countertrade is a form of international business which does not apply to individuals, except as they are representatives of private, public, or state-owned trading organizations.

The means of payment used in countertrade also sets it apart from pure barter. Virtually all countertrades are transacted by "letters of credit" in which the banking system is used to transfer the ownership of goods [10]. In contrast, a pure barter exchange precludes the use of any money transfer because the barter exchange is also the means of payment [39]. By using a monetary medium as a means of payment, countertrade avoids much of the awkwardness and inefficiency that characterizes barter exchange. In a pure barter economy goods must pass through numerous middlemen in a winding sequence of exchanges before they reach the final consumer. Expressed in mathematical terms:

> if m commodities are to be bartered on a one-to-one basis with no use of a monetary medium, as many as m(m-1)/2 pairwise trading markets might be needed, while the use of a generally acceptable medium of exchange enables the system to function efficiently with only m or m-1 trading posts. [75:p.938]

As the number of commodities (m) traded grows large, barter exchange becomes an increasingly awkward means of payment relative to transactions which use a monetary medium of payment.

Like barter, countertrade requires each party to be both a buyer and a seller. Economists, since Jevons, Menger and Marshal [43], have referred to this requirement of barter-like trade as the need for a "double coincidence of wants". A "double coincidence of wants" is usually difficult to fulfil in individual barter because each trader must be able to offer some commodity which the other trader wants.[3] This requirement should be less severe for countertrade in which large diverse economies, rather than individuals, attempt to match their trade needs.

Another dimension of countertrade that sets it apart from pure barter is the time frame of these transactions and the use of credit. Pure barter exchanges usually entail a simultaneous transfer of goods and avoid the use of credit. If the exchange is not simultaneous, the trader that delivers first is providing interest-free credit to the other trader. Normally, such transactions are limited to situations in which the traders both belong to the same community and are well acquainted [39]. In contrast, credit is an integral part of any countertrade transaction and the time frame for the completion of the transaction generally extends from one to 20 years.

The differences between pure barter and countertrade are significant. Countertrade refers exclusively to trade between sovereign states and normally involves a bank facilitated transfer of convertible currency. This makes countertrade more efficient than barter which relies on the barter exchange as a means of payment. Countertrade also differs from pure barter with respect to its time frame and use of credit. Whereas

---

[3] As noted by some anonymous wit: Instead of a "double coincidence of wants", there is more likely to be a "double want of coincidence".

pure barter involves a simultaneous exchange of goods and avoids the use of credit, countertrades usually require several years to complete and make extensive use of credit financing.

1.5.2 Countertrade versus Conventional trade

Conventional multilateral trade is generally regarded as separate and distinct from countertrade, but in practice such limits are difficult to discern. One problem in delineating the borderline between conventional trade and countertrade stems from the element of reciprocity that is inherent in virtually all forms of exchange. As Jones [44] notes, there is a large "gray area" in the spectrum of reciprocity between what might be described as strictly conventional trade and as entirely countertrade. In Figure 1, a diagram is reproduced which illustrates this point.[4]

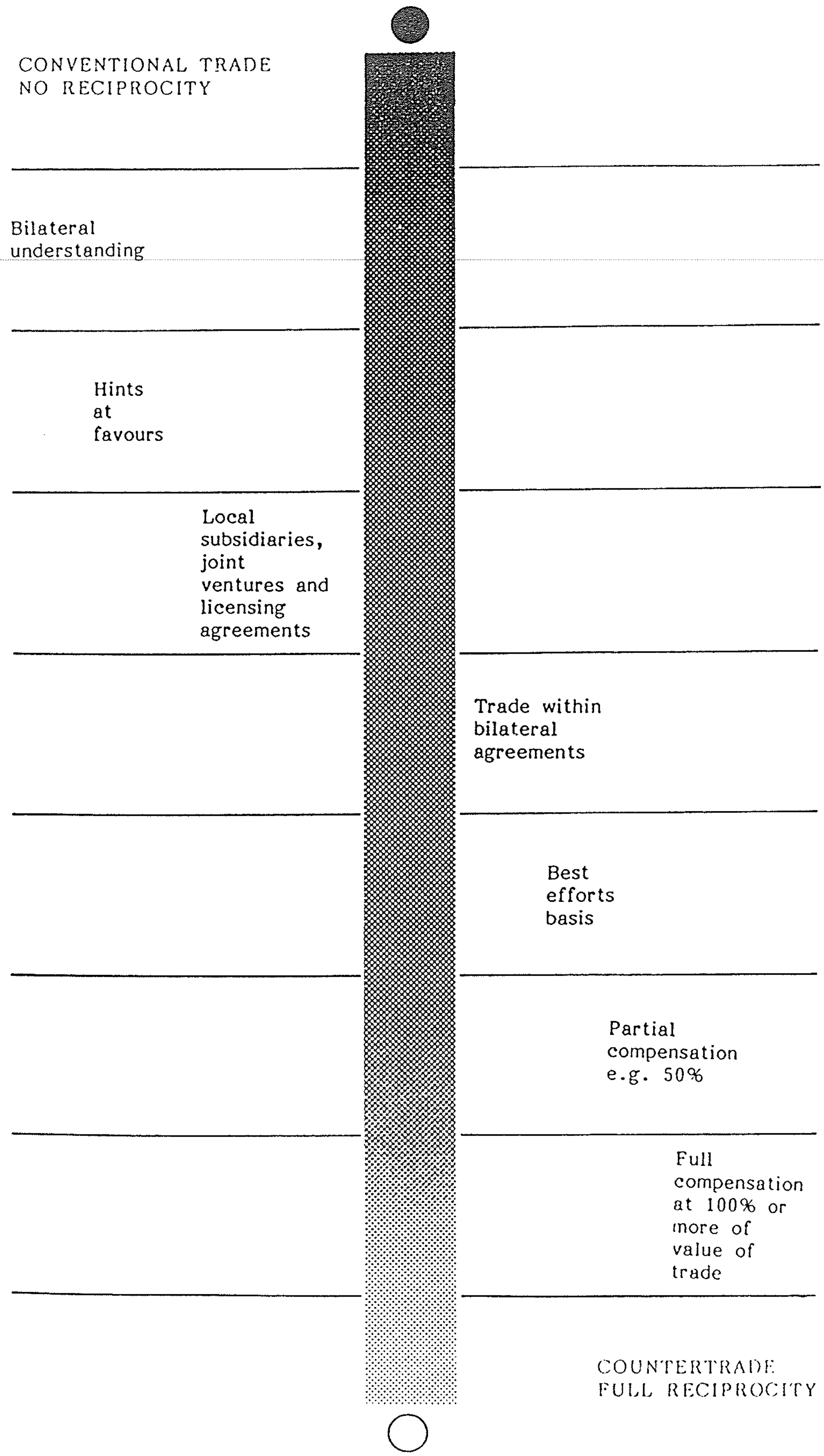
On the right hand side of Figure 1 are types of exchanges that involve an explicit contractual agreement in which the seller promises to purchase some volume of goods from the buyer. On the left hand side of the diagram are exchanges in which no formal agreement of reciprocity is signed, but may be present in the form of verbal assurances. The amount of reciprocity that exists in any particular transaction within the "gray area" provides an indeterminate continuum between countertrade and conventional trade. For example, if the seller reciprocates with purchases of less than 100 percent of his sales, the balance of the sale is similar to conventional trade, rather than countertrade. Thus the

---

[4] In fairness to Jones [44], he disavows any claim to rigor in this classification and suggests it merely as illustrative of the range of reciprocal agreements.

Figure 1

THE RECIPROCITY SPECTRUM



Source: Adapted from Jones

boundary between countertrade and conventional trade is ill-defined by the degree of reciprocity inherent in the exchange.

Jones's diagram does provide a useful insight for the development of an operational definition of countertrade. Although many forms of exchange may entail some element of reciprocity, countertrade agreements invariably make the degree of reciprocity explicit in the form of a legal contract between buyer and seller. In addition, most countertrade contracts contain penalty provisions which are designed to ensure compliance within a fixed period of time. Failure to fulfil a countertrade contract's reciprocal purchase obligation will trigger cash penalties and/or cancelation of contingent contracts. Agreements which contain no legal contractual obligation for reciprocal purchases are unlikely to be considered as countertrade by the participants involved. Hence for the purposes of this study, only exchanges which contain explicit contractual obligations for reciprocal purchases are included in the definition of countertrade.

Another significant difference between countertrade and a conventional monetary based exchange is the number of contracts and parties involved. Whereas conventional export sales are negotiated on the basis of a single contract between one buyer and one seller, countertrade may involve more than two parties and invariably consists of two or more contracts (and in some cases a protocol agreement). As a result, countertrade can be viewed as a multiple trading arrangement requiring reciprocal purchases versus a conventional monetary transaction which is typically a single exchange and includes no reciprocal purchase obligation.

In order to remain as broad as possible, while capturing the essence of countertrade, the following specification will be used as an operational definition. Countertrade is defined as a form of international business consisting of a multiple trading arrangement which includes contractual obligations for a minimum value of reciprocal purchases within a fixed period of time.

1.5.3 Historical Development

The modern origins of countertrade can be traced back to the international economic upheaval in the late-1920s and 1930s. During this period, countries engaged in competitive currency devaluations and other measures to control foreign trade and exchange which led eventually to a virtual collapse of the international monetary system. In response, a large number of bilateral agreements were negotiated between European countries that were essentially barter trade. The widest and least savory use of international barter prior to World War II was practiced by Nazi Germany. The Germans developed extensive barter relations with South America [63] and are alleged to have used their power to coerce smaller East European countries to accept unfavourable terms of trade [6].

In the postwar period, measures to liberalize trade led to a gradual resumption of multilateral exchanges between Western Europe and North America. In other parts of the world, such as the Latin American region, barter-like trade continued to expand until the end of the 1950s because of foreign exchange shortages and the inconvertibility of domestic currencies [63]. Barter-like trade within the centrally planned countries became a permanent feature of their economies and was extended to developing countries as the economic relations of this political grouping were broadened. In particular, the centrally planned countries were active in developing barter arrangements with Western Europe, Egypt and countries of the Indian subcontinent. The U.S. Government also operated a specialized barter program between 1950 and 1973 to exchange surplus agricultural products for strategic materials. A total of 123 different countries (including Canada) received agricultural commodities valued at over 6.5 billion dollars from the United States as a result of this program [80].

With the exception of trade between centrally planned countries, international barter tended to decline during the 1960s and early-1970s. The renewed growth of barter relations, and the widespread use of the term countertrade, dates from the dramatic rise in oil prices in 1974. As subsequent years of recession and liquidity problems have affected international trade, countertrade has gained more attention and has been demanded by more developing countries.

There exists a popular misconception that countertrade originated with the centrally planned countries, and that its spread is a recent phenomenon. In contrast, the roots of countertrade lie in Western Europe, and barter-like trade has been practiced by most countries at some time over the past 60 years [63].

1.5.4 Orientation of Countertrade Growth

Although the precise volume of countertrade is unknown, there is general agreement that the level of activity is greater now than at any time since the Depression of the 1930s. Estimates of countertrade activity vary depending on the definition and geo-political groupings used. For example, Walsh [86] reports estimates of countertrade that range from less than 10 percent of OECD trade and 15-20 percent of East-West trade, to possibly greater than 40 percent of TWC trade. The Organisation for Economic Co-operation and Development (OECD) cautions that most reports tend to exaggerate the importance of countertrade. They maintain that its current volume (excluding trade within COMECON and military offset agreements) equals only $84 billion, or about 4.8 percent of world trade[5] [62].

Perhaps more important than the absolute volume of countertrade is its apparently rapid growth in recent years and its spread from the established East-West orientation to Third World Countries, or so called North-South countertrade. Another significant trend in the growth of countertrade is the use of government mandated countertrade requirements. Until recently, only a few TWCs have had interventionist legislation promoting countertrade, but there is now a growing interest in its use. This is important because such legislation (often referred to as "mandated countertrade laws") represents a fundamental change in the

[5] The differences between military offset commitments and countertrade are relatively minor (mainly financing arrangements and objectives of public expenditure), and would add substantially to the OECD figures. "The most active promoters of countertrade are companies in the aerospace and electronics industries. Some 26 of the largest U.S. companies in these industries accumulated $9.6 billion in countertrade commitments between 1975 and 1981 on sales of $15.2 billion."[91:p.10]

commercial policy of these countries. As an official state policy, the status of countertrade changes from being a private business practice to a non-tariff trade measure.

The success of mandated countertrade policies in expanding the market shares of some TWCs may force other competing TWCs to follow suit. For example, Indonesia which was one of the first TWCs to adopt a mandated countertrade law was able to expand its rubber exports at the expense of other suppliers.[6]

> When Malaysia discovered that it was losing market share for products such as rubber to the Indonesians, it too began to require countertrade. Now Thailand, the Philippines and South Korea are taking it up for defensive reasons. [73:p.77]

It would appear that mandated countertrade laws can have a contagious affect. In South America, Argentina is reported to have passed a countertrade law similar to that in Bolivia, Colombia and Ecuador [2], while other countries active in countertrade include Brazil and Peru [85]. Countertrade legislation also exists in Mexico and Central America, but only Mexico and Costa Rica have been reported to have successfully completed countertrades with the OECD countries [46]. Countertrades have been reported in most Middle Eastern and African countries, but few have actually passed legislative requirements [44]. The best established official countertrade policies are found in the communist TWCs (China, Cuba, etc.) and in the Asian countries trading through bilateral agreements with India [5]. As one surveys the list of TWCs with a record of countertrade, the most striking feature is its ubiquity; very few TWCs have not undertaken some countertrade and still fewer reject the prac-

[6] McDonell [53] reports a summary of Indonesia's countertrade policy: "Guide lines for linking government procurements from imports with Indonesian export products".

tice out of hand.

The trend toward North-South countertrade has increased the proportion of agricultural products involved in countertrade deals. Tropical products, such as coffee, tea, sugar and bananas are frequently offered as countertrade products by the TWCs which are mainly agriculturally based economies. The TWCs also import substantial quantities of temperate zone food products and some countertrades have been negotiated. The potential for countertrade has not gone unnoticed by the farm sector of North America. Numerous articles have appeared recently in the farm press suggesting countertrade as a solution to the weak demand for food imports in the Third World Countries [18,66,80].

Pressure from centrally planned countries for offsets of food imports has also increased the importance of agricultural countertrade. Diplomatic efforts to persuade Canada and other grain exporters to accept countertrade have been applied for some time. While in general these efforts have been unsuccessful, there are signs that countertrade is becoming more palatable to international grain traders. During 1984, Argentina is reported to have agreed to an offset commitment of $90 to $100 million with the USSR for grain and meat exports[7] [1]. In another recent development, an amendment to the legislation governing the Australian Wheat Board (AWB) has been passed which enables the AWB to undertake countertrade [60]. This would appear to be in line with the more aggressive efforts of the Australians to use countertrade to promote agricultural exports [3]. Private grain traders are also prepared

---

[7] The value of the countertrade is approximately 10 percent of Argentine sales to the USSR.

to undertake countertrade. For example, Dreyfus (France), Andre (Switzerland), Cargill (U.S.) and Continental Grain (U.S.) have all established countertrade subsidiaries [44], and in Canada, James Richardson and Sons is reported to have attempted unsuccessfully to countertrade grain to Israel and Yugoslavia [65]. The volume of grain countertrade, if any, agreed to by these firms could not be ascertained at the time of writing.

1.5.5 The Countertrade Controversy

The real costs and benefits of countertrade are strongly contested by detractors and supporters. The opponents of countertrade view the practice with alarm because it rejects such principles as non-discrimination and multilateralism in favour of bilateral trade balancing. If these forces were allowed to grow unchecked, the detractors contend there is a risk that the past 40 years of progress in trade liberalization might be reversed [38]. Critics also question the effectiveness of countertrade as a development strategy. They suggest that much of what occurs as countertrade is really trade diversion which creates very meagre benefits for the TWCs [6]. Thus far however, such claims have yet to be supported by rigorous quantitative analysis.

The supporters of countertrade point out that the need for bilateral balancing stems from the failure of the multilateral trading system to allocate resources according to comparative advantage. In particular, the TWCs have been denied the theoretical benefits of free trade by a plethora of non-tariff barriers that limit the exports of labour-intensive goods in which they have a comparative advantage (e.g. textiles and footwear). It is generally acknowledged that countertrade can be awkward and less efficient than multilateral trade, but it does create opportunities that otherwise might not exist. For many TWCs, the only other option to countertrade is to import less in order to conserve foreign exchange. "In this regard, countertrade is not an alternative to trade routed, financed and paid for through traditional channels and means, but rather a supplement to traditional trade."[47:pp.265-6]

Another factor held in support of countertrade is its potential to expand and diversify the range of TWCs' export goods. There is evidence that countertrade has assisted some TWCs to penetrate new markets for their traditional exports and to develop new exports which have a higher value-added content [63]. To the extent that trade diversification improves the stability of a TWC's earnings, countertrade may promote economic growth. The strength of this relationship however, remains to be tested.

1.6 SUMMARY

The synonymous use of the terms barter and countertrade is generally misleading. Barter is only one of many forms of reciprocal purchase agreements that are now referred to by the generic term countertrade. Although all types of countertrade are based on the barter principle, they are generally more complex and efficient than traditional barter because they do not rely on barter exchange as a means of payment. The use of a monetary medium as a means of payment facilitates the financing of countertrade over longer periods of time, permits more flexibility in developing the terms of trade, and avoids the need to create additional trading markets.

Contrary to popular misconception, countertrade is neither a recent phenomenon, nor an aberrant side effect of the communist economic system. Countertrade has been in the process of development for over 60 years and has its roots in the industrial democracies of Western Europe.

Since the mid-1970s, countertrade has become more important because of its increasing volume and its spread from an established East/West orientation to include a growing number of TWCs. Moreover, concern has been raised because some TWCs are using legislative means to force prospective exporters into countertrade as a condition of market access. In addition to being a form of non-tariff trade measure, mandated countertrade appears to have a contagious effect which forces competing TWCs to adopt similar laws in order to defend their export market shares.

Countertrade is a controversial subject which tends to generate strong opinions. Critics view countertrade as an attack on the fundamental principles of the multilateral trading system; as a "neanderthal" commercial practice; and, as having few redeeming virtues. The supporters of countertrade acknowledge the awkwardness of countertrade, but see it as a pragmatic response to a trading system that has failed to resolve the chronic financial problems of the TWCs. Clearly, the perceived advantages and disadvantages of countertrade depend on the user's perspective in the market place. Neither the critics, nor the supporters of countertrade, are able to provide support for their opinions, however strongly they are held, in the form of rigorous quantitative assessment.

Chapter II

PERSPECTIVES ON THE COUNTERTRADE OF CANADIAN FOOD PRODUCTS

Potential gains and losses to the participants of countertrade tend to be asymmetric because the objectives and problems faced by each country may differ markedly. A summary, which is presented in Table 2, lists possible advantages and disadvantages of using countertrade to export Canadian food products to the TWCs. While most of the general points on countertrade can be found in the literature, their validity is open to conjecture. Published commentaries on the pros and cons of countertrade appear to be based mainly on anecdotal evidence and casual empiricism. Moreover the magnitude of any gain or loss is likely to depend on the specific goods imported and exported. Undoubtedly, this list is incomplete and could be amended to include other reasonable considerations. Nevertheless, it serves as a starting point for the analysis of policy tradeoffs encountered by each party in a countertrade of Canadian food products.

2.1 THIRD WORLD COUNTRY PERSPECTIVE

Balance of payments deficits are a primary concern of virtually all TWCs. As a result, the potential use of countertrade to conserve hard currency earnings and to gain access to new export markets makes it very attractive. If countertrade can be used successfully to broaden and diversify exports, in addition to expanding their volume, the TWCs would be able to achieve both economic and non-economic goals. For example, countertrade could serve as a diversification policy to improve political ties with new trading partners, as well as to stabilize economic growth.

The problem for any TWC using countertrade is to negotiate exchanges which can benefit its economy. Foreign exporters will usually try to inflate their asking price when confronted with a request for countertrade. Also, foreign exporters will demand fungible products which they can easily dispose of on world markets. If traditional cash sales are merely replaced by countertrade, the TWC may be worse off and its competitors may suffer, too. Transferring the form of payment will not add to hard currency earnings, while the marketing practices of switch traders may depress prices in established markets for all TWCs.

The longer term outcome of countertrade on development is unknown because the practice is relatively new in the TWCs.[8] The appropriate weighting that should be given to the various advantages and disadvantages of countertrade is difficult to generalize and impossible to assess a priori. At the present time, the main points are merely listed and discussed.

---

[8] The only comprehensive analysis of the development impact of countertrade was based on six case studies of developing country experiences during the period 1950-1976 [63].

TABLE 2

Perspectives on the use of Countertrade to Export Canadian Food Products to Third World Countries

Third World Country Perspective	
Advantages	Disadvantages
1. Conserve limited reserves of convertible currencies and support domestic policy goals	1. Difficult and costly negotiations
2. Increase food imports and improve nutritional balance	2. Inflated prices of imported goods (to cover the extra costs of marketing countertrade goods)
3. Gain access to established marketing channels, and create new opportunities for employment, investment and technological transfer	3. Leakage of fungible exports on to world markets and/or replacement of traditional cash sales
4. Achieve political goals of trade and market diversification	4. Misleading market signals which adversely affect investment decisions

Canadian Perspective	
Advantages	Disadvantages
1. Provide leverage to overcome non-tariff trade barriers and negotiate export sales	1. Difficult and costly negotiations
2. Assist in disposal of surplus stocks	2. Potential retaliation from Canadian trading partners
3. Ensure payment for exports	3. Exporters unaccustomed to buying role
4. Improve political and economic relations with Third World Countries	4. Difficulties in marketing goods obtained through countertrade
5. Create new business opportunities	

2.1.1 Advantages for the TWC

1. Conservation of hard currencies --Many TWCs employ multiple exchange rates, licensing, and other trade-related measures to attain policy objectives other than facilitating trade.[9] In conjunction with these policies, TWC governments often have to ration imports in order to avoid the economic and political consequences of a devaluation. Given this situation, countertrade offers a means of relieving pressure on the balance of payments because import expenditures are matched (at least to some degree) by offsetting exports [79]. In this sense, countertrade can serve as a complementary policy instrument along with tariffs, quotas and multiple exchange rates to achieve domestic political goals through intervention in the external sector of the economy.

   Yoffie [91] suggests that countertrade requirements may have a secondary purpose in some cases which is to deflect criticism of a government-sponsored austerity program.

   > Whenever a country imposes tough countertrade regulations, imports fall, because foreign companies are less likely to export under countertrade than under normal trading circumstances. Therefore, Third World governments that want to cut imports (and lower the standard of living) can impose countertrade regulations and then conveniently blame foreign corporations for refusing to export. [91:p.9]

   No incidents to support this hypothesis were given by Yoffie, and none could be found in the literature.

---

[9] Cooper [21] lists fostering of industrialization, improving terms of trade, redistributing income, raising revenues and doling out political favours as some non-trade-facilitation objectives pursued by TWCs through multiple exchange rate policies.

2. Increase food imports -- Governments of Third World Countries are aware of the nutritional problems that confront their citizens, and of the potential impact of forecasted demographic changes. Recent United Nations predictions indicate that even with lower birth rates, the number of young people in many TWCs will cause their populations to double within the next 40 years [55]. Despite the growing demand for food, the TWCs are reluctant to use scarce foreign currency to import agricultural products. At the present time, many countries have insufficient foreign exchange to service both their debts and import capital items necessary for planned development. The success of the former U.S. food barter program, suggests that many TWCs would consider increasing their food imports if they were offered countertrade.[10]

3. Access to new markets -- Often the TWCs do not have sufficient experience with the needs of the foreign market, or the trade connections necessary to implement a successful export marketing effort. If the TWCs are able to "piggy-back" the established marketing channels of the industrialized countries, they can avoid the costs of setting up local distribution networks and accelerate the development of export industries. Also, familiarity with a foreign market can assist the developing country in identifying other potential markets for its products, training its personnel in export market development and making buyers aware of the quality attributes of its products. In this sense, countertrade may serve as a stepping-stone to the development of conven-

---

[10] A description of the U.S. food barter program is provided in Chapter 4.

tional trade.

Other opportunities created by countertrade include new investment, employment, technological transfer, and a means of avoiding trade regulations. With countertrade it becomes more difficult to monitor adherence to international agreements. This can be a short run advantage for individual countries which are unable to dispose of excess stocks because of international commodity agreements. For example, it is alleged that Costa Rica has engaged in several countertrade arrangements involving "non-quota" coffee beans [8,46], while the use of countertrade to export oil outside of OPEC quota levels is widespread [61].

4. Political goals -- Trade connections and political ties are intimately related. Most TWCs have a desire to broaden their trade relations to offset the political influence of a dominant regional power, or a former colonial master. To the extent that countertrade can assist to diversify trade to politically acceptable third markets, such as Canada, it may fulfill a political as well as an economic objective.

Countertrade also may be used for diversification as a strategy to reduce risk. TWCs which depend on the exports of two or three traditional products for the bulk of their foreign exchange earnings are subject to the destabilizing affects of fluctuating commodity prices. By insisting that exporters accept products in countertrade which have a higher value-added content, or previously were exported infrequently and in small quantities, the

TWCs can broaden the range and value of their exports.[11] As noted by one observer, countertrade has given rise to a virtual renaissance in the market for wicker furniture [36].

2.1.2 Disadvantages for the TWC

1. Costly negotiations -- The greater length of time and lower success rate of countertrade negotiations relative to conventional trade, is a disadvantage for all parties involved. To the extent that the negotiations of countertrade contracts increase search costs, the benefits of countertrade are less than comparable import/export transactions

   The length to time necessary to complete transactions may also increase service charges for countertrade. For example, bank charges for letters of credit are likely to be higher for countertrade than conventional trade because the letters of credit usually are kept open longer.

2. Inflated prices -- The costs of marketing countertrade goods must be met from the margins of the exporter. As a result, TWCs which demand countertrade will be quoted higher prices for the goods they wish to import. If their exports are priced by the interna-

[11] In a summary report of six developing country case studies (circa 1976), Outters-Jaeger [63:p.102] notes the diversification impact of countertrade on non-traditional products. "For instance, barter-like trade enabled Egypt and India to promote the exports of their new industrial products, especially to other less industrialised developing countries. Moreover, exports of commodities for which demand in traditional multilateral markets was either decreasing or stagnating, like rubber, tea, coconut oil, etc., could be expanded under barter-like agreements. In most cases the barter-like relations help to some extent to achieve greater diversification in the commodity structure of exports."

tional market, this amounts to the TWCs receiving less favourable terms of trade for bartered goods.

It is unreasonable to conclude however, that all countertrade necessarily carries this disadvantage for the TWCs. If the TWC could have had a cash market for its exports, then the countertrade method is likely to be inferior in terms of the prices paid for imports. On the other hand, if the goods of the TWC cannot be sold one must consider the opportunity costs of the countertrade goods rather than their "prices". The conclusion that under countertrade the TWC is paying inflated prices also might be reversed if the only other alternative is to forego consumption.

3. Recycling of countertrade goods -- In addition to the potentially less favourable terms of trade, the TWC could experience a decline in its net foreign exchange earnings if traditional exports are permitted to be used for countertrade in established markets. More fungible products are easier to dispose of on world markets and are more readily accepted as countertrade. If these products are allowed to substitute for exports made on a cash basis, the TWC may end up worse off because the countertrade products are often sold at a discount which undermines prices.[12]

---

[12] Of course this depends on the "cash" terms of trade which the country has previously been able to negotiate, and the market where its products is ultimately consumed. To the extent that countertrade middlemen have been able to find new markets for goods in COMECON, or other TWCs, countertrade goods are not recycled and may have no affect on normal cash markets.

Many TWCs restrict the list of "eligible" countertrade products to non-traditional exports, or permit traditional exports to be sold only to new markets. After goods leave the exporting country, however, it is practically impossible to control their final destination. Moreover, any country that does manage to expand its market share at the expense of its competitors' is likely to find these countries using countertrade to defend themselves.

4. Misleading market signals -- Success in exporting non-traditional products through countertrade may encourage the TWC to invest in developments of infrastructure and training that support an inefficient industry. The use of scarce resources to develop industries that are unlikely ever to be competitive on the international market could be more harmful than beneficial to long term development.

A related problem concerns the collection of marketing information. If the TWCs become too dependent on external marketing organizations, they may fail to adapt their products to the needs of the market, or to recognize new product opportunities [6].

2.2 CANADIAN PERSPECTIVE

The case for pursuing agricultural export markets through countertrade has similarities to the situation faced by the TWCs. The markets of agricultural exporters are subject to periodic excess supplies during which producers are often forced to sell at below their costs of production. The markets of agricultural importers are highly protected and for some higher value products (e.g. pork, cheese) are simply closed. As a result, the agricultural exporters are in a weak bargaining position to effect favourable changes in either market access, or commodity prices. Countertrade may offer a means for agricultural exporters to enlarge export markets by expanding the effective demand for food imports in the TWCs.

The use of countertrade as a means of promoting agricultural exports presents some common problems. Negotiations involving countertrade usually require more time and effort than comparable cash sales. For example, the exporter may have to negotiate with two separate agencies in the TWC in order to satisfy the countertrade obligation. Normally, exporters can pass some of these additional costs of countertrade on to the buyer in the form of higher prices. In the case of agricultural products, however, this is more difficult because commodity price information is widely available. Another problem is that the products received in countertrade are sometimes inconvenient to market. These marketing problems tend to be more severe if the firm is small, or the TWC's attention to quality is lax, or both.

2.2.1 Advantages for Canada

1. Leverage in export negotiations -- The commitment to accept countertrade goods, even in partial payment, is a powerful negotiating tool that could be used to overcome restrictive trade measures. For example, certain agricultural products are subject to licencing procedures or quotas that virtually prohibit their importation in many TWC markets. Often these restrictive trade

measures are used more to control the outflow of foreign exchange than to protect domestic producers. Using countertrade as a means of financing, it may be possible to expand the exports of products, such as pork, apples, and potatoes which are produced efficiently in Canada, but have limited access to TWC markets because of their balance of payments problems.

2. Disposal of surpluses -- The United States operated a barter trade program to dispose of surplus agricultural products from 1950-1973, which exceeded 1 billion dollars in the last year of its operation [80,84]. In Canada, both grain and dairy producers have experienced periods of excess inventories. Countertrade could be used to reduce these inventories and promote long term market development by introducing Canadian products to new consumers.

3. Ensure payment for goods -- At the present time, Canada has substantial balances of outstanding loan guarantees and direct loans to TWCs and centrally planned countries which were extended to finance past exports of agricultural products. The cost to taxpayers of this form of export assistance is difficult to quantify. A dearth of information exists on the terms or structure of these loans, or the degree to which they may be in arrears.[13]

[13] The government now carries approximately $3.0 billion in contingent liabilities on behalf of credit grain sales made by the Canadian Wheat Board. In general these loans have a maximum three year repayment term, but many have been extended because a large part of the CWB's credit exposure is in countries which are being forced to reschedule their external debt. "Over three quarters of the Board's 1984 credit receivables have been affected by reschedulings. As a result credit extended orignally for three years is now being repaid over a much longer period."[34:p.21] Fortunately for grain farmers, the Ministry of Finance provides a 100 per cent guarantee of these bank loans and charges no fee to the CWB. So far the Board has been

Given the large foreign debts carried by some TWCs, and the risk that these countries could delay payment for indefinite periods, the more immediate and guaranteed payment offered by countertrade could be of considerable benefit.

4. Improve political and economic relations -- Countertrade would enable Canada to improve both economic and political relations with the Third World Countries. Countertrade agreements are sometimes made "to show political support for the leaders or political philosophy of a country." [81:p.5] As one of the principal countries supporting the concept of a North-South Dialogue, Canada is expected to take a leading role in promoting trade with developing countries. Agricultural countertrade could be a highly visible and concrete demonstration of Canada's political commitment to improving North-South trade. In the longer term, countertrade arrangements are likely to encourage complementary non-barter trade as the TWCs become more affluent.

5. Create new business opportunities -- One feature of countertrade that seems to gain short shrift by critics is that many firms find the practice to be profitable. In a 1983 survey of US firms, one-third reported making an overall profit on countertrade compared to 18 percent which suffered a loss, while the balance claimed to breakeven [77]. This may explain why firms that have gained experience with countertrade are far less critical of the practice than those who oppose the idea, but have no

---

able to increase its lines of credit to cover the additional interest charged to its customers. The ultimate cost to Canadian taxpayers will depend on whether the Board's customers eventually honour these accumulating debts.

first hand experience (e.g. some trade officials).[14]

Countertrade is often credited with creating trade that would not have taken place otherwise. It has also led to a net increase in foreign exchange balances, at least for some large countries. A survey of countertrade trends conducted by the U.S. International Trade Commission noted that "U.S. exports are estimated to exceed the level of U.S. imports received through countertrade during any given period"[79:p.24]. The net export balance was attributed to the practice of combining cash compensation with partial countertrade commitments.

2.2.2 Disadvantages for Canada

1. Difficult negotiations -- The time and cost required to negotiate a countertrade arrangement is a problem often cited in the literature. These problems may be exacerbated by bureaucratic rivalries in the TWC, as well as in Canada, if the importing agency is not in direct control of the countertrade products. Because of the cost of negotiations, small trades, e.g. less than $500,000, are usually discouraged.[15]

---

[14] Massey-Ferguson is one Canadian-based mulinational that has embraced countertrade by establishing a Trade & Barter Division. "In its second full year as an operating unit, Trade & Barter generated revenues nearly three times greater than the 1983 level, a reflection not only of the Division's growing expertise but also the increasing pace of countertrade. ... The Division anticipates a further substantial increase in business volume in the coming year" [52:p.11]

[15] Frizelle [30] also points out that shipping costs may make products uncompetitive if the size of shipment is below a certain range.

Traders of agricultural products have a negotiating disadvantage which is specific to commodity trade. Unlike exporters of manufactured goods who can easily inflate their prices to cover the additional risk and costs of a countertrade demand, agricultural traders are unable to disguise such a premium because cash and future prices for agricultural commodities are widely published. As a result, negotiations involving agricultural commodities must explicitly account for the extra costs which the trader expects to incur. Naturally, buyers tend to resist explicit risk premiums more than those which may be suspected, but are well hidden.

2. Retaliation of competitors -- If the products of countertrade are heavily discounted, existing suppliers may be provoked to retaliate. Undesirable reactions in other areas of trade, or measures to offset the gains of countertrade may outweigh the initial advantage.

3. Unwilling buyer -- By definition the seller in countertrade is also expected to act as a buyer. In many cases, the exporting agent is unaccustomed and unprepared to assume the importing role. This problem could be turned into an opportunity if the exporter is able to adapt successfully to the situation. Undoubtedly, the demands of countertrade have given strong impetus for the formation of large trading houses in the United States and Europe. This development is generally viewed as positive in government and business circles because of the success which the Japanese have had in using trading houses to promote their exports.

4. Marketing problems with countertrade goods -- Success in marketing countertrade products depends on the TWC's ability to meet world standards in grading, packaging, refrigeration, shipping, etc. Long term investments may be needed that can be initiated only with public support. If the TWC lacks commitment to the development of its own products, the marketing problems of the buyer may make countertrade unprofitable.

Greater problems in marketing countertrade goods are likely to be encountered by small or medium sized Canadian exporters. Firms which lack the financial and resource capability to market these products on their own behalf are forced to use switch traders to convert countertrade goods to cash.[16] The commissions paid to switch traders vary inversely with the fungibility of the goods (i.e. very fungible - lowest commissions). The absence of Canadian trading houses on the scale of international competition reduces the scope of Canadian firms to offer countertrade comparable to their U.S. and European counterparts.

2.3 SUMMARY

It is extremely difficult to generalize about the possible merits or drawbacks of countertrade. There are a variety of considerations and each participant gives their own weighting to the issues. The perspectives of Canada and the TWCs on the countertrade of Canadian food products reflects the diversity of pros and cons that surround the practice.

[16] Switch traders are specialized trading houses whose function is to market countertrade goods which the recipient cannot dispose of easily.

For the TWCs, countertrade holds the potential to reduce their balance of payments problems and for attaining certain political objectives. In order to maximize the development benefits of countertrade, however, the TWCs must be able to generate new exports of non-traditional products. Simply converting existing cash sales to countertrade, or using countertrade to expand into a competitor's market, is unlikely to create permanent gains for any of the TWCs.

From Canada's point of view, the countertrade of agricultural products has the potential to convert the latent demand for food imports of some TWCs into an effective demand. Also, countertrade provides a means of financing agricultural exports that guarantees payment. In this respect, countertrade may be superior to longterm credit financing or loan guarantee programs. The drawbacks of countertrade for agriculture are that negotiations can be difficult, costly, and subject to a higher incidence of breakdown than cash transactions. Moreover, the exporter of agricultural goods must deal with the marketing problems of generally unfamiliar countertrade products in order to recoup their value.

Clearly the most appealing aspect of countertrade is the opportunity it presents for both parties to overcome a critical financial barrier for the TWCs and to create an expansion of trade. The problem is to identify trade goods which will yield mutual benefits and overcome the higher costs of countertrade, while avoiding potentially undesirable side-effects.

Chapter III

THE ECONOMICS AND USES OF COUNTERTRADE

The political motives and objectives that surround the use of countertrade tend to obscure the economics of the practice. In fact the majority of the literature on countertrade deals with either the mechanics of the practice, its pitfalls, or its growing importance. With the exception of a few notable articles [17,57,59,74], very limited attention has been paid by economists to a theoretical explananation of countertrade.

The purpose of this chapter is to review the theoretical framework for countertrade and to examine the economics of its applications. The discussion is organized into three parts. In the first section, a game theoretic model is used to provide a framework for the analysis of bilateral and triangular countertrade. This is followed by a discussion of the economics of countertrade's principal applications. In the final section, some examples of potential uses of countertrade in the export of Canadian agricultural products are outlined.

3.1 THEORETICAL FRAMEWORK

A theoretical framework for the analysis of bargaining and the factors that affect the terms of exchange is provided by game theory. The first economic model of barter trade, developed over 100 years ago by Edgeworth [27] is considered to be the oldest conceptualization of a market as a non-zero sum cooperative game[17] [64]. The Edgeworth model represents a two trader/two product barter, or what is also known as a bilateral monopoly. The results of this model can be expanded to represent a three trader/three product barter, or a triangular countertrade.

3.1.1 Pure Barter/Bilateral Countertrade

The trade model presented in Figure 2 is commonly referred to as an "Edgeworth Box". For simplicity we will consider that the two traders (X and Y) each have stocks of only two commodities (A and B), respectively. All points within the Edgeworth Box and its boundaries relate to possible distributions of the fixed quantities of goods A and B. The solid lines are trade-indifference curves which represent combinations of goods A and B that give equal utility to the respective traders. The trade-indifference curves of trader X are convex to origin O', while the trade-indifference curves of trader Y are drawn convex to origin O.

For the purposes of illustration, it is assumed that trader X has the entire stock of good A (equal to O'R), and that trader Y has the entire stock of good B (equal to OR). Without trade, and given the stock of good A, indifference curve X^0 is the highest level of utility available to X. Similarly, Y^0 is the highest level of utility available to Y if only good B is held. X^0 and Y^0 also represent the minimum utility levels that these traders will accept after an exchange, because they can do at least this well without trade. Higher trade-indifference curves (X^1,X^2 for X and Y^1,Y^2 for Y) can only be reached with trade. Since C'

[17] With a zero sum outcome, the payoffs to the gainers exactly equal the losses of the losers. In a non-zero sum game, many possible outcomes may obtain and gains may exceed losses in total.

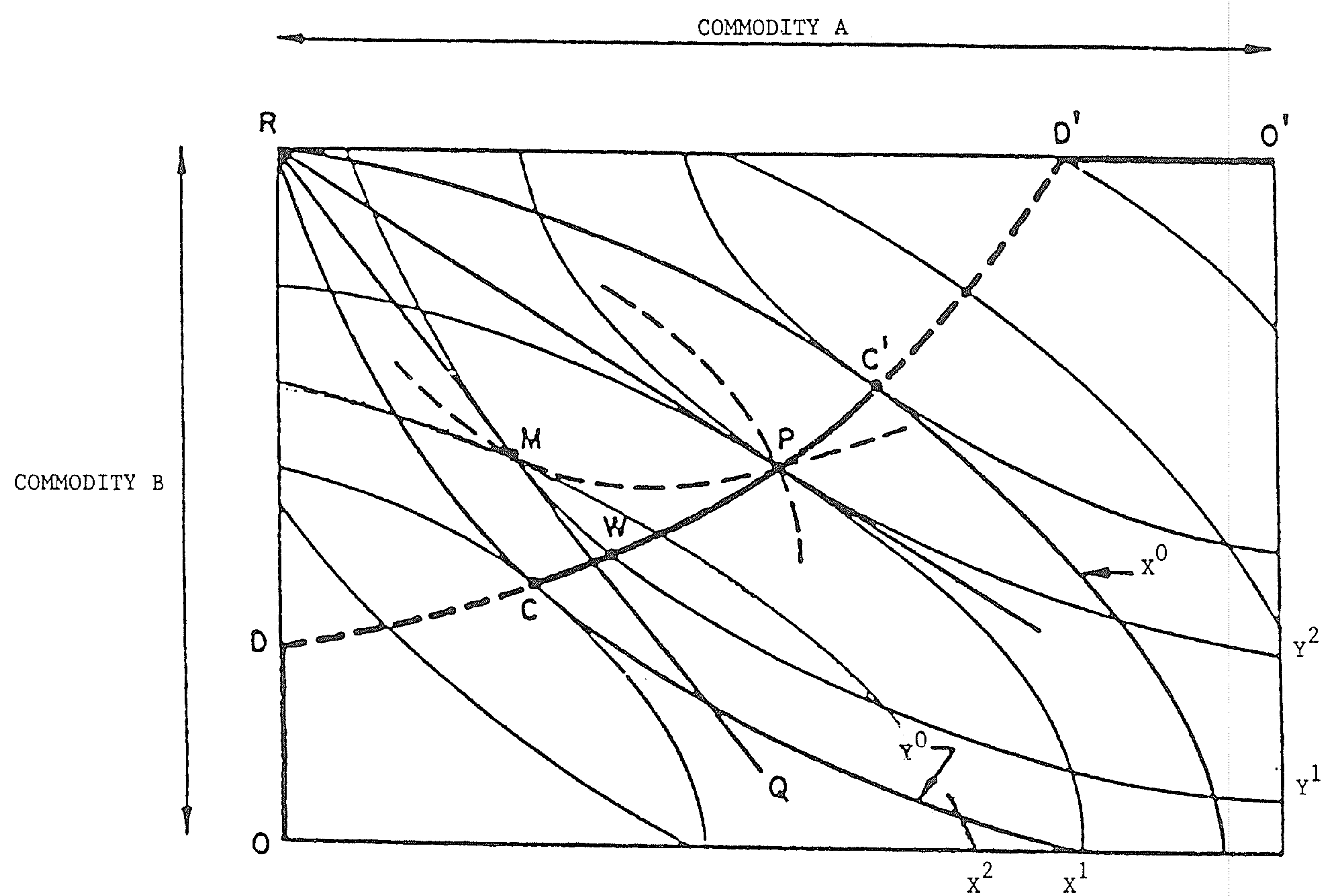


Figure 2

Edgeworth Box Model of Barter Trade

Source: Adapted from Shapley and Shubik.

represents the minimum acceptable terms of trade for trader X, it is also the most favourable terms that trader Y can expect to receive. The opposite case holds for point C which is the most favourable terms that trader X can expect.

The dark line CC' is called the contract curve. It represents the locus of points formed by the tangencies of X's and Y's trade-indifference curves. Any point on the contract curve can be shown to be superior to a level of exchange not on the contract curve. For example, if trade were negotiated at point M trader Y would be as well off as if the exchange were at point W (same trade-indifference curve), while trader X would be better off at W because he could move to a higher trade-indifference curve. Clearly, X could offer Y an incentive to move from M to some point on the contract curve between W and his trade-indifference curve X^2 and still be better off. As a result, it can be shown that the points on the contract curve dominate all points off the contract curve.[18] The contract curve is the set of pareto optimal solutions which correspond to the division of the mutual gains of barter trade between the two players.

The institutional setting represented by the two player barter is limited only by the most basic assumption of property rights [70]. Each trader is free to name prices and negotiate without restriction for the most favourable individual terms of trade. Through bargaining and haggling, the two traders arrive at a solution somewhere on the contract curve CC'. Although the solution can be shown to be on the curve, the

[18] In the case of barter between two individuals, the contract curve corresponds to the Core solution in game theory [74]. A game theoretic form of the Edgeworth Box is presented in Appendix B.

exact point (i.e. the terms of trade) is indeterminate.

Shapely and Shubik [74] show that changes in the institutional setting can lead to widely varying outcomes. If one assumes that the traders are unable to influence price (both act as price takers) and that these prices are determined by the competitive market, then the outcome will be the competitive solution (point P, in Figure 2). The price of good A in terms of good B will be equal to the slope of RP.

A monopolistic solution can be obtained by assuming trader X is capable of naming the price, while trader Y acts as a price taker and tries to maximize his welfare subject to the given price. The response function of trader Y is called the offer curve and is traced out by the tangencies of his trade-indifference curves to the price lines. In Figure 2, the offer curve of trader Y is the dashed line passing through M and intersecting the offer curve of trader X at point P. The solution, at M, is determined by the tangency of trader Y's offer curve and the highest trade-indifference curve of trader X. The price line RQ specifies the terms of trade.

The three outcomes of the trade model represented in Figure 2 result from the institutional settings and the traders' relative bargaining power. If the traders are powerless to influence the market, the competitive solution P will obtain. If the bargaining strength of the two traders is such that each can name prices, the terms of trade are indeterminate, but the results are efficient in a welfare sense. If one trader has the power to set prices, however, the monopolistic solution (point M, in Figure 2) may result. Only in this last case of unequal bargaining power is an opportunity created for using barter or countertrade to achieve a disproportionate economic benefit for one trader.

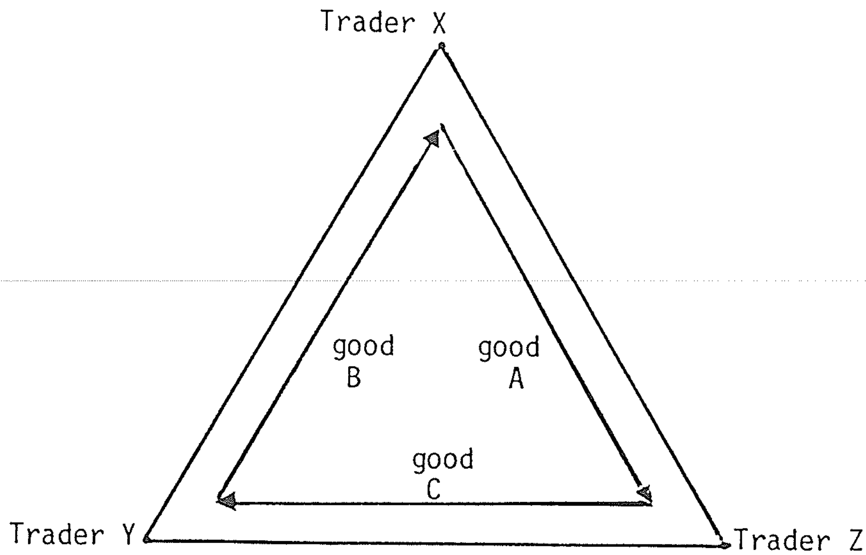
3.1.2 Three-way Barter/Triangular Countertrade

The classic problem of barter is to find a combination of goods that is satisfactory to both traders. This problem, which is often referred to as the need for a "double coincidence of wants", is likely to be more acute if the countries have similar natural resource endowments, climates and technical capabilities. One means of overcoming the lack of a double coincidence of wants is to expand the number of traders and commodities from two to three. Using the previous example of a two-way barter, imagine that trader X wants commodity B from trader Y, but trader Y has no demand for commodity A. A third party, trader Z, exists however, that wants commodity A. From the array of products that trader Z can offer, there is a commodity C which trader Y will accept.

In Figure 3, part a, this three-way barter is illustraded as a trade triangle. Trader X sends goods A to trader Z, and receives an acceptable quantity of goods B from trader Y. The exchange is balanced by a shipment of goods C for trader Z to trader Y.

A triangular countertrade is identical to a three-way barter, except that each trader receives a transferable monetary unit of account for his goods which is subsequently used to fulfill a pre-arranged purchase commitment. Figure 3, part b, illustrates this triangular countertrade. The movement of goods in one direction is offset by the movement of funds, or credit, in the opposite direction.

(a) Three-way Barter



(b) Triangular Countertrade

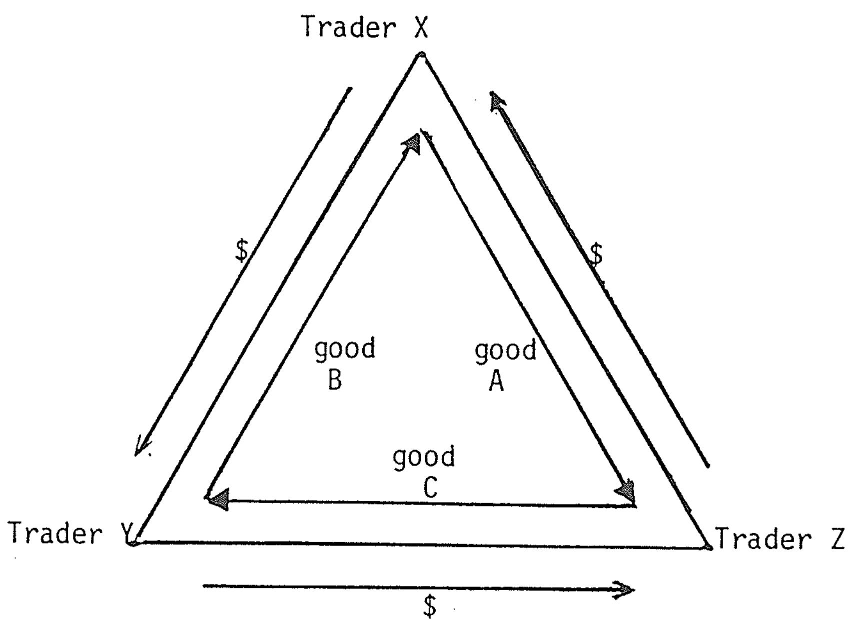


Figure 3 : Three-way Barter and Triangular Countertrade

The economics of triangular countertrade also can be represented in Figure 4 by a triangle. In this case the points within the triangle and its boundaries represent the sets of all possible gains from three-way trade. The payoffs to the three traders are indicated in brackets, i.e. (X,Y,Z). At the vertices of the triangles, all benefits are captured by one trader and leaving the others with zero gains. For example, at point X, the payoff (3,0,0) indicates a gain of 3 for trader X and 0 for traders Y and Z. Similarly, at point Y the payoff is (0,3,0), while at point Z the payoff is (0,0,3).

Boundary solutions require the participation of only two traders, which jointly receive all the benefits. The payoff in a countertrade of one trader acting alone is zero (i.e. no trade). Along the edge of the triangle between points X and Y, the payoff is divided between traders X and Y, while trader Z receives zero (e.g. at the midpoint P, the payoff is (1.5,1.5,0)). All non-boundary points require the participation of all three traders and each may make a claim on the benefits. The closer the solution is to their vertex, the greater the proportion of the gains which the trader has captured.

The various countertrade situations in Figure 4 are defined by their characteristic functions. The characteristic function specifies the value of the gains from trade which can be divided between or among the participating traders. The characteristic function for Figure 4, part a is:

(3.1) $V(0) = 0$

(3.2) $V(X) = V(Y) = V(Z) = 0$

(3.3) $V(XY) = V(YZ) = V(XZ) = 3$

(3.4) $V(XYZ) = 3$

(a)

(b)

(c)

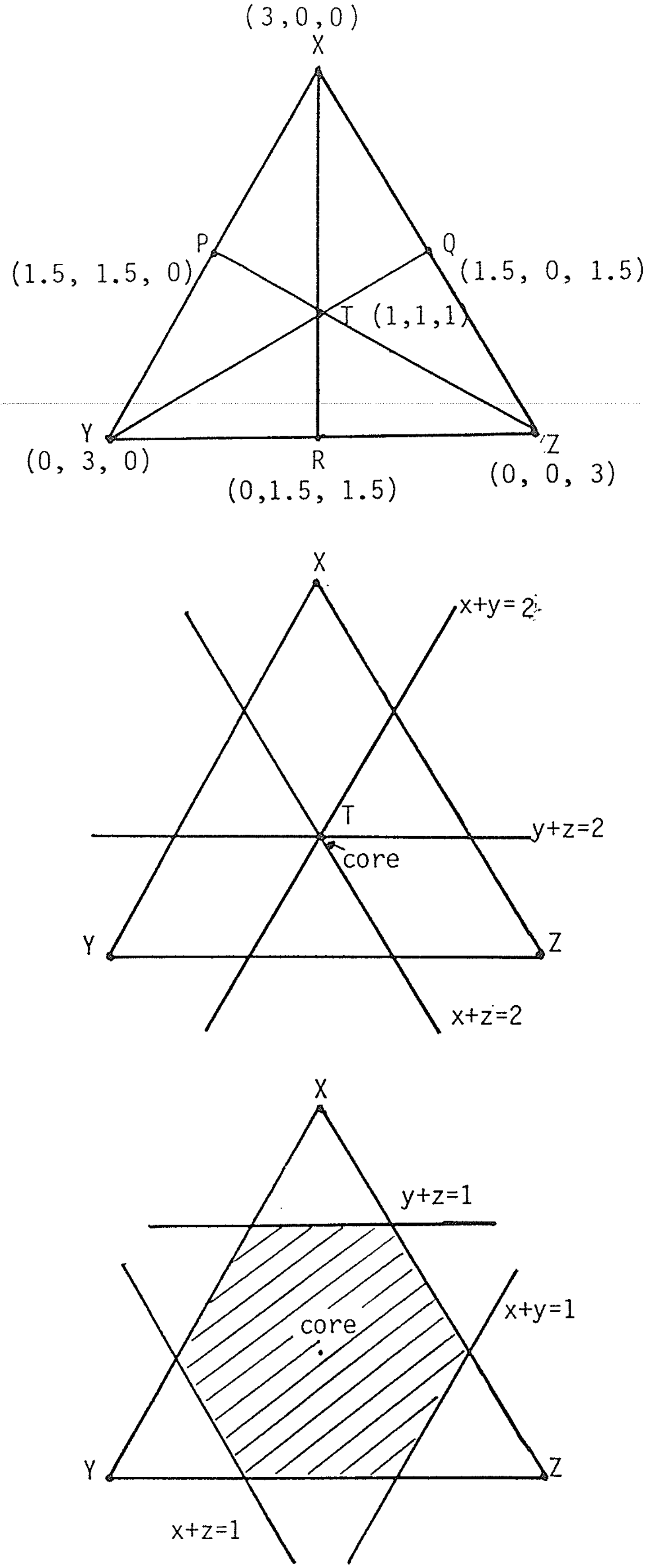


Figure 4 : Game Theory Model of Triangular Countertrade

Source: Adapted from Shapley and Shubik

An empty coalition (3.1), or a coalition of one (3.2) has no trade, and no gains from trade. Any coalition of two traders (3.3) has a payoff of 3, which in this case is equal to the payoff of the grand coalition, i.e. (3.4) = 3.

The game theory analysis in this model rests upon the existence, or non-existence of a core solution. The core solution in game theory corresponds to the contract curve of the Edgeworth box. If the core solution is empty, a triangular countertrade will not take place; existence of the core solution indicates a triangular countertrade could be feasible to negotiate. The core solution is defined as the set of undominated solutions.[19]

In part a of Figure 4, there is no core solution. The points P, R, and Q, which give any two traders 1.5 each, dominate any other division between the same two traders. These points can be dominated however, if the third trader offers to take slightly less than 1.5, in order to bribe one of the others to join his coalition. The implication for triangular countertrade is that if any two traders can find a two-way barter which yields more individually than their participation in a triangular countertrade, they will opt out of the triangular countertrade.

In parts b and c of Figure 4, only (3.3) of the characteristic function has been changed. In part b, any coalition of two traders can now receive only 2 (i.e V(XY)=V(XZ)=V(YZ)=2) The core solution in part b is

---

[19] Returning to the more familiar concept of the Edgeworth Box, all points on the contract curve can be shown to be superior to the points off the curve, but are not superior to each other. The points on the contract curve (in the core solution) reflect only various divisions of the benefits gained from trade.

the single point T(1,1,1), which is the one undominated division of the gains. This suggests that if a countertrade involving two traders can be expanded to three without making any trader worse off, the triangular countertrade should dominate the bilateral countertrade.

In part c of Figure 4, the gains to a two trader coalition are further reduced to 1 (i.e. V(XY)=V(XZ)=V(YZ)=1). The core solution in part c is the cross-hatched hexagonal area. This implies that if the traders can all do better in a triangular countertrade than either alone or in a bilateral arrangement, the number of potential divisions of the benefits are large, but like the contract curve the terms of trade may be indeterminate.[20]

Two inferences can be drawn from the game theory model of triangular countertrade. First, triangular countertrade does not necessarily require equal benefits for all traders, but each trader must be able to do at least as well as they could in a bilateral countertrade. Second, if a triangular countertrade can be found that gives each trader as much as any two-way trade, the triangular countertrade should dominate.

By expanding countertrade to three regions there is a greater potential for identifying complementary trade goods. The addition of an extra trader adds only one more demand to be filled, while doubling the number of goods that could serve to satisfy an unfulfilled demand in an incomplete bilateral countertrade. In this regard, triangular countertrade may gain an important advantage which is normally associated with

[20] A survey of other game theory solution concepts that might be more applicable for analysing the terms of trade in a triangular countertrade is available in Rapoport [64] and in Schotter and Schwodiauer [70].

multilateral trade.

3.2 COUNTERTRADE: PRICING AND TERMS OF TRADE

Theoretically the terms of trade in barter and countertrade depend on the institutional setting and the relative bargaining ability of the individual traders. Consequently, it is possible that the "prices" used in countertrade could differ substantially from the prices prevailing in the international market if that market is imperfectly competitive. For example, a TWC with weak (strong) bargaining power could receive less (more) for its goods in countertrade than similar goods might have fetched in multilateral trade.

The hypothesis that a TWC receives a price in countertrade that is significantly different from multilateral trade is based on rather strong assumptions. It is necessary to assume that the alternative market opportunity is unavailable and that the TWC's bargaining position is unimportant in multilateral trade. For most TWC goods these assumptions will not hold. In the case of traditional exports, prices realized in international trade may vary among the TWCs depending on the policies of the multilateral corporations with which they deal. Also it is possible that the governments of certain TWCs might adjust their export prices on the basis of politically determined currency exchange rates rather than offer preferred prices in some markets. As a result, export prices in conventional trade could be equivalent to the "prices" received in countertrade.

Of course there may be cases in which terms of trade differ between conventional trade and countertrade. Some evidence exists to suggest that countertrade may be used to effect price discrimination, in which case prices by definition are bound to differ. With respect to non-traditional goods the "prices" in countertrade may be superior to prices that could be attained in conventional trade because buyers may demand substantial price discounts before they will undertake the risk of marketing these unfamiliar products.

Data are rarely available to compare the terms of trade derived in countertrade and the prices received in conventional cash transactions. Researchers that have examined this issue report that the situation is mixed. Caves [17] searched for evidence that bilateral arrangements had been used for the purpose of implementing price discrimination policies.

> Certainly, there is convincing evidence that <u>some</u> less developed countries take deteriorated terms of trade under <u>some</u> bilateral arrangements in order to segment the markets for their primary products, and indeed this is one of the publicly stated objectives of these agreements..... Still, many analyses suggest that the bulk of transactions under bilateral agreements take place at world market prices, and that even the trade flows handled by state trading corporations may be marked up by similar percentages both ways, so that no significant net distortion results. [17:p.34]

Caves also points out that overvalued exchange rates may disguise the terms of trade. Countertrades that appear to have terms of trade significantly different from prevailing market prices, might not be when assessed at the correct shadow price for convertible foreign currency.

The approach taken by the OECD, in their case studies of barter in developing countries [63], is to compare calculated unit values of barter-like trade with international prices for imports and exports. The authors caution that the technique is fraught with statistical problems, but do present some guarded conclusions.[21] For example, in the case of India which was considered to have the best data base for this analysis:

> In conclusion, although the unit value comparisons embody many critical problems, they give evidence that barter-like trade provided higher prices for India's exports and lower prices for its imports. The price differentials between both kinds of trade were, in general, not very important and tended to decrease for many products. This implies that barter-like trade was increasingly conducted at or around world market prices. [63:p.106]

To determine the effective terms of trade, however, the OECD study further adjusts the data for the balance in the bilateral clearing accounts . An allowance is made for the interest-free credit provided by the clearing account and the impact of international price inflation.

> Concluding from the preceding analyses, one may state that the developing countries' terms of trade in their barter-like relations were generally not worse, and in some cases, were even better than those obtainable in trade on a multilateral basis. The negative influence of large and sustained surpluses in the clearing accounts at least partially offset the positive price differentials.[63:p.109]

Given the rapid evolution of countertrade, these studies may be considered as somewhat dated (Caves:1974, OECD study:1979). Nevertheless, the basic conclusion, that in general the terms of trade for countertrade are not significantly different from conventional trade, is probably still valid. In a recently published document by the Canadian Government, exporters are advised:

> it is important to always include in the counterpurchase contract a "normal prevailing international price" stipulation. Usually, this entails a comparison of the prices paid to suppliers by other customers in Western markets for the same

[21] The terms of trade which were based on calculated unit values may be distorted by the aggregation of different types and qualities of goods, and by the clearing unit and exchange rate applied.

> products. In the absence of such an agreement, an exporter may be compelled to accept counterdeliveries at grossly inflated prices. [28:p.13]

With respect to the prices Canadian exporters charge, they are advised to quote a price that includes their countertrade costs, while indicating that a slight reduction is possible if countertrade is not involved [28]. If it can be assumed that the advice provided by the Canadian Government is consistent with worldwide countertrade practices, then the current terms of trade for countertrade should approximate the terms prevailing in conventional cash transactions.

3.3 ECONOMICS OF COUNTERTRADE APPLICATIONS

If the terms of trade for countertrade are no different than for cash, the greater ease and lower transaction cost of money based trade should completely displace all forms of countertrade. Instead countertrade tends to persist because of other advantages which it may offer. In this section, the economics of countertrade are considered with respect to its use as a means of circumventing regulation, as a method of market development, and as a bargaining strategy.

3.3.1 Strategies to Circumvent Regulation

A widely recognized motive for using countertrade is its value as a method for circumventing regulations. The problem in outmanoeuvering the regulators is to avoid detection, or if detected, to avoid enforcement of the rules. Countertrade is useful in this regard because transaction costs can be disguised and the exchange can be structured to bypass the monetary system, which in most cases is used to monitor and enforce regulated activity.

3.3.1.1 Foreign Exchange Restrictions

The international transfer of foreign exchange is closely monitored and subject to restrictions in many TWCs. These restrictions can present a problem for multinational corporations which are not permitted to repatriate their original investments or their profits in hard currencies. To get around the problem of "blocked funds", the corporation could undertake a countertrade with its subsidiary. The subsidiary company would provide goods to the "parent" corporation at very favourable terms which the corporation can subsequently re-sell at their true value to obtain its profits. In this case, countertrade could work against what the TWC considers to be its best interest.

Countertrade may also be used by a TWC to avoid foreign exchange restrictions. For example, a TWC which has been classified as uncreditworthy and has difficulty obtaining international loans could use a buy-back form of countertrade to finance the import of equipment for a processing plant. Usually, these countertrades are structured so that the original supplier includes the cost of financing in the value of goods taken-back once the plant is in operation.

The threat of intervention by international banks can be another reason for some TWCs to use countertrade. If an export of goods is made on a cash basis, the funds could be demanded by its creditors to cover overdue debt repayments. By using countertrade, the TWC can circumvent the banks or the International Monetary Fund (IMF) and obtain its desired imports. Although the World Bank and IMF officially deny pressuring the TWCs to abandon the use of countertrade, there is ample evidence to support the allegation that they have tried to block countertrade deals and influence the TWCs to alter their countertrade legislation.[22]

3.3.1.2 Commodity Agreement and Cartel Regulations

Coffee beans and petroleum are both subject to international commodity agreements that impose quota limitations on the major export suppliers.[23] At the same time, these two commodities figure prominantly in offsetting countertrade commitments of the TWCs. While some of these countertrade transactions are within the rules of their respective commodity agreements, others are obviously in violation and many more are suspected of breaking the rules.

Countertrade is clearly detrimental to cartel arrangements, or international commodity agreements. In order for a cartel successfully to raise prices it must be able to restrict export supplies. If member countries can use countertrade to export more than their quota share without being detected, prices will decline and the discipline of the cartel will collapse. Cartel agreements are known to be economically unstable because "violators", which use methods such as countertrade,

---

[22] Three articles which have appeared recently in Countertrade Outlook (a weekly intelligence bulletin) provide concrete examples: "Anti-barter language said to be part of Dominican-IMF Agreement" (Vol.3 No.36); "Despite IMF Opposition: Pakistan is forced to expand countertrade" (Vol.3 No.25); and, "Bowing to IMF, Colombia will drop most barter in favor of offset" (Vol.3 No.25)

[23] Members of the Organization of Petroleum Exporting Countries (OPEC) are restricted by quota to maximum export levels of crude oil. Signatories to the International Coffee Organization include both exporting and importing countries. Non-quota coffee (i.e. coffee in excess of an exporter's quota) may be exported to a non-signatory e.g. USSR, but signatory importing countries have non-quota import limits. At the present time, there is almost five times as much non-quota coffee available for export as there is quota [8].

can make substantial short run gains.[24] Undoubtedly, discipline problems of OPEC Cartel extend beyond countertrade, but the use of countertrade by OPEC members illustrates its effectiveness in circumventing quota controls [61].

3.3.1.3 Over-valued Exchange Rates

Many TWCs have official exchange rates that are artificially set above their market value. The effect of an over-valued exchange rate is the same as a tax on export transactions and a subsidy on imports [19]. The country's exports are priced higher in foreign currencies and are less competitive with alternative sources of supply than would be the case if the exchange rate were set by market forces.

The regulatory problem is the country's own official exchange rate. The government may wish to expand exports, but is unable to cut prices directly, and is unwilling to lower exchange rates because of political constraints.[25] By using countertrade, the government could negotiate a sale which is below cost (measured at the official exchange rate), while the facts are concealed from the general public. Although the value of imported goods received in countertrade is less than could be purchased at the official exchange rate, the countertrade may still be advantageous in terms of the real value of the country's resources. "This mo-

---

[24] The economics of international cartels are discussed in Chacholiades [19].

[25] For example, the government may not want to change export prices because it is already under pressure from consumers to lower prices and reduce shortages. Changing the foreign exchange rate may be equally undesirable because it is used to tax exports, which raise government revenue, and to re-distribute income.

tive for countertrade [i.e. concealment] is no doubt important for many developing countries and also for a number of Communist countries." [22:p.38].

The three examples described in this section were chosen because each illustrates a different level of conflict in which countertrade can be used to avoid regulation. In the case of foreign exchange restrictions, countertrade is used to circumvent externally imposed regulation. The cartel example illustrates the effectiveness of countertrade against within-group regulation. The over-valued currency example demonstrates the use of countertrade against self-imposed regulation. These few examples merely indicate the flexibility of countertrade as a means of escaping regulation and are not intended to exhaust the possibilities.

3.3.2 Market Creation and Development Strategies

Efforts of TWCs to expand the range and value of their exports are often hampered by the shortage of public funds available to invest in export market development and by the weakness of their corporate sectors. In countertrade, the TWCs have found a method of utilizing the corporate sectors of the industrially advanced countries to assist them in creating new markets for their goods. The first strategy discusses the Method of Reversed Tied Aid which applies to counterpurchase forms of countertrade. The second approach, which is termed the Murrell Signaling Hypothesis, is used to explain buy-back forms of countertrade.

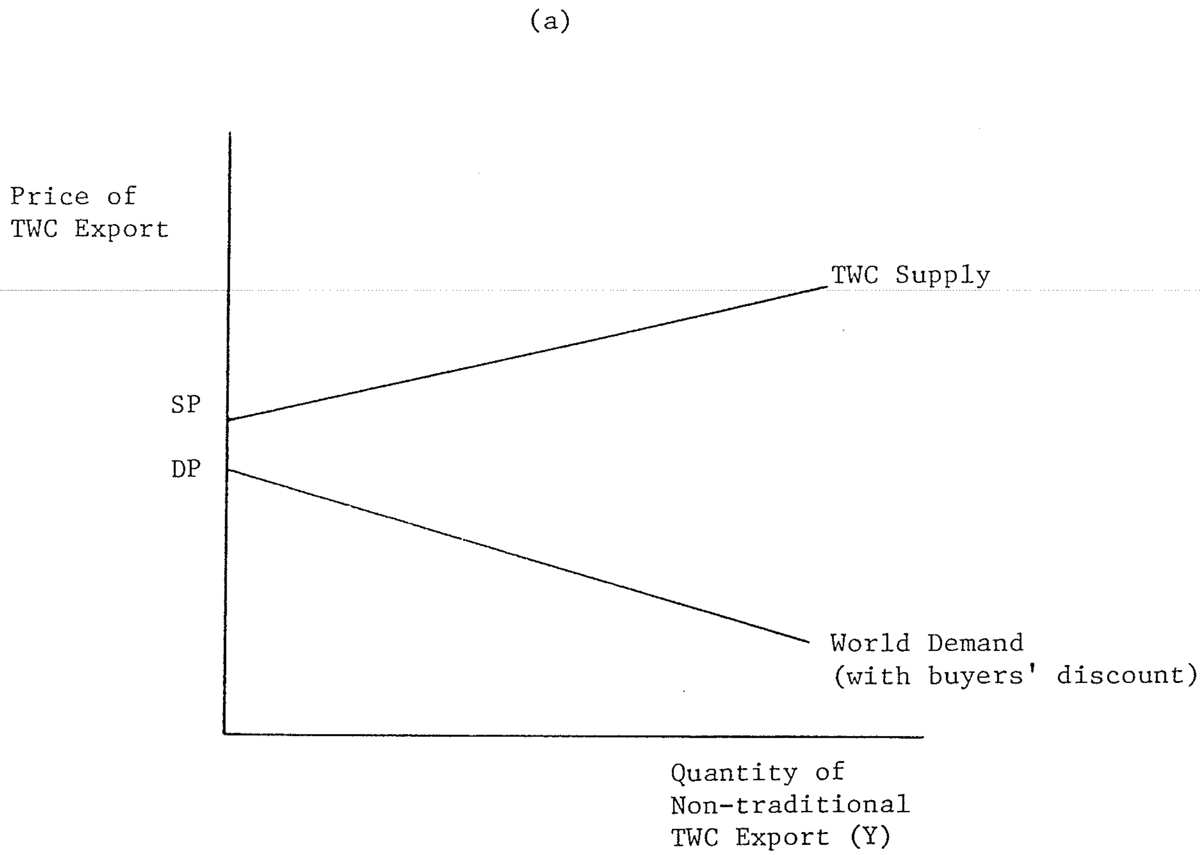
In addition to the export of raw materials and manufactured goods, foreign exchange is generated by the export of services. At the present time, TWC service-related exports have been used to only a limited extent in offsetting countertrade commitments. Some examples of the use of countertrade to develop markets for TWC service exports are considered in the last part of this section.

3.3.2.1 Method of Reversed Tied Aid

Export products of the TWCs and many communist countries suffer an image problem. Importers are wary of the inconsistent availability of supplies, the poor record of after-sales service, and the indifferent attitudes which are sometimes displayed towards quality. As a result, importers consciously discount the prices they are willing to offer for the products of countries which have not established a good reputation. The international market for many of these non-traditional export products,[26] could be represented by the supply and demand schedules illustrated in Figure 5, part a. This market has no equilibrium combination with a nonnegative price-quantity combination. The maximum price (DP) which buyers might be willing to pay for the TWC export is discounted to less than the minimum supply price (SP) at which products are offered.

The method of reversed tied aid provides the TWC government with an effective means of inducing foreign corporations to develop markets for these goods. The TWC government can demand that all foreign corporations seeking to sell certain products in its market must accept a specified volume of countertrade from a list of these non-traditional goods. The requirement to purchase these countertrade goods in the TWC market

[26] The term non-traditional is used to refer to any product which is not normally exported.



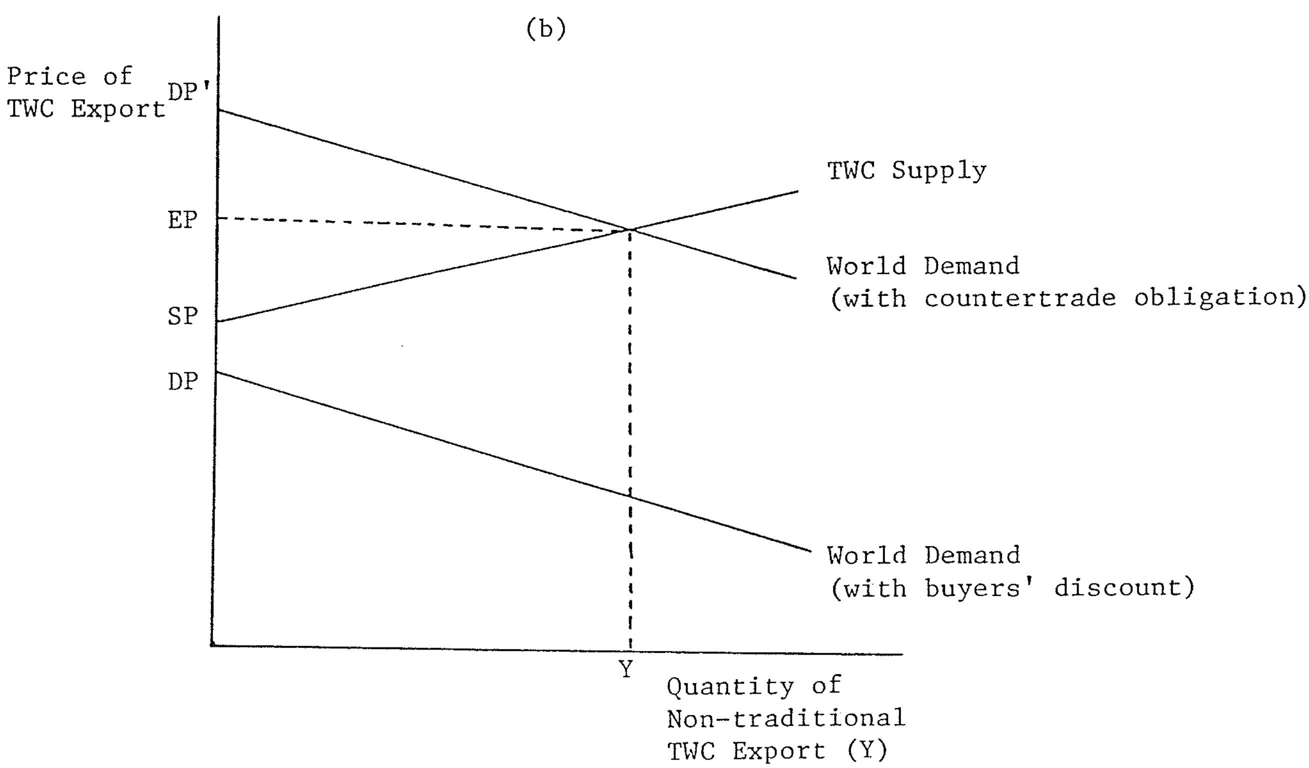


Figure 5 Supply and Demand for Non-traditional TWC Export

becomes the "reversed tie". To the extent that the TWC government may be willing to accept terms for countertrade imports which are less favourable than conventional trade, the TWC is providing "aid" to assist its non-traditional exports.

In Figure 5, part b, the impact of reversed tied aid is illustrated. The countertrade requirement alters the foreign demand for the non-traditional export by forcing the foreign corporation to select some goods on the TWC's "countertrade product list". The effect of the countertrade requirement is to shift the effective demand curve up by DP'-DP. The market now has a positive price-quantity combination (EP and Y). The "aid" (equal to [DP'-DP]Y) may be financed from the normal profits of the exporter, or from the higher price paid by the TWC (government or private importers) for the foreign goods, or both.

Critics of the method of reversed tied aid point out that it is an inefficient means of developing export markets. In addition to the distortions created in resource allocation, it could actually prove to be harmful to long term development of export markets. Shifting all marketing and distribution responsibilities to foreign corporations cuts off the TWC producers from an important feedback of information from the ultimate consumers. This makes it more difficult for the TWC producers to make the kinds of product refinements and improvements necessary to stay competitive, or to develop new and innovative products for export [6].

A related long term problem is the damage that can be done to the country's general reputation for quality. Lacking other information, consumers often base their purchase decisions on "country-of-origin" markings. Forcing foreign corporations to distribute apparently shoddy countertrade goods may lower the perception of average quality of the country's goods in the minds of consumers.

3.3.2.2 Murrell Signaling Hypothesis

An alternative approach to export market development is to alter the quality perception of TWC products on world markets. Murrell [59] proposes a model based on market signaling theory to explain how the "buy-back" form of countertrade can be used to increase the demand for non-traditional exports and to improve a country's quality reputation.

A buy-back form of countertrade usually entails the export of a turn-key manufacturing or processing plant which the importing nation finances and repays by shipping a fixed proportion of the output to the original supplier.[27] If the TWC or Eastern Block country can persuade the supplier to market its goods under the foreign corporation's brand name, then it can give a quality signal to importers that may override a lower country-of-origin reputation. Although the foreign corporation may have no control over the quality of inputs, as original supplier of the equipment it does have sufficient knowledge of the technical process to judge quality. Also, the foreign corporation can threaten to withold parts, or technical updates of equipment, as leverage to force the TWC to maintain quality.

---

[27] Other forms of buy-backs could consist of a Western firm setting up a plant and taking 100 percent of the output in return for countertrade credits (i.e. the right to export an equal value of other products to the TWC market).

Murrell contrasts the outcome of a buy-back form of countertrade with a situation in which a Western factory is purchased and the buyer attempts to export part of the output. The main assumptions of the model are that the product has a quality of U* which the original supplier knows and can signal to potential buyers with trademarks and guarantees. These costs of the buy-back countertrade are incorporated into the price paid by the TWC for the factory. In the absence of a buy-back arrangement, a potential importer assumes an average product quality of U' (<U*), but the importer can determine quality by paying C per unit for product testing.

The model presented in Figure 6 illustrates the situation in which the buy-back generates the most economic activity. The two supply curves are S_0, the outright purchase of the Western factory, and S_1, the higher cost supply curve when the factory is paid for in a buy-back deal. The first demand curve, $D_1(P,U')$, corresponds to the discounted offer of importers which is based on assumed average quality (U') and price. The second demand curve, $D_2(P,U^*,C)$, is relevant when buyers spend C to determine quality U*. The third demand curve, $D_3(P,U^*)$, is the export demand when the buy-back is negotiated.

The ordering of the TWC exports ($Y_1<Y_2<Y_3$) is arbitrarily assigned and could be otherwise. If the quality signal, U*, has no particular impact, then D_1 could equal D_3 in which case $Y_1>Y_2$ and the buy-back is inferior to an outright purchase. For the quality signal to be important, the buyer must believe quality is variable and critical to the good's use. Also, quality must be difficult to determine prior to

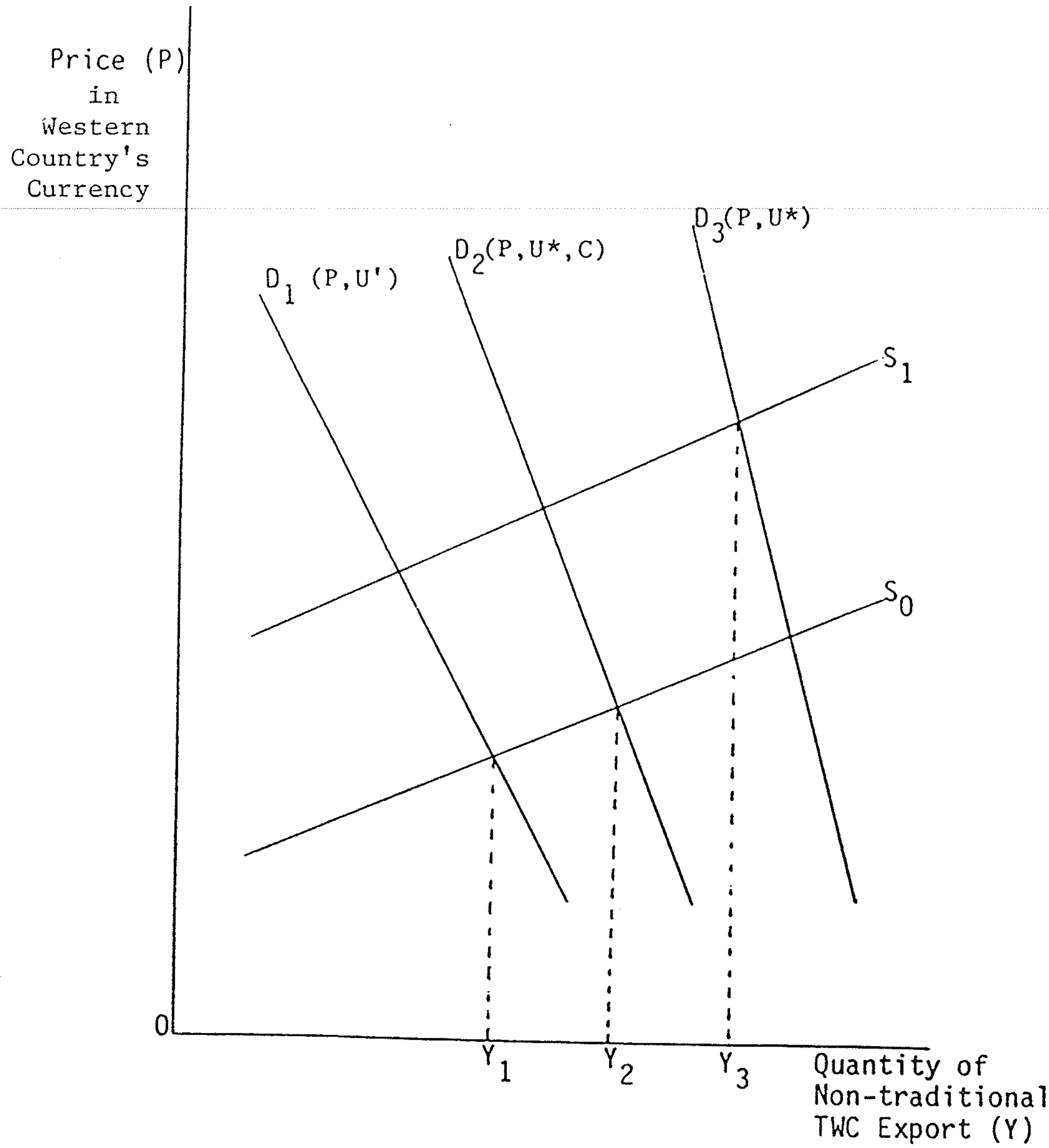


Figure 6   Murrell Signaling Model of Buy-back countertrade

Source: Adopted from Murrell

use.[28] As the cost of determining quality decreases, D_2 shifts to the right and the possibility that $Y_2>Y_3$ increases. Murrell proposes two testable hypotheses: a buy-back is more probable, 1) the higher the cost of testing product quality, and 2) the lower the country-of-origin reputation of the exporter. Subsequently, these hypotheses are tested using data for Eastern Europe, and statistical results are obtained that support these contentions.

Murrell's study is one of the few rigorous treatments of countertrade in the literature.[29] His model, which is based on market signaling theory, provides a plausible explanation of how a buy-back arrangement can benefit a TWC or an East European country when quality information is unobtainable. Using a buy back arrangement, a better price can be received than if buyers only assumed some average quality based on the country-of-origin. Murrell advises, "the usual conclusion, that countertrade is a retreat towards bilateralism without any significant advantage, should be reevaluated" [59:p.600]. As the products of buy-back

[28] Murrell suggests the important product characteristics are 1) durability, 2)indivisibility and 3) the proportion of raw material used relative to total value. Durable goods require spare parts and after-sales service, and are not easily tested for quality (durability) until after being used. The larger the size (value) of the product, the less able (more expensive) it is for the importer to use random tests requiring destruction. The greater the proportion of raw material used, the more quality will depend on the TWC manufacturer.

[29] Mirus and Yeung [57,58], have attempted to extend this model and examine countertrade from the exporter's perspective. They suggest that countertrade is a logical response by Western businesses to political and ownership constraints that impede joint ventures, vertical integration, franchising and other forms of foreign direct investment. They also appear to concur with Murrell that countertrade may have redeeming economic value which explains its existance. "As a cost-saving arrangement and, sometimes, as an efficiency-improving incentive-compatible form of contracting, countertrade is neither an inefficient form of trade, nor is it detrimental to the growth of international business, as commonly alleged [57:p.17].

countertrades gradually raise Western perceptions of TWC and East European quality, overall trade performance is likely to improve.

3.3.2.3 Countertrade of Service Exports

The spatial dimension of international trade limits the range of services that can be exported because for most services both buyer and seller must be physically present during the exchange (e.g. a haircut). As a result, discussions of countertrade tend to focus almost exclusively on goods trade and to ignore possibilities for using services to offset countertrade commitments. Examples of service-based countertrade do exist, however, some of which may provide TWCs with better export alternatives than non-traditional goods for stimulating economic growth.

Spatial characteristics provide a convenient means for classifying the types of service exports which have either been used for countertrade, or have been identified as having potential for offsetting countertrade commitments. Using this system, service exports can be divided into four groups:

1. provision of transfer services between producers and consumers (e.g. international shipping);
2. transfer of service providers to the location of consumers (e.g. "guest workers");
3. transfer of service work to providers for processing and return (e.g. data processing); and
4. transfer of service consumers to the location of providers (e.g. tourism).

Provision of Transfer Services

Probably the widest use of services in countertrade is in international shipping. Although generally not recognized as such, the exclusive use of Soviet and Chinese ships to transport their grain imports amounts to an implicit countertrade concession from Canada. The TWCs also realize the foreign exchange benefits of using their own freight services. Often a countertrade commitment can be lowered by the value of freight charges, if the TWC's vessel is used to ship the product [32]. Assuming that the TWC's merchant marine has available excess capacity, this is probably a good method for the importer to conserve foreign exchange and utilize resources.

Transfer of Service Providers

In recent years the term "guest workers" has been used for the temporary import of labour services. Broadly defined, a guest worker could include any person whose labour income leads to the creation of a foreign exchange export. The largest movements of guest workers have been from TWCs to the Middle Eastern or OECD countries and from Mexico to the United States. These individuals are paid directly in hard currencies which they either remit, or take back with them to their country of origin.

The use of guest workers as a means of fulfilling countertrade commitments is not widespread, but has been recorded. For example, Viet Nam provided guest workers to Czechoslavakia to do low paid jobs in countertrade for imports of equipment and machinery. Similarly, on at least one occassion, Angola bartered petroleum for the services of Cuban troops [44].

Transfer of Service Work

In some situations it may be more economical to have material transported and the service performed in the foreign country than it is to import guest workers. This seems to be the case in an innovative countertrade deal involving a U.S. communications firm, General Motors, and Jamaica. The communications firm sends raw data to Jamaica to be keypunched by approximately 300 Jamaican workers and returned to the U.S. The foreign exchange earnings of the keypunching service are held in a special account which is used to offset Jamaican imports of General Motors products [32]. The success of this countertrade provides an interesting model that could be applied for other types of service work which is labour intensive and easily transportable.

Another form of service work that has been included in countertrade involves the production of motion pictures. Film companies have made use of blocked currencies to finance movie productions in exotic locations [90]. For films that require the services of large casts, or are set in the TWCs, potential exists for using their expenses to offset countertrade commitments.

Transfer of Service Consumers

Tourism is one of the only service exports in which the consumer undertakes the physical transfer to the location of the producer in order to obtain the service. At the present time, tourism is the world's largest service industry, and for some small countries, such as those in the West Indies, it is a primary source of foreign exchange earnings. Despite the size and value of international tourism, there is virtually no record of this service export having been used for countertrade. One exception is found in the efforts of McDonnell Douglas to offset their exports of military aircraft. Over the next 10 to 15 years, McDonnell Douglas has an obligation to offset $500 million of their exports in the form of tourism to Spain, Canada and Australia [78]. Clearly, some TWCs would be disposed to negotiating similar countertrade involving tourism.[30]

3.3.3 Bargaining Strategies

Countertrade has the potential to be used as a bargaining strategy in certain situations. For example, a trader might attempt to use countertrade as a technique for market segmentation in order to enforce a policy of price discrimination. Alternatively, countertrade might serve as a bargaining tool to obtain such concessions as preferred market access or more favourable terms of trade. Another potential use of countertrade is to offset the actions of other competitors which threaten a sellers' market share. These uses of countertrade can be classed as non-cooperative, bargaining strategies.

3.3.3.1 Price Discrimination

In a market characterized by three traders and two products, the trader controlling a single commodity may be able to increase his returns by price discrimination. For example, the trader could conceivably offer one buyer a more favourable price as a bribe in return for

---

[30] For example, Barbados is reported to have indicated its interest in using tourism to offset imports of automobiles.[4]

not reselling to the disfavoured buyer [17].

Countertrade is only one of many methods that could be used for effecting price discrimination in export markets. Other measures, such as export taxes, or simply administered pricing, could be used to modify selling prices that would discriminate against certain buyers. For price discrimination to be successful, however, the seller also must be able to keep these markets segmented. Unless the goods have some natural characteristic (e.g. extreme perishability) that precludes resale by the favoured buyer, some form of retaliation must be available to punish the favoured buyer if the goods of the discriminating seller are resold. Countertrade offers the seller both a method of implementing price discrimination and a convenient means of enforcing market segmentation. For example, the bilateral terms of trade can include restrictions and penalties which the seller can back up by threatening to reduce or cancel the offsetting counter purchases from the buyer.

The potential sharing of benefits between the seller and the favoured buyer has interesting implications both for the motivation of price discrimination and for the stability of the outcome. Countertrade automatically imposes a dual dependency on the traders, but the stability of an exchange involving price discrimination is likely to depend on the time horizon of the trade. If the exchange of goods is restricted to a finite period, T, the favoured buyer may choose to renege on the contract because the discriminating seller has no credible threat in a subsequent period.[31] On the other hand, if the horizon is infinite, as could be ex-

[31] A hypothetical example of such a trade could be an exchange of capital goods and services from a Western construction firm for fungible raw material exports from a TWC.

pected to be the case in countertrade involving food products, there is no last period in which the favoured buyer has any incentive to default.

Following Hammond [35], if the discriminating seller suspects the favoured buyer of reselling in period T, there will be no incentive to offer a favoured price in period T-1. Knowing that the seller may withdraw the favoured price in period T-1, the buyer will have no incentive to honour his commitment in T-2, which in turn leaves the seller no reason to extend a favoured price in T-3, and so on. Using this argument, it can be shown that only when the time horizon of the exchange is infinite will countertrade have the potential to be satisfactory as a means of implementing price discrimination.

3.3.3.2 All-or-nothing Trade Offer

An all-or-nothing trade offer is a more extreme form of price discrimination in which no buyer is favoured. Instead, the seller attempts to extract the maximum revenue possible from each buyer through individual bargaining.

The concept of an all-or-nothing trade offer is derived from consumer demand theory. Normally, demand curves are constructed to represent the maximum amounts that an individual will pay for a series of small increments (or decrements) in the quantity of a good, <u>ceteris paribus</u>. This class of demand curves can be termed "marginal valuation curves", because the price of the entire quantity is determined at the margin, that is by the price of the last increment purchased. The total valuation, which is equal to the area lying under the marginal valuation curve in

Figure 7 part a, can be divided into two parts: the area below the price line ($OP_1R_1Q_1$) is the exchange value of the product, and the cross-hatched area above the price line (P_1TR_1) is the consumer surplus.

The all-or-nothing demand curve is based on the "average valuation", or as the name implies, by determining the willingness of the individual to pay for discrete quantities rather than go without any of the commodity. Figure 7 part b illustrates the derivation of one point on the all-or-nothing demand curve. At P_1, the individual would normally demand only the quantity Q_1, but the only available alternatives are an offer to purchase quantity Q_2, or purchase none. Since the two cross-hatched areas (P_1TR_1 and $Q_1R_1R_2Q_2$) are equal in size, the exchange value of Q_2 made in the all-or-nothing offer is equal to the total valuation of the individual at price P_1 for quantity Q_1. In order to get at least Q_1, however, he must purchase the entire quantity Q_2. By following this procedure, the entire all-or-nothing demand curve, which will lie to the right of the ordinary demand curve, can be traced out.[32]

The bargaining tactics of countertrade resemble the characteristics of an all-or-nothing trade offer. A trader confronted with a countertrade demand usually has limited scope to bargain for, say, half the quantity of the export sale. The trader must either agree to the full

[32] It should be noted that this construction implicitly assumes that the individual derives no additional utility from the quantity Q_2-Q_1 which can be considered to be discarded. Assuming the extra quantity does yield additional utility, the all-or-nothing demand curve would be shifted further to the right so that the consumer surplus (TP_1R_1) just equals the cross-hatched area above the marginal valuation demand curve. If the maximum all-or-nothing offer is imposed the individual's utility remains constant and he is indifferent between buying and not buying. As Friedman [31] points out however, in practice the applied all-or-nothing demand curve will tend to lie between the extreme case and the ordinary demand curve.

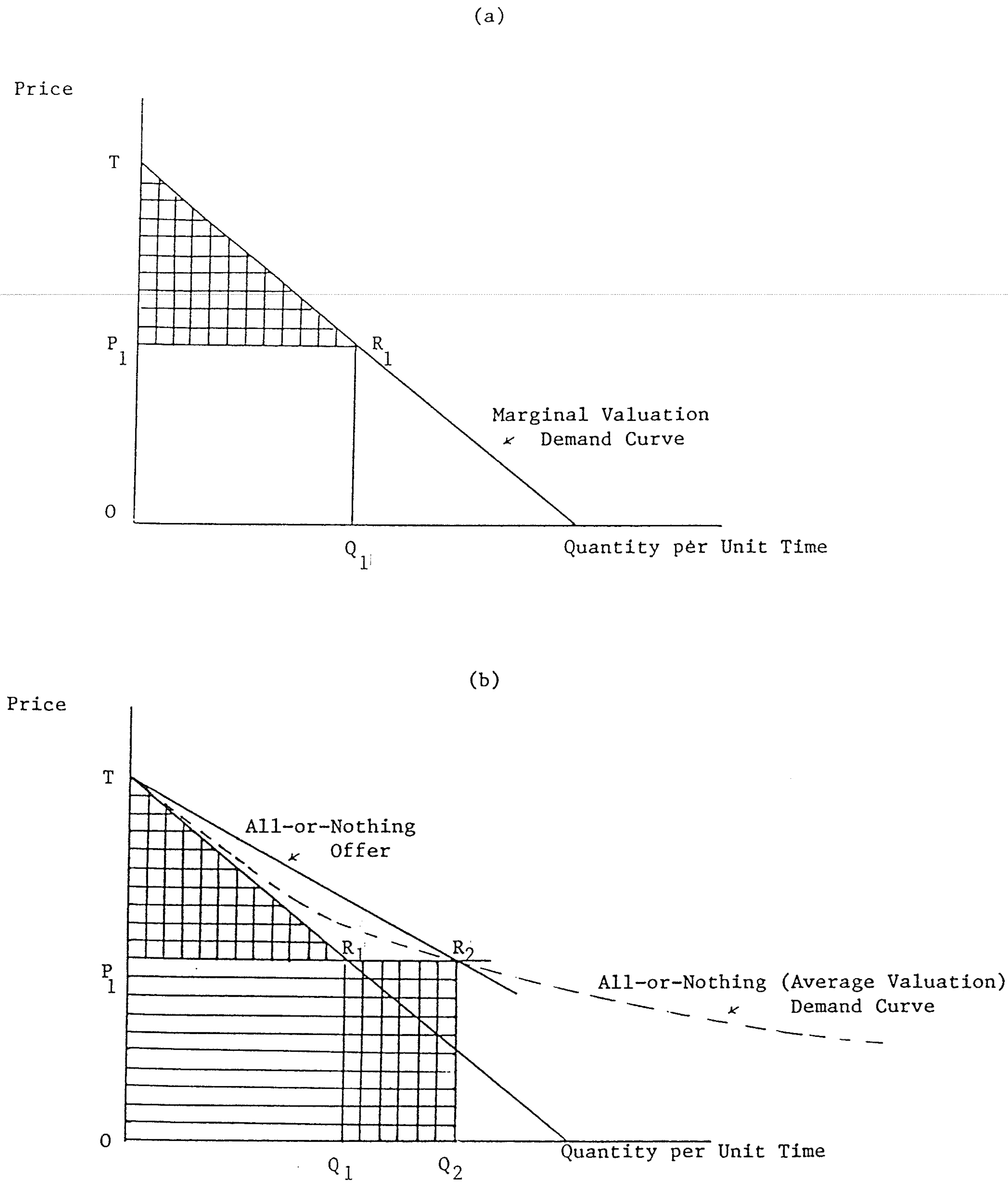


Figure 7

All-or-Nothing Demand Curve

Source: Adapted from Friedman

value and conditions of the countertrade, or withdraw from the negotiations. Also countertrade, like an all-or-nothing trade offer, can be viewed as a means of improving the terms of trade.

> Countertrade arrangements are seen by many Eastern Block foreign trade organizations (FTO's) as a valuable physchological bargaining weapon. Officials in the FTO's feel they stand a better chance of gaining further price discounts by asking for counterpurchase rather than by directly asking for an additional price reduction. Then they try to trade off the elimination of the counterpurchase requirement for a lower price. [12:p.1]

The similarities of countertrade to an all-or-nothing trade offer suggest that this model might be useful for analysing such bargaining strategies.

3.3.3.3 Market Share Battles

In some markets, an established seller may have a quality or locational advantage which is a sufficient barrier to the entry of competing suppliers. In markets where no absolute advantages exist, an incumbent supplier must decide whether to use his market power to fight a price war, or to share the market with a potential entrant.

Oligopolistic competitors generally prefer to avoid price wars, if possible, and resort instead to threats of action. For example, the highly subsidized sale of U.S. grain to Egypt in 1982 was widely interpreted as a warning to the EEC that the U.S. is prepared to engage in a "price war" if necessary to protect their market share. For threats of action to be successful in detering entry, however, the potential entrant must believe that the incumbent has enough commitment to make the threat credible.[33]

The literature pertaining to entry deterrence and credible threats has developed in the context of domestic oligopolistic competition. Advertising and excess capacity are usually cited as examples of irrevocable commitments in domestic markets, but may not be applicable to international trade.[34] Subsidized prices do not constitute a credible threat because the commitment to use export subsidies can easily be removed at the volition of the budgetary source. Granting a line of subsidized export credit might serve as a credible threat if the seller does not retain power to revoke any part of the financing offered. The commitment is limited, however, by the lack of obligation on the seller to renew the concession.

Whether countertrade could be used as a means of countervailing the market power of rivals, depends on the form of countertrade. Terms of trade could easily be negotiated which are equivalent to a competitor's export credit or price subsidy, but not all forms of countertrade meet the irrevocable commitment requirement of a credible threat. For example, an offset of petroleum, or other fungible raw material imposes no long term investments on the seller to market the countertrade goods. If a competitor attempts to expand his sales, the seller could easily abandon his commitment to future sales. On the other hand, some forms

---

[33] A model of entry deterrence by Dixit [25] which illustrates the need for a credible threat is presented in Appendix C.

[34] It might be argued that the excess capacity of the U.S. "land bank" constitutes a credible threat to other grain exporters that the U.S. could fight and win a price war. In the case of international food trade however, excess physical resources are probably unimportant unless the government is willing to subsidize the cost of production.

of countertrade (e.g. buy-back) may require sizeable investments to market non-traditional export goods. The irrevocable nature of these countertrade deals could pose a credible threat to rivals because the incumbent seller stands to incur substantial losses by abandoning the market.

3.4 POTENTIAL APPLICATIONS OF AGRICULTURAL COUNTERTRADE

The economic models of countertrade provide a useful framework for identifying the range of potential opportunities. The objective of this section is to outline some examples for using countertrade as a marketing strategy for Canadian agriculture. No attempt will be made to quantify or ascertain the economic feasibility of these countertrade applications which are presented merely for purposes of illustration.

3.4.1 Avoiding Regulation

Probably the main application of countertrade for circumventing regulation in Canadian agriculture is with respect to national supply management programs. Domestic prices for chicken, turkey, eggs and dairy products are maintained above the world price level in Canada by imposing quantitative restraints on domestic and imported supplies. The use of import quotas for the purpose of operating national supply management programs is sanctioned under Article XI of the General Agreement on Tariffs and Trade (GATT).

The prices for these regulated commodities are determined on the basis of a "cost of production" formula. For most producers, over-quota production could be profitable to produce for export at prices below the "cost of production" formula price. The problem is that competing suppliers can charge Canada with dumping if these exports are sold below Canadian prices. Using countertrade, the national supply management program could be maintained and additional production could be exported at world prices. To avoid the dumping violation, the marketing board could charge the normal domestic price for its exports, while inflating the prices of goods taken in countertrade. This would effectively reduce the higher Canadian prices paid by the buyer.

The feasibility, or practicability of such a program, is questionable. The marketing boards have no experience with imports and are generally not in a position to handle countertrade goods. Moreover, the supply management programs have been subject to a good deal of negative publicity regarding quota values and the "cost of production" pricing system. It is unlikely that they would consider operations in the export market that might raise further questions about the domestic pricing mechanism.

3.4.2 Developing Markets and Expanding Exports

The use of guest workers from the TWCs as part of a countertrade agreement could have a potential application in the Canadian horticultural sector. At the present time, guest workers are brought in from the Caribbean and Mexico to provide stoop-labour for planting and harvesting seasonal horticultural crops for which Canadian workers cannot be found. Although these countries readily supply "guest workers", they either prohibit, or severely limit, the import of Canadian horticultural products. Using countertrade, it might be possible for, say, apple producers to organize exports of their produce in return for part, or all, of the services provided by "guest workers". The growers could market this idea in the TWCs as an "international pick-your-own" program.

Another service-oriented countertrade that could be developed is to combine agricultural exports with tourist services. Given the propensity of Canadians to seek winter holidays in the tropics, there exist many possibilities for organizing a tourist-based countertrade. For example, many countries in Central America (e.g. Costa Rica, Nicaragua, etc.) would like to expand their tourist industry, but have trouble competing with better known holiday destinations such as Cuba, Mexico, Florida and Jamaica. Using countertrade, it might be possible to organize package tours at very competitive prices, in exchange for grain imports.

The mechanics of the countertrade could involve Canadian tourists paying the tour operator prior to departure and a portion of these funds would be deposited in a special account of the Canadian Wheat Board. On arrival the tourists would receive either accomodation or a specified amount of local currency for their holiday, or both. When sufficient Canadian funds had accumulated from the tourist activities, a shipment of grain would be forwarded to the importing country.

Countertrade and Foreign Aid

The interest of the TWCs in using countertrade as a form of "reversed-tied-aid" suggests a possible role for countertrade in Canada's foreign assistance program. Specifically, countertrade could be utilized with Canadian food aid programs to assist the expansion of TWC exports. For example, using the counterpart funds principle, food aid could subsidize the development of export industries to meet countertrade commitments. These programs could be designed so that for every $1 of food aid received, the TWC would have to supply $.50 of non-traditional countertrade goods. The sale of these non-traditional countertrade goods on world markets could be used to stretch the Canadian food aid budget. As a result, the TWCs could receive marketing assistance and financing to develop new export industries, while the size of the Canadian food aid budget could be expanded to serve more regions.

Triangular Countertrade with the USSR

For some time now it has been common knowledge that the USSR would like its grain suppliers to accept countertrade. Although Canada does provide the USSR with equal access to the Canadian market, they have had only limited success in developing exports. If Canada cannot increase its Soviet imports, the USSR is likely to seek other exporters that will accept countertrade (e.g. Argentina) and/or re-double its efforts to become more self-sufficient. Consequently, the challenge for Canada is either to develop more imports from the USSR, or to find new markets for the current volume of grain exports purchased by the Soviets.

The problem for Canada is to identify import goods which the Soviets can supply and are politically acceptable in Canada. The geographical/ resource similarity of the two countries tends to limit the range of goods which the USSR can supply that do not compete directly with Canadian producers. Certainly the storm of protest generated by the comments of Senator Hazen Argue,[35] demonstrated the political sensitivity of encouraging Soviet imports of competing goods.

The solution may be to look for examples of triangular countertrade between Canada, the USSR and one of the Soviet's client states. For example, Canada imports large quantities of bauxite for the aluminum industry in British Columbia and Quebec. A potential triangular countertrade could involve the import of bauxite from Yugoslavia or another TWC, in exchange for wheat exports to the USSR.[36] The USSR could subsequently settle their trade imbalance with shipments of miscellaneous goods to these third countries.

3.4.3 Bargaining for Trade Concessions

Access to markets which are protected by non-tariff barriers to trade might be gained using an all-or-nothing countertrade strategy. This application might be best illustrated with a hypothetical, but real world example. Consider the difficulty of gaining access to the Latin American markets for exports of Canadian pork and Canada's purchasing power as a large importer of bananas. Although some seasonal differences in supply and demand exist, Canadians generally exhibit no preference for bananas by country-of-origin. There are at least nine different countries that could be approached with an all-or-nothing countertrade offer

[35] The former Liberal Minister responsible for the Canadian Wheat Board suggested that grain farmers should consider the purchase of the Soviet made Belarus farm equipment, if they wanted to maintain their export sales to the USSR.

[36] Since the USSR is already bringing bulk carriers to these points in ballast to pick up wheat, this countertrade could provide a transportation cost saving that would make the economics of the trade more favourable.

to exchange pork for bananas. Unless the banana exporters could form a cartel to resist this bargaining tactic, there is a good chance that one would seize the opportunity to gain a larger share of the Canadian market and provide reciprocal access for pork imports.

3.5 SUMMARY

The theoretical models of bilateral and triangular countertrade provide a framework for the discussion of bargaining conditions that determine whether an exchange is feasible to negotiate. Although the models can identify potential countertrade, in most cases they are unable to predict the exact terms of trade. What these models do show is that countertrade is not necessarily inefficient in a welfare sense despite its cumbersome nature. It is doubtful however, whether traders would bother with countertrade if it were not for other reasons and motives. The economic applications which have been discussed in this chapter are strategies for circumventing regulation, for market development, and for bargaining.

As a method for circumventing regulation the applications of countertrade are limited only by the imagination. The ability to disguise the terms of trade and to avoid normal financial channels make countertrade ideal for such purposes as selling outside a quota restriction; for dumping surplus products on export markets; or, for avoiding detection by monetary authorities. Attitudes towards these uses of countertrade are subjective and self-interested. Few Western critics of countertrade complain about the problems that countertrade may be creating for the OPEC oil cartel, but most express concern for the potential use of countertrade by their rivals which might include an implicit export subsidy in a sale.

Market development is frequently cited in the literature as a motive for many TWCs to demand countertrade. The method of reversed tied aid attempts to expand exports by shifting the export demand curve to the right. As the name suggests, it is an inverse of the foreign aid approach to market development which was pioneered by the industrial countries. The major difference is in the target population. The industrial countries use foreign aid to create markets for their products by improving their familiarity with the consuming population. The TWCs might use reversed tied aid to increase the familiarity of corporate buyers with their products and to harness their marketing channels.

An alternative approach for export market development is to increase demand by raising the buyer's perception of quality. A theoretical model based on signaling theory was used to explain how a "buy back" form of countertrade can effect a shift in demand and increase the markets for TWC goods.

In general, the use of bilateral and triangular countertrade for export market development is still at an early stage of evolution. Most discussions focus exclusively on raw commodities or simple manufactured products, and completely ignore the potential for using countertrade to promote service exports. Some services have been used in countertrade and there appears to be scope for broadening countertrade in this area.

Countertrade can be used as either a cooperative, or a non-cooperative bargaining strategy. The degree to which countertrade will be cooperative rather than non-cooperative depends on the relative bargaining power of the traders. If all traders have equal bargaining power, the solution is cooperative and pareto optimal, but the exact terms of trade are unpredictable. If one trader has relatively more bargaining power than others, opportunities exist for price discrimination and all-or-nothing trade offers. These strategies are non-cooperative in the sense that the stronger trader uses its power to coerce the weaker to grant concessional terms of trade. A non-cooperative countertrade also may be applicable for defending or enlarging one seller's market share at the expense of competing suppliers. In this latter case however, the use of countertrade must involve a long term irrevocable commitment on the part of the seller.

From a conceptual perspective, the applications of agricultural countertrade are diverse and some could be quite profitable. Private traders and autonomous marketing institutions might be able to undertake any of these countertrade applications, providing that they do not contravene Canadian law. The role of the government, however, in promoting or supporting the countertrade actions of its commercial sector must be considered in the light of certain political constraints. The Government of Canada is a signatory to numerous multilateral trade agreements and accords. Also, the actions of the Canadian government must be weighed against the possibility of retaliation or counteraction by other governments.

Chapter IV

COUNTERTRADE AND CANADIAN COMMERCIAL POLICY

The rules of multilateral institutions and the practices of Canada's major trading partners are fundamental to the formation of Canadian commercial policy. As a founding member of the General Agreement on Tariffs and Trade (GATT) and the International Monetary Fund (IMF), Canada is bound by the regulations which are explicit in their articles of agreement. Despite certain flaws and obvious weaknesses in these regulations, Canadian commercial policy has always followed a strategy of close compliance. The logic of this policy is that with an economy which is highly dependent on trade, but relatively small, Canada has more to gain from the international rule of the GATT and the IMF than from the turmoil of open trade battles. Consequently, the legal status of countertrade with respect to these multilateral institutions is an important consideration which influences Canadian policy on countertrade.

The commercial practices of major trading nations also tend to influence one another. In the case of Canada, it is the policies of the United States which are most important because the U.S. accounts for about three-quarters of Canada's external trade and competes directly in third country markets for most agricultural goods. Consequently, any short term competitive advantages that might be gained by Canada through an innovative countertrade policy must be weighed against the reactions of other trading partners, and above all, the United States. This section outlines the current commercial policy stance of the Canadian Government; examines the legal status of countertrade; and, briefly reviews the approach to countertrade taken by the U.S. Government.

4.1 CANADIAN COUNTERTRADE POLICY

Although Canada has used military offsets extensively, the government has resisted all attempts to have a positive role for countertrade incorporated in Canadian commercial policy. The current policy stance of the Canadian Government has been clearly spelled out in a recent information document which was prepared to assist Canadian exporters with countertrade.

> From a multilateral policy perspective, Canada has traditionally adopted the view, in international forums and in concert with our major trading partners, that countertrade
>
> - is a regressive trade practice which distorts the multilateral flow of goods and services;
> - prejudices the export opportunities of small and medium-sized firms;
> - deals inefficiently with the economic and financial constraints it attempts to resolve;
> - manifests a regrettable trend to bilateralism; and
> - tends to remove trade from the purview of normal GATT disciplines through its lack of transparency.
>
> From a bilateral relations viewpoint, Canada has always made it clear to its trading partners that the Government of Canada will neither endorse nor become directly involved in countertrade deals. It has been the government's position that the initiative and responsibility for entering countertrade rests with exporters alone. [28:p.9]

The value judgements in this statement suggest a philosophical bias against countertrade and its role in international trade. Countertrade is viewed as "regressive", "distorting", "prejudicing", "inefficient", and lastly "regrettable". The statement also reveals an underlying concern about the unknown impact which countertrade might have on the GATT system.

Despite the uncompromising tone of this statement, there are indications that the government has considered changing its policy on countertrade. Nevertheless, the government still has strong reservations about its implications.

> In certain markets, countertrade has become a factor in competition. No specific demands have been made for government assistance beyond the information and advice now provided. Indeed, it seems to be generally recognized that direct intervention by government would not only lead to significant financial risks, but could expose Canadian exporters to greater demands for countertrade and, more generally, could undermine Canada's objective of maintaining a free and open multilateral trading system. It is for consideration whether this view is accurate or whether greater thought should be given to a possible role for government in this area, for example through the [Export Development Corporation] EDC. [34:p.5]

Fears that Canadian exporters could be bombarded with countertrade demands, or that many cash markets could be turned into "barter" markets, tend to be exaggerated. The bulk of Canada's trade is with other OECD countries, leaving only a fraction of current exports that might ever be subject to countertrade demands.[37] Moreover, exporters are unlikely to agree to unprofitable countetrade simply because the Government of Canada adopts an official countertrade policy.

---

[37] Only 0.5 percent (approximately $600 million) of total Canadian exports in 1984 were estimated to have involved any form of countertrade [28].

Official government sanction of countertrade may have some positive impact on its expansion, but only under certain conditions. An exporter is more likely to consider a demand for countertrade if it provides access to a new market; if current prices are so depressed that sales which provide volume become appealing despite the lower profit; or, if the buyer can offer a potentially profitable countertrade product combination. In these situations, the importers have strong bargaining power and can use it to obtain countertrade concessions. When the advantage lies with the exporter however, government approval of countertrade can be expected to have a negligible influence on the negotiations.

The government's other major concern is the longterm impact which countertrade might have on the multilateral trading system. The seriousness of the threat which countertrade poses to the multilateral trading system is questionable. Even stern critics of countertrade, such as Gary Banks [6], tend to dismiss this concern. "The self-inflicted costliness of countertrade in a world where, at least in trade with the industrial countries, efficient alternatives exist is the main reason why it is unlikely to ever become a serious threat to the multilateral trading system."[6:p.179]

Aside from these economic concerns however, the Government of Canada must consider its obligations as a charter-member of the GATT and the IMF, and the implications of countertrade on the authority of these institutions. Canadian commercial policy is founded on the principle that the interests of small trading nations are served best by the discipline of strong multilateral trading rules. Any action that undermined the authority of these multilateral institutions would be contrary to Canadian interests.

4.2 THE GENERAL AGREEMENT ON TARIFFS AND TRADE

The legal aspects of countertrade with respect to the GATT have been examined in detail by Liebman [50] and by Zaran [92]. Liebman outlines five situations in which the imposition of countertrade requirements may result in a violation of either the GATT, or the Agreements reached during the Tokyo Round of the Multilateral Trade Negotiations (MTN Codes):

- a violation of the unconditional most-favoured-nation (MFN) principle;
- a violation of the obligation not to maintain quantitative restrictions (quotas);
- the possibility that countertrade constitutes an impermissible subsidy;
- a violation of the obligations governing state trading; or,
- a violation of the accession protocols.

Of these five possible arguments against countertrade, the violation of the MFN prinicple and the use of countertrade as a quantitative restriction appear to be most clearly in contradiction of the spirit, if not the rule of the GATT. The unconditional MFN obligation requires that signatories accord nondiscriminatory treatment to all countries in their customs duties, rules and formalities, charges, and any advantages, favours, privileges or immunities. The MFN principle does not directly rule out countertrade, but if a country were to impose countertrade requirements on certain products, these requirements would have to be administered equally to all such goods regardless of their country of origin.

Quantitative restrictions on imports are precluded under GATT Article XI (1), which disallows quotas, import licencing, and various other measures. Moreover, any GATT member which does use quantitative restrictions, must apply these equally to both member and non-member states. If a government passes legislation requiring countertrade for certain imports, it may be considered to be a quantitative restriction.

> Countertrade requirements may constitute de facto quotas or quantitative restrictions because they limit imports to the amount or some portion of hard-currency exports. [50:p.254]

This suggests that government-mandated countertrade laws, which have been passed by TWCs that are members of the GATT (e.g. Indonesia), are in violation of Article XI and open to challenge.

Zaran [92] also points out that government-mandated countertrade laws may violate Article XXIII which concerns the nullification and impairment of tariff concessions. Any member country may complain to another contracting party if they believe actions are being taken which impair their benefits under the GATT. In theory, this could extend to the possible distortions and impediments of trade flows suspected to result from mandated countertrade.

Despite these various sections of the GATT that appear to rule out countertrade, numerous escape clauses and exemptions exist which may be used to shield countertrade requirements. For example, the GATT rules apply only to the discriminatory policies of states, not to the actions of firms. According to Zaran [92:p.241],

> The GATT does not apply to private countertrade transactions or to offset arrangements for government purchases of defense materials.

If a state enters into a discriminatory agreement involving countertrade it might be subject to a challenge under the GATT, but if the same trade were conducted by a private corporate entity, the GATT would have no authority.[38]

In the case of government-mandated countertrade, several sections of the GATT could be used as loopholes to justify countertrade requirements. For example, special exemptions have been accorded to the TWCs, (GATT Articles XXXVI-XXXVIII) in order to promote infant industries and assist their balance of payments problems, that could provide legal support for countertrade [92]. Of course, all GATT members can invoke temporary quantitative restrictions either to safeguard their balance of payments or to protect a domestic industy from serious injury from imports. Countertrade could be argued under Article XII as a measure to protect the balance of payments, or under Article XIX as a temporary import restriction to guard against an "unforeseen development" that could threaten domestic producers. In addition to these opportunities to evade the GATT, countries could apply for specific waivers, or attempt to use miscellaneous exemptions to protect their countertrade requirements.

Although the use of countertrade is contrary to the spirit of the GATT, most observers [38,50,86,92] agree that the GATT has neither the authority, nor the resources to regulate countertrade.

[38] The status of state trading organizations under the GATT is less clear. It is well known that the COMECON countries prefer state to state trading and that their countertrade is directed through state trading organizations. Whether agricultural marketing boards might serve this function in a Canadian countertrade is a function of their regulatory constraints and financial power. A brief overview of the situation is presented in Appendix D.

> The GATT's restrictive provisions tend to be strictly construed. Thus, if put to the test, a form of restrictive trade practice not expressly covered by the GATT may not end up being proscribed.[50:p.260]

As a result, it is generally agreed "that countertrade arrangements in themselves are acceptable under the trade rules of the GATT." [86:p.9]. Although this acceptability is mainly one of omission, a lack of rigid enforcement of the GATT, and the use of escape clauses,[39] make sanctions against countertrade a doubtful proposition. Consequently, the GATT is unlikely to be used to regulate countertrade unless new articles can be introduced that deal specifically with these practices.

The practicability of regulating agricultural countertrade under the GATT is less certain and less warranted. The GATT rules have never been applied rigorously to the trade of agricultural products because member countries refuse to compromise domestic agricultural policies. In particular, national governments continue to seek income support for their farmers through the use of import quotas, tariffs, variable import levies and export subsidies. These policies lead to over-production and under-consumption in the protecting country, and exportable surpluses that distort prices and trade patterns when disposed of on international markets.

Despite its obvious weakness and the possible violations of other member states, it seems unlikely that the Canadian Government would undertake any policy which directly contravenes the basic principles of the GATT, such as the MFN treatment, quantitative restrictions, etc. In

[39] "The relative ease in obtaining waivers under GATT article XXV or in obtaining tacit waivers (e.g. in the area of interim regional agreements) is also an important practical consideration in challenging countertrade under GATT." [50:p.260-261]

a world of growing trade protectionism, Canada could only lose if the authority of the GATT were to be further undermined. Nevertheless, Canada does participate in trade contrary to the spirit of the GATT, in those areas where the rules permit, or may be stretched beyond their intent. For example, the Canadian Government is considered to be a pioneer in the bargaining of industrial offset commitments for its procurement of military equipment. Although these purchases are blatantly discriminatory and expressly based on countertrade, they do not contravene either the GATT, or the MTN Agreements because these are legitimate "government procurements".

The government procurement exemption under the GATT and the MTNs also extends to an important area of agriculture; namely, the purchase of agricultural products for foreign assistance. The procurement of agricultural products for "tied aid" programs is equivalent to the procurement of military hardware, under the MTN Government Procurement Code. As a result, the Government of Canada could use agricultural countertrade in conjunction with its food aid program, without compromising either its support for the GATT or the Canadian commitment towards trade liberalization.

4.3 THE INTERNATIONAL MONETARY FUND

The original purpose of the IMF was to facilitate the conversion of currencies which is necessary to the functioning of a multilateral trading system. Membership in the IMF implies an obligation to avoid policies that prohibit the free conversion of one currency into another. Specifically, Article VIII of the IMF obligates the member countries to avoid imposing restrictions on payments for trade or engaging in discriminatory exchange rate arrangements. Although the membership of the IMF has grown to 146 countries since it was founded in 1946, Article VIII has not received unanimous compliance. As of 1984, only 59 members had accepted the obligations of Article VIII, Sections 2,3 and 4, while 87 countries are operating under the transitory arrangements of Article XIV, Section 2 [41].

Both multiple exchange rates and bilateral payments arrangements constitute a violation of Article VIII. Bilateral trade arrangements, which usually entail a bilateral trading account, do not generally permit the two partners to transfer balances into a third currency, or to be used for settling accounts with a third country. Even if a transfer of balances from a bilateral account is allowed, the IMF may consider it to constitute an exchange restriction if the length of time required for the transfer is deemed excessive.

Countertrade arrangements are viewed by the IMF as another form of bilateral trade restriction similar to those prohibited by Article VIII. In both 1984 and 1985, the IMF noted the growing activity of countertrade and lamented that its proliferation is contrary to the IMF's goal of promoting multilateral trade. As in the case of the GATT, the IMF objects to the practice of countertrade, but finds that it has no authority to ask its members to refrain from these activities. The IMF acknowledges that countertrade appears to fall outside its jurisdiction "if exchange restrictions imposed by either of the respective national authorities are not involved, or are not otherwise subject to policies accompanying use of the Fund's resources" [40:p.46].

4.4 U.S. COUNTERTRADE POLICY

The commercial policy of the United States provides a measure of acceptability which the remaining industrial nations tend to follow. As with all Western governments, the U.S. Government speaks disparagingly of countertrade, but takes a pragmatic approach towards its accomodation. In the words of one senior official in the U.S. Department of Commerce:

> The Government views countertrade in general as a costly and cumbersome way to do business. Nevertheless, if countertrade negotiations are undertaken freely between the contracting parties, the U.S. Government will not intervene. [87:p.40]

Moreover, the U.S. Government does not rule out the negotiation of countertrade arrangements involving one of its agencies.

> In the context of international trade, we do not automatically oppose all Government involvement in countertrade. Indeed, U.S. policy is based on pragmatism and a commitment to optimize economic benefits for our citizens. [87:p.41]

Since 1982, the Reagan Administration has resumed the agricultural barter program that had been suspended in 1973 [82], and in 1984 set up an interagency Working Group on Barter to respond to proposals for U.S. Government barter [83].

The revival of the agricultural barter program may be regarded as merely a political gesture to show support for an ally [44], but it does re-establish the precedent for using agricultural barter to assist the TWCs.[40] It also reflects the considerable pressure which is coming from the U.S. Congress to alter and expand the barter program. In the recent

---

[40] The barter referred to was an exchange of U.S. milk powder for Jamaican bauxite which occurred shortly after the new Seaga administration was elected in Jamaica. Further details of the U.S. Food Barter Program are presented in Section 5.1.2.

Congress (1984), approximately 20 bills were introduced which dealt with various aspects of barter trade [83,92].

In general, the U.S. Government appears to be adopting a very accomodating policy towards countertrade, with one important exception. The U.S. strongly opposes the imposition of countertrade statutes, regulations, or administrative devices by foreign governments [87]. The principal target of the U.S. concern is TWCs, such as Indonesia, which have made countertrade compulsory for certain areas of trade. At the same time, the U.S. dislikes military offset demands which are made by many Western governments (including Canada) because it is their industry which is most affected [44].

4.5 COUNTERTRADE AND FOREIGN AID

Political reality limits direct government participation in agricultural countertrade to a special case. Based on the precedent set by the United States, and the MTN Codes on government procurement, Canada could employ countertrade as part of its foreign assistance program. In particular, there would appear to be a potential for using agricultural countertrade to assist countries in need of food aid.

The advantage of this approach is that it delineates a specific area in which countertrade may be appropriate without giving a blanket endorsement to a practice that is contrary to the spirit of Canada's multilateral commitments. Also, by limiting official participation to countertrade involving food aid, Canadian manufacturers could be shielded from the potential for an escalation of countertrade demands. At the same time, countertrade could be used as a creative marketing tool for expanding agricultural exports to non-commercial markets and for assisting financially encumbered TWCs to import food.

Given the involvement of the United States in food barter, it is unlikely that they would undertake retaliatory action against a Canadian countertrade/food aid program. It is more likely that they would be encouraged to expand their own program of food barter. From the Canadian point of view, this would be a generally positive development. Since U.S. and Canadian commodity prices are closely linked, the more U.S. production that could be diverted to non-commercial markets, the more effective the Canadian food aid program would be in supporting producer prices. In fact it could be argued, that Canada should encourage the U.S. to expand its PL 480 program and ship excess food supplies to non-commercial markets, rather than use subsidies to promote additional sales in commercial markets that are also served by Canada.

4.6 SUMMARY

There appears to be a consensus of opinion that in a strictly legal sense, the use of countertrade violates no rule of either the GATT, or the IMF. It is also clear however, that these two institutions strongly disapprove of the practice. The position of the GATT and the IMF is understandable because any form of bilateralism is in conflict with their primary purpose which is to encourage the development of an unrestricted multilateral trading system. Until the member countries of the GATT or the IMF can agree on what rules should govern countertrade, however, the actions of these multilateral agencies will be limited to a monitoring role.

The development of official countertrade policies seems to be limited to the TWCs and COMECON, but most Western nations take a pragmatic approach to accomodating the practice to the extent necessary not to disadvantage their industry. Although the Western European countries have the most experience with countertrade, it is the United States which has taken the lead in establishing the standard of behaviour. In general, the U.S. countertrade stance could be described as "anything goes, except mandated countertrade". The U.S. does not oppose countertrade by its industry, or rule out government to government countertrade. What it does object to is the creation of laws by other countries that force U.S. firms to accept countertrade as a requirement of exporting to their country.

The commercial policy of the Canadian Government is premised on a commitment to trade liberalization and the maintainance of strong multilateral institutions. Although countertrade may not be directly prohibited by the Articles of the GATT, or the IMF, it is contrary to the spirit of multilateral trade liberalization and undoubtedly weakens the authority of these institutions. As a result, it is difficult to envision any role for countertrade within Canada's existing commercial trade policy. Nevertheless, Canada has become a leader in at least one field of countertrade, i.e. military offsets. Countertrade involving military equipment is not inconsistent with Canadian commercial policy however, because government procurement of defense-related equipment is explicitly exempt from the GATT and the MTN Codes.

Foreign assistance programs also have an exemption under the GATT which is equivalent to that given to military equipment. This suggests that a program which combines countertrade with food aid could be developed by the government without compromising its established commercial trade policy. Moreover, a strong precedent for using countertrade to distribute food aid has been established already by the PL 480 program of the U.S. Government. Hence there appears to be a sound political basis for establishing a countertrade/food aid program. What is less straight forward, is the design of an appropriate system for implementing the countertrade/food aid concept.

Chapter V

COUNTERTRADE AND FOOD AID: AN EXPORT ORIENTED DEVELOPMENT STRATEGY

Chronic foreign debts, rising populations and balance of payments problems are exacerbating the food deficits of many TWCs. During the next decade, the global need for food aid is expected to double or triple, just to maintain the nutritional status quo.[16] At $325 million (1983/84), food aid is now the second largest component of the Canadian foreign assistance budget and is expected to absorb an increasing proportion in the future. The new Mulroney administration has pledged to maintain the present level of Canadian support for food aid and has promised to undertake a long term expansion. The problem for the government is to provide the necessary budgetary resources for food aid, while dealing with its major domestic political commitment which is to reduce the Federal deficit.

A countertrade approach to food aid could permit the government to expand food aid distributions without significantly increasing its budgetary allowance. In addition to stretching the food aid budget, a countertrade approach to food aid could have advantages for both Canada and the TWCs. The TWCs would receive food products to serve their immediate import requirements in return for goods that would not normally be exported and generate foreign exchange. In the longer term, the development of these export capabilities could provide the TWCs with new sources of foreign exchange earnings to support commercial food imports.

Naturally if Canada were to assist in giving balance of payments support to the TWCs during this difficult period, Canadian exporters would be in an advantageous position to service commercial opportunities when they developed later.

The purpose of this chapter is to explain the development rationale for using a countertrade approach to food aid and to provide a framework for administering such a program. The analysis begins with a brief commentary on food aid and the precedent for using a countertrade approach. This is followed by the presentation of a model which describes the mechanism for implementing a countertrade/food aid program. The next section considers the scope for using countertrade as a method for distributing food aid. The discussion concludes with an evaluation of the potential support for and resistance to the concept.

5.1 COUNTERTRADE APPROACH TO FOOD AID

All forms of food aid provide balance of payments support for the recipient country. Food which is received as aid potentially replaces the need to import that quantity of food through commercial channels. Alternatively, food aid permits a TWC to consume imported food as if it had used hard currency reserves to finance their purchase. In either case, food aid is an income transfer in kind which has balance of payments implications.

There are many reasons why balance of payments support might be needed in a country experiencing a food deficit. *Inter alia*, balance of payments problems may occur because of a natural disaster which affects the agricultural sector, because of cyclical price movements which depress the earnings of a major export commodity, or because of the combined effects of inappropriate government policies. For example, an overvalued currency will have the effect of taxing agricultural exports and subsidizing food imports. Given time, the impact of an overvalued currency can exacerbate balance of payments problems as well as a food deficit.

5.1.1 Development Rationale for Countertrade/Food Aid

Food aid has been subject to the criticism that it allows the host government to avoid facing up to the development problems of its agriculture [71]. A sterner criticism could be that food aid generally builds dependence and fails to provide the recipient country with the means of overcoming its balance of payments problems. To the extent that food aid is directed at development problems, it is almost exclusively focused on measures to assist production and distribution for the internal market. For example, food aid programs (counterpart funds, food for work, etc.) have been used to build irrigation systems, to improve access roads and to assist the development of agricultural processing, such as the vegetable oil and dairy industries. Although these measures may contribute to the overall food supply, they are only part of the long term solution. In the words of a recent CIDA policy document:

> It has become clear that agricultural production is a necessary but not sufficient condition for resolving hunger problems. Even if sufficient food were available, there are millions who could not afford to buy it. The food problem has a consumption as well as a production aspect, and income re-distribution and employment generation are part of its longterm solution, along with increased production. [16:p.76]

Traditionally food aid development programs have attempted to solve the long term balance of payments problems by substituting local production for imported goods. For example, donated food aid may be sold to generate counterpart funds that are subsequently used to finance some aspect of an agricultural project aimed at removing the need for imported food.[41] For import substitution policies to have a positive affect on the balance of payments, however, the agricultural sector must be able to produce food that can compete in terms of both price and quality with available imported supplies.[42] In some cases the quality criteria is impossible to achieve because the local food (e.g. rice) is considered an imperfect substitute by the residents of the TWC who have acquired a taste for an imported good (e.g. wheat).

In other cases an import substitution program may be undermined by a lack of political support in the TWC. The TWC producers may be forced to compete against the technologically superior agriculture of an indus-

---

[41] Counterpart funds may be either "notional" or "monetized" accounts of the receipts (in local currencies) derived from the sale of food aid donations. "Notional" funds are really an ex post accounting of the use of funds, while the "monetized" type fund involves a separate bank account with drawdowns requiring the concurrence of the donor.

The use and effectiveness of counterpart funds is controversial. Recipients sometimes resent the "colonial mentality" of counterpart funds and the appearance that the same aid is being given twice. On the other hand, counterpart funds may be a practical necessity because the local government is simply unable or unwilling to make funds available to carry out a project. Even with a "monetized" account however, the accounting and disbursement of the counterpart funds is entirely within the jurisdiction of the recipient. As a result, the leverage of the donor to prevent the mismanagement of funds is generally weak.

[42] Also the imported factors of production (e.g. tractors, pesticides, fertilizers, etc.) must be considered. It is conceivable that some forms of agricultural production could worsen the balance of payments situation if new or improved technology is introduced which requires more imported inputs.

trialized country and the use of export subsidies. For example, the use of food aid counterpart funds to develop a dairy industry could be thwarted by competition from cheap imported skim milk powder.[43] Unless the TWC government is committed to a policy of import substitution, and has the political will to support higher domestic food prices and raise trade barriers to foster the local industry, the success of these food aid resources to build independence is doubtful.

The use of food aid to sustain import substitution policies is in keeping with a development strategy that has been losing support among academics and policy-makers since the 1960s. Evidence is mounting that countries are more likely to have accelerated growth rates, if they choose policies for export promotion rather than import substitution. In a recent article, Krueger [49:p.20] summarized three main points which have emerged from the experiences of countries that have embraced export-promotion policies.[44]

> First, their remarkable rates of growth were associated with the rapid growth of exports; second, for all countries where it was possible to contrast performances before and after the policy changes, the growth rate clearly jumped sharply after adoption of the export oriented strategies; and third, the sustained high growth rates indicated that outward-oriented policies created dynamic effects in economies and did not merely produce static gains from improved allocation of resources.

If food aid were used to support the development of new export industries, it could have a positive impact on the consumption side of the TWC's food problem. Export led economic growth creates new investment

[43] If export subsidies are involved, these imports may be priced well below the costs of production in the industrial country.

[44] The countries cited in the article are Hong Kong, Brazil, Singapore, Korea, and Taiwan.

and employment opportunities which enable people to purchase the food they need. The relationship between export led growth and the declining need for food aid is clearly evident in the data presented by Huddleston [37]. Those countries which have been active in developing international trade have progressively replaced food aid with growing commercial food imports and increased their average per capita calorie consumption levels to above the minimum health standards.

The problem with using food aid to promote new exports from the TWCs is the lack of an institutional mechanism to effect market development. Typically, the TWCs lack the finances and managerial talent to successfully introduce new products into sophisticated export markets. The countertrade approach to food aid could overcome these obstacles. The sale of food aid could provide a counterpart fund to finance the necessary development of new export products, while countertrade could be used to harness the marketing skills of Canadian trading houses in order to find customers for the TWC's products and establish commercial relationships.

5.1.2 Precedent for Countertrade/Food Aid

The precedent for using a countertrade approach to food aid has been well established by the U.S. agricultural barter program. Although first operated under the Commodity Credit Corporation Act (1949), the majority of U.S. agricultural barter was conducted under Public Law 480.[45] From 1950 to 1962, the program was used to barter excess agricul-

[45] Public Law 480 is the Agricultural Trade Development and Assistance Act (1954), through which most U.S. food aid has been administered.

tural commodities held by the CCC for strategic materials for the National Defense stockpile. During the next 10 years, the emphasis shifted to the procurement of supplies and services for military bases and for projects of the US Agency for International Development (USAID). After 23 years of operation, the barter program was suspended in 1973 because the surplus stocks of the CCC had been depleted, stockpile goals had changed, and the strong commercial demand for exports eliminated the need for barter [82]. With the subsequent return of excess agricultural stocks, the program has been re-instated since 1982.

A detailed analysis of the U.S. agricultural barter program and its benefits and problems is provided by Vogt [82]. The benefits of the program were: 1) the development of additional agricultural sales and the fostering of new markets; 2) the assistance given to poor TWCs to import food that they could not otherwise obtain; and, 3) the removal of surplus food stocks. The problems of the program were its cumbersomeness and suspected leakage.

> Each contract became a complex, time-consuming, legal question. Negotiations took much more time than a normal sale. The question of additionality and displacement of cash sales constantly haunted the program. The specification of bilateral sales was only made in 1968, so that it was assumed, but never proven, that many commodities were resold and did displace commercial sales. The idea of subsidizing these exports also caused some concern. [82:p.20]

Clearly, if a countertrade approach to food aid were used by Canada a mechanism for implementation would have to be designed which could overcome the problems inherent in the U.S. program. This mechanism is outlined below.

5.2 COUNTERTRADE/FOOD AID IMPLEMENTATION

The logistics of a Canadian countertrade approach to food aid should differ fundamentally from the U.S. barter program with respect to the role of government. In the U.S. program, the government served as the primary supplier and the principal buyer in its barter contracts. Although private firms were used as agents, the U.S. Government ultimately took possession of the commodities or services that were received in exchange for agricultural products and became the ultimate "consumer". Canada has neither a strategic material stockpile, nor an extensive system of foreign military bases which could serve as a market for the gains of barter. Consumers for the countertrade products received in exchange for Canadian food would have to be found in the private sector of Canada, or in the world market.

In the U.S., agricultural price support programs tend to generate large government-owned stocks which can serve as the primary source of barter supplies. Although excess agricultural stocks are at times a problem in Canada, they are either farmer-owned or under the auspices of national marketing boards. As a result, the Canadian Government would not likely act as either supplier or consumer in a countertrade/food aid deal.

The indirect role of the government in a countertrade/food aid program could help to greatly simplify the logistical and legal aspects of the transactions. All negotiations could be handled through commercial trading houses which now account for 32 per cent of Canadian food, feed, beverage and tobacco exports, and are rapidly developing the expertise needed to market goods received in countertrade [33]. The government could retain its traditional role of financing the food aid given as a direct donation and in negotiating the political agreement with the recipient country. The countertrade part of the program could be operated as a parallel function of the trading house at arm's length from the government.

5.2.1 Conceptual Model

In Figure 8, a diagram of the conceptual model for implementing a countertrade/food aid approach is presented. As indicated above, all physical distribution aspects of the program would be handled by private commercial trading houses. In this illustration, the food aid portion is equal to 50 percent of the shipment and countertrade makes up the balance. The trading house is responsible for purchasing the food shipment in Canada and arranging transport according to a contract with CIDA. Payment for half the shipment (the food aid portion) is derived from CIDA's bilateral aid budget, while the remainder has to be recouped by the trading house in the form of countertrade products from the TWC. In addition to the normal commissions earned on the procurement and export of Canadian food products, the trading houses would have an opportunity to generate profits (or losses) on the distribution of the countertrade goods.

A new office for monitoring the countertrade/food aid contracts is envisioned that operates outside the existing CIDA bureaucracy. The purpose of this new office would be to oversee the actions of contracting trading houses and to serve as an ombudsman in the case of contract

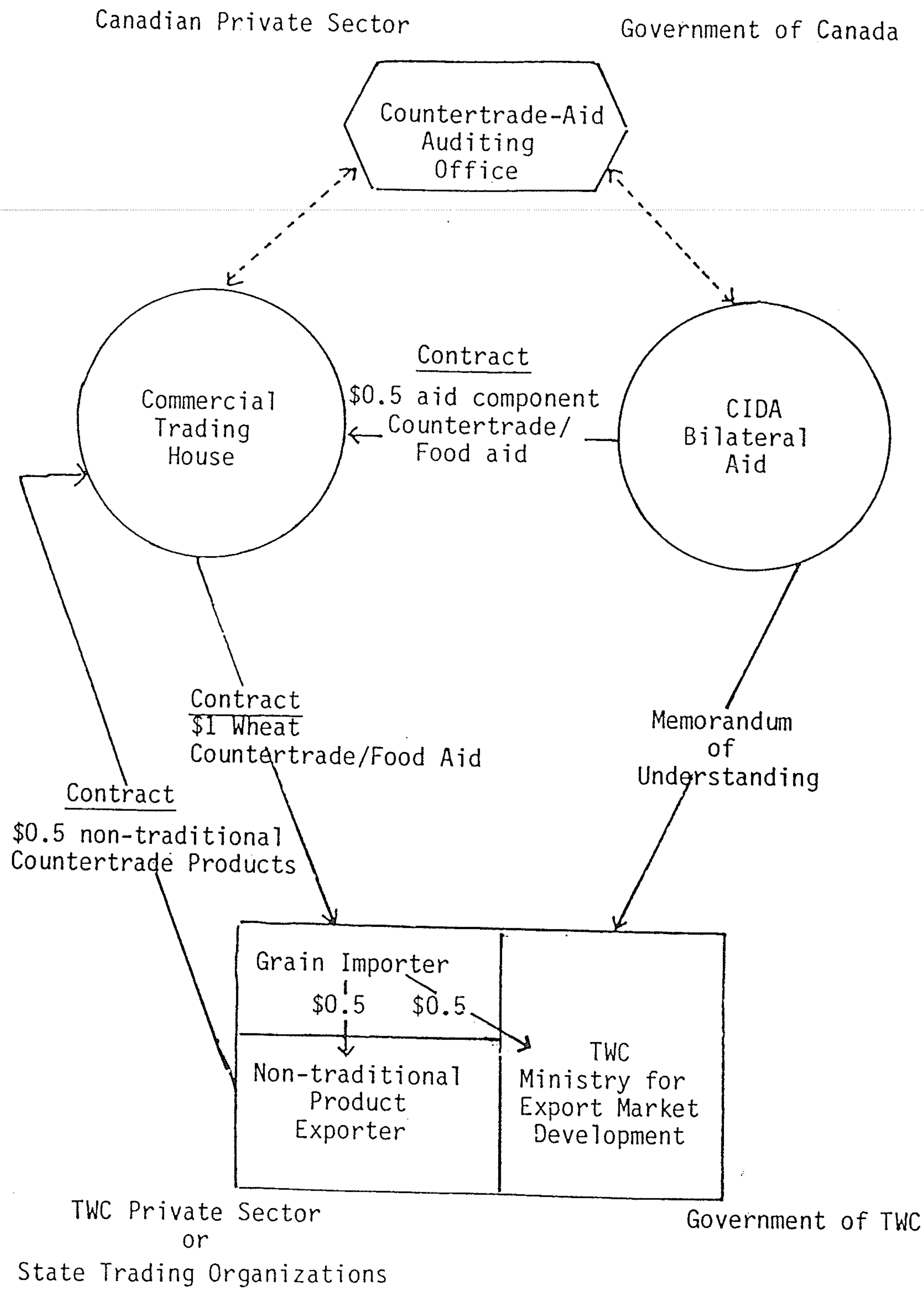


Figure 8

Conceptual Model of Countertrade/Food Aid disputes. In addition to monitoring, this office could be given power to audit and investigate countertrades in order to ensure that the trading houses did not abuse their powerful position vis a vis the TWCs. The reason for establishing this office outside of the CIDA administration is to guarantee its impartiality in settling disputes between CIDA and the trading houses. Also, the auditing office serves a political function of distancing the government from the countertrade activity.[46]

The development mechanism of the countertrade/food aid approach follows the counterpart funds principle. Donated food aid is sold on the local market of the recipient country to generate funds which are utilized for development purposes. In this example, the TWC grain importer transfers half the value of the imported grain sales (in local currency) to the TWC exporter who has been nominated to complete the countertrade. The balance of the revenues are deposited in a counterpart fund which is managed by the government ministry responsible for export market development. The counterpart funds received by the government are designated for the development of the export marketing infrastructure in order to facilitate the countertrade. Projects could include transportation and port development, warehouse and loading facilities, or special projects to overcome bottlenecks in the export production sector. The funds transferred to the TWC exporter are used to finance the production and shipment of the countertrade offset goods which are owing to the Canadian trading house.

---

[46] Needless to say, the effectiveness of this office, and the success of the program, would depend on the support it received from the senior administration of CIDA.

An apparent weakness of the countertrade/food aid model is its failure to provide the foreign exchange that may be necessary to finance the development of the export infrastructure or the production of the non-traditional export goods. In most cases, certain inputs (e.g. machinery or chemicals) would be needed which the TWC would be unable to supply domestically. If sales of the new export good can be made in excess of the quantity needed to offset the countertrade requirement, however, the project may be able to provide sufficient convertible currency to finance these imported inputs.[47] Another source of foreign exchange could be regular commercial loans. In the present state of international debt problems, this option may exclude some TWCs, but generally if a government can build a case for an effective and productive investment, funds can be obtained commercially, either locally, or from aboard. [7]

5.2.2 Safeguard Issues

As with other forms of foreign assistance, the conditions of the countertrade/food aid would be set out in a Memorandum of Understanding (MOU) between Canada and the TWC. The MOU would specify the food products, their total value, and the division of the food shipment between aid and countertrade. In addition, the MOU could identify the agents involved, set out a time frame for implementation, and make explicit the various safeguard and performance guarantees.

---

[47] One means of facilitating this would be to set the countertrade percetage low during the initial stages of the program. The TWC could then be paid in convertible currency by the trading house for the shipments above this amount. As the export industry became more established and total volumes increased, the countertrade percentage could also be increased.

Additionality and subsidization are two specific issues that require explicit safeguard clauses in the MOU. The problem of additionality, or displacement, is to guarantee that imports received as food aid do not replace normal commercial imports. Since 1970, a safeguard clause known as the "usual market requirement" (UMR) has been inserted in all Canadian bilateral food aid MOUs.

> Among the arrangements covered under the MOU are various safeguard clauses resulting from Canada's adherence to the FAO Principles of Surplus Disposal, an international code of conduct regulating food aid transfers. The Principles seek to ensure that food and other commodities which are exported on concessional terms result in additional supplies for the recipient country, do not displace normal commercial imports, and likewise, do not discourage or otherwise adversely affect domestic production. [68:p.22]

The UMR clause commits the recipient country neither to displace its normal commercial food imports, nor to re-export the products that it receives as food aid.

Member countries are obligated under the FAO Principles to notify and undertake bilateral consultations with other exporting countries which might have reason to be concerned by their food aid donations. This obligation also applies to a list of twenty concessional transactions which represent a "grey area" between pure food aid and commercial export terms. Barter transactions, and presumably countertrade, are included in the Catalogue of Transactions which is subject to the UMR clause.[48]

---

[48] Barter transactions are included under two headings in the Catalogue of Transactions. First as barter involving price concessions and either government-sponsored or nongovernment-sponsored; then as barter not involving price concessions and either government-sponsored or nongovernment-sponsored [29].

Of course obtaining the signature of the TWC Minister on the MOU and enforcing the UMR provisions of the agreement are two separate matters. The FAO Principles represent a commitment by the signatory countries, but is not a binding instrument. "All reporting and consultative obligations and procedures shall be based on the principle of reciprocity among the Member Nations and Associate members." [29:p.34] Moreover, when a TWC receives aid from several countries, using different fiscal periods and trade statistics, the UMR concept may be administratively difficult to apply. Despite these obvious imperfections, the UMR does provide an established safeguard system and an internationally agreed upon basis under which the countertrade/food aid approach could be operated.

In order to avoid charges of export subsidization, the countertrade approach to food aid would have to be carefully structured and monitored. The MOU could make explicit the proportion of the shipment that was food aid and the part which was being financed by countertrade. For example, the MOU could contain a "fair market value" clause which would specify that the countertrade terms of exchange were to be consistent with the prevailing level of international prices. Monitoring of the MOU to ensure adherence with the FAO Principles would be one of the responsibilities assigned to the Countertrade-Aid Auditing Office.

5.2.3 Project Identification

The operation of a countertrade/food aid program could be based on either tenders, or proposals, or both. Under a tendering system the negotiations would proceed first at the political level between CIDA and the TWC to develop a tentative agreement. Negotiations at this stage could establish the value of the food aid, the percentage of countertrade involved, and a list of the TWC's proposed countertrade export products. Using this preliminary information, CIDA could issue a request for tenders from the trading house sector. The winning tender would subsequently work through CIDA to develop the MOU with the TWC and execute the project.

The proposal system could operate by requesting the trading house sector to develop countertrade/food aid projects in eligible TWCs. The role of CIDA would be more reactive than under the tendering system. The trading houses would submit their proposals to CIDA, which would decide whether they were suitable and within the budgetary allowance for the TWCs` region. If the proposal were given approval in principle, the political negotiations could then proceed between CIDA and the TWC to develop a MOU.

The tendering and proposal systems have both advantages and disadvantages. Under the proposal system, the trading houses could be expected to generate a disproportionate number of projects for the TWCs in which they are already operating. This may be viewed as an advantage however, to the extent that efforts would be concentrated on fewer countries which have commercial prospects rather than a "shotgun" approach that might reduce the effectiveness of the program. Another advantage of the proposal system is that it transfers virtually all the background work to the trading houses and could permit CIDA to operate the program with fewer staff. By placing more onus on the trading houses to develop countertrade/food aid projects however, the overhead costs of the proposal system could exclude many of the smaller firms, and require the participating trading houses to charge higher margins for their countertrade services.

The advantages of the tendering approach are that it could be easier to initiate than the proposal system; it could permit CIDA to target certain TWCs for countertrade/food aid; and, it could be used to assist the development of smaller trading houses. For example, CIDA could guarantee to cover part of the costs of researching and developing a tender for countertrade/food aid.[49] The disadvantages of the tendering system, relative to the proposal system, are its higher administration cost and the increased risk of commercial default. The risk of default is higher under the tendering system because smaller, less experienced trading houses are more likely to undertake unsuccessful countertrade deals than larger firms which develop their own proposals.

The tendering and proposal systems are not mutually exclusive and could be operated simultaneously. The best alternative might be to use both tenders and proposals and let the response from the private sector determine which method is better.

5.2.4 Financing Countertrade/Food Aid

The duration of a countertrade/food aid venture could vary depending on the form of countertrade and the export capacity of the TWC. As a result, financing countertrade could be a potential barrier to many

---

[49] Such a program might operate along the same lines as the Program for Export Market Development which assists exporters to identify market opportunites.

trading houses. This is particularly important for agricultural countertrades because the small ($1 to $25 million sales) and medium-sized ($25 to $100 million sales) trading houses are very active in the TWCs and the most specialized in agriculture and food exports.[50] One means of overcoming the financial difficulty would be for CIDA to provide a loan guarantee for the trading houses at a chartered bank.

In Figure 9, the conceptual model is altered to include a loan guarantee. In this example, CIDA guarantees a loan with a chartered bank to cover the cost of procuring and shipping food to the TWC. On the completion of the contract terms, CIDA repays the portion of the bank loan equal to the costs of the food aid and the trading house repays the balance from its sales of the countertrade goods. In all other respects the countertrade/food aid project operates as described previously.

The use of the loan guarantee system reduces the financial barrier and could encourage more trading houses to become involved in countertrade/food aid ventures. Also, the loan guarantee should permit the trading houses to obtain financing at a lower cost than would otherwise be the case. It could be advisable however, for the government to guarantee less than 100 percent of the loan. For example, by limiting the loan guarantee to 75 or 80 percent, the risk of losses would be less for the government, while the trading houses would be forced to give a more serious commitment to the project. In terms of total costs, the loan guarantees should not have a significant impact on the food aid budget.

---

[50] In a survey of the Canadian trading house industry, food, feed, beverage and tobacco were found to account for 39 per cent of the activities of small trading houses and 49 per cent of the medium-sized trading houses, in 1982/83 [33].

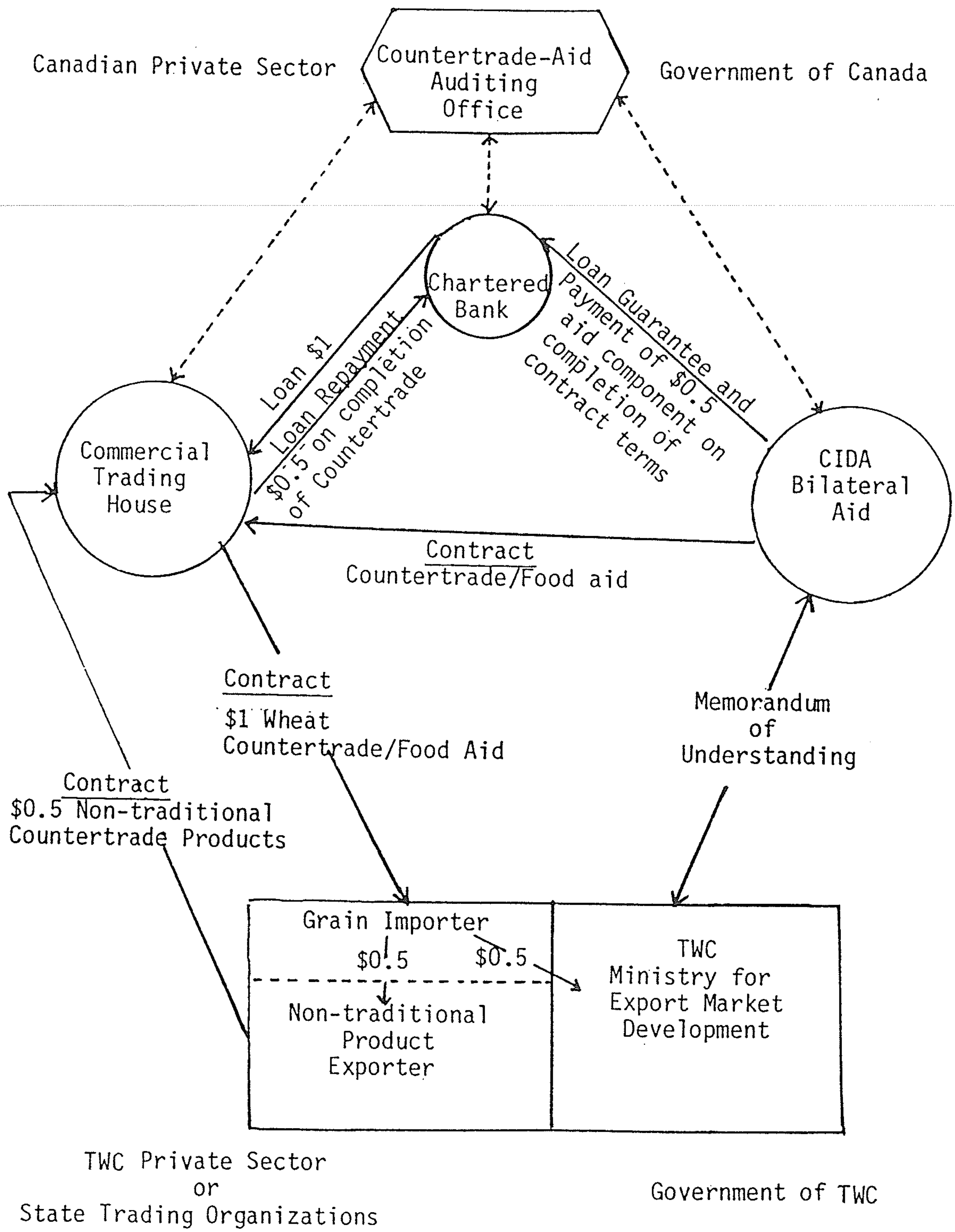


Figure 9

Conceptual Model of Countertrade/Food Aid Using a Loan Guarantee

Part of the interest costs would be carried by the trading houses, and the risk of default, although impossible to predict, should not be large.

5.3 SCOPE FOR THE USE OF COUNTERTRADE/FOOD AID APPROACH

Food aid has proven to be a very flexible policy instrument for assisting the economic and social development of the TWCs. Distribution methods have been invented to target food assistance to selected groups in the population, and to promote certain sectors of the economy. The countertrade approach to food aid is important because it provides a mechanism for building commercial relations between the non-traditional product exporters and the Canadian trading houses. In addition to providing immediate food import assistance the countertrade/food aid program could lead to mutually beneficial trade connections that could improve the TWC's long term balance of payments situation.

As with all methods of handling food aid, however, the scope for using the countertrade approach is circumscribed by some important development considerations. In this section, the issue of disincentive effects is discussed and some suggestions are provided for guiding the use of the countertrade approach.

5.3.1 Disincentive Effects

All forms of food aid can have deleterious effects on local production if they are introduced into the TWC economy in direct competition with local output. The magnitude of the production disincentive depends on a number of circumstances. Schuh cites five factors that may be important:

> 1) the conditions that gave rise to the food aid shipments in the first place; 2) the relative importance of food aid as compared to the domestic supply; 3) whether food aid displaces commercial exports or represents additional supply to the local economy; 4) how the food aid is introduced into the local economy; and 5) the institutional arrangements that prevail. [71:p.72]

The conditions that give rise to the need for food aid can be economic, political or environmental in origin. Although the disincentive effects of food aid depend on the original source of the deficit, it is difficult to generalize which source is more likely to cause a significant disincentive problem. For example, if a TWC has a pricing policy that discourages local production the disincentive effect of food aid may be indirect. In this case, the presence of food aid merely helps to support a misguided economic policy rather than contribute directly to the problem. On the other hand, donations of food aid to relieve a food deficit that is caused by a natural disaster could create a direct disincentive to production by maintaining the pre-shortfall price level. If the cause of the food deficit is known, however, the potential disincentive effects of a countertrade program may be estimated and measures can be taken to minimize the impact on local output.

The greater the magnitude of the total food aid received by the country relative to its local production, the stronger the marginal disincentive effects of food aid are likely to be. In countries that already receive large volumes of food aid, the appropriate policy might be to try to convert some existing food aid commitments to a countertrade/food aid approach.

If food aid simply displaced current imports, the disincentive problem would be eliminated. This is prohibited by the UMR which requires the TWC to maintain its normal commercial imports (normally, the average of the previous five years). Food aid which satisfies any growth in demand due to either increasing population or rising per capita incomes, however is not contrary to the UMR or a disincentive to the established level of production.

No method of distributing food aid can be entirely free of leakage back to the commercial market. If the sale of food aid to produce counterpart funds can be restricted to larger urban areas it may be easier to monitor the disincentive effects. Also it is possible to reduce the disincentive effects of counterpart funds by selecting commodities that compete indirectly with TWC producers. For example, the use of wheat or canola oil as food aid could have less disincentive effects on agriculture in the tropics than donations of corn or pulses.

An advantage of the countertrade approach over most other forms of food aid is that it creates new jobs and investment in the non-agricultural society. Assuming a high income elasticity of demand for food, new wages earned by non-agricultural families should help to absorb part of the additional food products that enter the market as food aid. To the extent that the countertrade approach creates an effective demand for the additional food supplies, the disincentive effect on local agricultural production is reduced.

In summary, the countertrade approach to food aid offers no panacea to the problem of disincentive effects. While disincentive effects are difficult to eliminate, they can be ameliorated by careful planning and design. Moreover, the demand creating aspect of countertrade and the possibility of replacing incremental imports could reduce the negative effects that might accompany this program.

5.3.2 The Donor's Perspective

Food aid programs serve domestic as well as foreign objectives. In addition to humanitarian and policial reasons for giving food aid, donors regularly use food aid as a method of disposing of excess inventories and supporting domestic farm prices. The balance between domestic and foreign priorities tends to shift over time with changes in the level of world food stocks. When world food stocks are high, North American food prices are usually low. During such periods, the support that food aid gives to domestic prices may be valued as much by the donors as its humanitarian appeal. In contrast, during periods of low world food stocks the economic benefits of food aid are minimal for the donors because their producers are receiving adequate returns from the market and inventories are manageable. Under such circumstances, food aid donations become more truly humanitarian in nature.

The level of world food stocks also has an impact on the cost of food aid and the volume which can be financed by the donor agencies. Given the budgetary constraints of the donors, the supply of food aid will tend to decrease with rising world food prices. From the recipients point of view however, the value of food aid tends to increase with rising world prices. In particular, those countries which have limited foreign exchange reserves become more in need of the balance of payments support which is provided by food aid. Nevertheless, during periods when food aid could be of most value to the recipients, the donors may have the least incentive to maintain or expand their shipments.

A countertrade/food aid program could help to ameliorate such situations because part of its funding is external to the donor's food aid budget. As international food prices rise, the TWCs could maintain their volume of countertrade imports by adjusting the volume of their non-traditional exports to offset any decline in the terms of trade. Moreover, the recipients could attempt to increase their volume of food aid imports under countertrade (up to the limit of the UMR) to replace any decline in other forms of food aid.

During periods of high world food stocks and low international prices, food aid provides the donors with a convenient means for supporting domestic price levels. The problem for the donors is the volume of food aid disbursements which may be necessary to have the desired affect on domestic prices. Even with lower commodity prices, the regular food aid budget is unlikely to be sufficient to finance the necessary volume. Under these circumstances the countertrade/food aid program could be helpful to the donors because the countertrade portion of any shipments is essentially financed by the recipients.

The donor's perspective is frequently overlooked with respect to the supply and demand for food aid programs. Although only a skeletal treatment has been given in this section, it does illustrate how the flexibility of a countertrade/food aid approach could be used in different economic situations. By altering the balance of countertrade in the countertrade/food aid program, the volume of food aid shipments could be expanded or contracted according to changing needs within the donor's existing budgetary allowance.

5.3.3 Candidates for Project Selection

The criteria used by Canada to determine the eligibility of TWCs for bilateral development assistance is multi-dimensional. Each TWC is assessed according to its level of need, its commitment to development, and its record on human rights. In addition, economic and political relations with Canada have an important bearing on a TWCs eligibility. For example, members of the British Commonwealth, or la francophonie, have an edge over other TWCs in obtaining Canadian aid. Lastly there are special crisis factors, such as the prolonged African drought, which can alter certain countries' eligibility.

Canada divides TWCs into five categories for aid purposes. Only countries in categories I and II are eligible for regular programmed food aid. Category III countries can receive food aid, but only in emergency situations. Category IV and V countries are non-eligible and non-recipients, respectively.[51]

It is doubtful whether the countertrade approach could be considered for other than Category I and II countries. The time required to prepare and execute a countertrade would make it unsuitable for most emergency situations. Category I and II countries also are known as core

[51] Non-eligible countries are denied aid because of their political status, rather than their level of need, e.g. Afghanistan. Non-recipient TWCs are denied aid because of their level of per capita income, or questionable political independence, e.g. Taiwan.

and non-core countries. Core countries receive approximately 75 per cent of Canada's bilateral assistance, while non-core countries receive about 20 per cent [16]. In Table 3, the TWCs are listed according to their eligibility for Canadian bilateral development assistance.

Given this list of eligible countries, a smaller group could be selected as candidates for countertrade/food aid based on their need for food aid, their per capita foreign exchange reserves and their potential for commercial relations with Canada. TWCs which are highly dependent on food aid and have relatively low foreign exchange reserves could benefit most from the countertrade approach. Assuming that they continue to receive food aid from other donors and that it is directed at traditional targets, a marginal change in Canadian food aid could be accomodated without seriously disrupting those groups that now depend on food aid.

The foreign exchange reserves criteria reflects the use of the countertrade approach as a means of supporting the balance of payments. Low per capita exchange reserves is a useful indicator of the relative balance of payments problems in large and small TWCs. It may also suggest which TWCs would be most enthusiastic about this form of development assistance from Canada.

The potential for commercial relations is important because the ultimate goal of the countertrade/food aid program is to assist the TWCs to develop new export goods which can establish long term commerical markets. Moreover, the response of Canadian trading houses is likely to be more positive if they are dealing with TWCs which have a better poten-

TABLE 3

Country Eligibility List for Canadian Bilateral Development Assistance, as of 1984

	Americas	Francophone Africa	Anglophone Africa	Asia
Category I Core Countries	Leeward/ Windward Islands Jamaica Colombia Peru Guyana Haiti Honduras	Cameroon Senegal Zaire Sahel -Mali -Niger -Upper Volta Ivory Coast Guinea	Kenya Tanzania Zimbabwe Ghana Zambia Egypt	Bangladesh India Pakistan Indonesia Sri Lanka Thailand Nepal China
Category II Non-Core Countries	Barbados Brazil Costa Rica Panama Ecuador El Salvador Guatemala Nicaragua Dominican Rep.	Algeria Gabon Morocco Togo Tunisia	Botswana Lesotho Swaziland Ethiopia Nigeria Sudan Uganda	Malaysia Philippines
Category III Limited Eligibility Countries	Belize Bolivia Chile Mexico Paraguay Uruguay Argentina Surinam Trinidad/ Tobago	Burundi Benin Congo Sao Tome Gambia Mauritania Chad Cape Verde Comoros C.A. Rep. Madagascar Guinea-Bissau	Somalia Djibouti Yemen Mozambique South Africa Lebanon Jordan Sierra Leon Angola Namibia Seychelles Liberia Mauritius	Burma Turkey Bhutan Papua-N.G South Korea Maldives Is. Singapore Cook Is. Fiji Tonga Tuvalu Vanuatu W. Samoa
Category IV Not Eligible Countries	Cuba	Libya		Laos Vietnam Kampuchea Iran Afghanistan

Source: [16]

tial for commercial relations. Trading houses generally expect to invest the initial years of trade development in unprofitable operations, which are rewarded over time as trading volume increases and overhead costs are spread over a larger number of units.

For purposes of illustration, data have been assembled in Table 4 on these criteria for the Core countries. The first column in Table 4 presents each TWCs' current foreign exchange reserves and their per capita reserves. In the second column, the level of food aid received in 1981 is tabulated as a share of total cereal imports, and in kilograms per capita. The third column presents Canadian export and import trade figures for 1983, as a proxy for potential commercial relations.[52]

Based on the foregoing considerations and the data in Table 4, it would appear that the Asian countries (Bangladesh, India, Pakistan, Indonesia and Sri Lanka) and possibly Egypt, would be most suitable for the countertrade/food aid approach. These countries have low per capita foreign exchange reserves, a high share of food aid as a percentage of total cereal imports, and a substantial volume of trade with Canada. Some Core countries in the Americas may also be suitable for the countertrade/food aid program, but with the exception of Haiti, they have a lower food aid dependence and are generally better off in terms of foreign exchange. The African countries are probably most in need of this form of assistance, but given their weak commercial relations (excluding possibly Kenya), are the most difficult nations to develop with respect

---

[52] Undoubtedly other economic indicators could be included in the criteria to establish more precisely the need of the recipient country (e.g. per capita external debt), and the potential for commercial relations (e.g. trade complementaries, economic growth rates, etc.).

TABLE 4

Foreign Exchange Reserves, Food Aid Dependence and Canadian Trade Relations for Category I - Core Countries.

Category I Core Countries	Foreign Exchange Reserves (1985) Millions of SDRs	SDRs Per Capita	Food Aid (1981) As a Share of Cereal Imports (%)	Aid Per Capita (kg)	Canadian Trade (1983) Exports ($ millions)	Imports ($ millions)
Americas						
Jamaica	99	45	8	16.31	35	110
Colombia	1392	49	1	.17	141	94
Peru	1663	91	9	6.34	83	119
Guyana	6	7	6	4.33	4	20
Haiti	13	3	34	15.49	15	11
Honduras	131	47	21	8.06	10	36
Francophone Africa						
Cameroon	55	6	8	.98	23	1
Senegal	4	1	30	23.79	6	1
Zaire	55	2	14	2.74	13	17
Mali	27	4	4	5.87	...	...
Niger	90	16	7	1.08	...	...
Upper Volta	108	17	70	7.95	...	...
Ivory Coast	5	1	...	0.01	3	10
Anglophone Africa						
Kenya	398	23	32	10.02	13	11
Tanzania	27	2	79	11.36	15	2
Zimbabwe	46	6	100	3.32	5	6
Ghana	308	25	36	7.74	12	3
Zambia	55	9	25	12.62	3	1
Egypt	751	17	26	42.84	147	99
Asia						
Bangladesh	398	5	64	7.61	120	10
India	5960	9	29	.64	211	101
Pakistan	1056	12	88	3.18	56	18
Indonesia	4869	32	20	2.68	203	40
Sri Lanka	521	35	34.8	15.47	48	22
Thailand	1959	41	8	.39	139	60
Nepal	80	5	100	2.73	1	1
China	15386	15	...	.04	1578	246

Sources: [37,42]

to countertrade.

5.4 POLITICAL CONSIDERATIONS

An important consideration in any new program or policy is the public reception it is likely to receive. Every policy change has the potential to provide benefits to certain groups, while others may be affected adversely. In addition to the balance between these benefits and costs, there is an institutional consideration. If the impact of a program is concentrated and the affected group is well organized, more attention must be given to how they are likely to react.

5.4.1 Potential Opposition

Although the U.S. agricultural barter program is well established, it is not without its critics. When the U.S. barter program was re-instituted in 1982 with an exchange of U.S. milk products for Jamaican bauxite, competing milk product exporters (the EEC, Australia, New Zealand) raised formal complaints in a GATT working group [44]. Despite the much different structure of the proposed Canadian program, and its development assistance objective, the opposition of other agricultural exporters is predictable.

Domestically the program is unlikely to generate significant opposition from the business community unless the goods received in countertrade with the TWCs begin to compete directly for the markets of Canadian products. At that point in time, administrative procedures could be taken to reduce the volume of these countertrade goods entering Canada.

For example, CIDA could distribute a list of these "problem" goods to the trading houses and advise them to refrain from including them in a countertrade/food aid project. Until such problems develop however, the individual industries that may be negatively affected are unlikely to raise any political opposition to the program.

Resistance to the concept of countertrade/food aid can be expected from some departments of the civil service. The Ministry of External Affairs has been generally opposed to countertrade on philosophical grounds and has been reluctant to make any accomodation for the practice. In terms of the GATT and the MTN Agreements however, the countertrade/food aid concept is similiar to the military offset program which is administered by External Affairs. Since the countertrade/food aid program would neither weaken Canada's support for multilateral institutions, nor compromise Canadian commercial policy with respect to other sectors of Canadian export trade, the major concerns of the Ministry of External Affairs could be reconciled. Indeed, the potential of the countertrade/food aid approach to involve the business community more directly in Canadian foreign assistance programs may gain support within some sectors of the Ministry.

Within CIDA opposition may occur because countertrade/food aid is a more commercial approach to development assistance than traditional aid programs. Also, the countertrade approach emphasizes the bilateral food aid program, whereas in recent years the trend has been towards a growth of multilateral aid. At the present time, only about one-quarter of Canada's food aid is administered on a bilateral basis, while the remainder is channeled through the World Food Program. Although the countertrade /food aid concept may be more complementary to existing food aid efforts, than it is competitive, those groups that disagree with the commercial, bilateral emphasis of the countertrade approach are likely to oppose it vigorously.

5.4.2 Potential Supporters

The broad media coverage given to the Ethiopian famine has made most Canadians aware that the current level of assistance is not sufficient to fill the food deficiency gap of the TWCs. Moreover, the public is slowly becoming educated to the realities of the TWCs' development problems. The idea that the TWCs need trade, as much as aid, has become widely accepted in business and political circles. As a result, the use of countertrade to promote the development of markets for the goods of the TWCs and to assist them to finance needed food imports should be well received by public opinion in Canada.

A countertrade approach to food aid also seems likely to gain the support of some important special interest groups. The Canadian Exporters' Association has been encouraging the government to take a more active role in facilitating its members to develop expertise in countertrade and to encourage the growth of the trading house sector. For their part, the trading houses should be predisposed to the principle of a countertrade/food aid program. The trading houses have been lobbying actively for greater access to CIDA programs and for changes in the government's stance on countertrade.

Evidence of the potential support of the trading house sector can be found in the recent Task Force Report on the industry. Out of 32 recommendations made by the Task Force, four focus on improving the relationship between CIDA and the trading houses, while two others relate to the role of trading houses in facilitating countertrade. Of particular importance to the countertrade/food aid concept are:

> Recommendation 27
> The Canadian International Development Agency ensure that trading houses are invited to tender on food assistance procurement projects on an equal basis with other suppliers when sole sourcing is not an obligation.
>
> Recommendation 29
> The government maintain and publicize a countertrade focal point to monitor and disseminate information on countertrade, and to provide basic advice and referral services to exporters. In addition, it should identify, in cooperation with the recommended association of trading houses, the abilities of Canadian trading houses to enable them to play a more effective role in a countertrade capacity. [33:p.10]

These recommendations of the Task Force suggest that the principle of countertrade/food aid would be supported by an influential group of Canadian exporters.

Farm groups generally support food aid and are in favour of increasing Canadian donations. The countertrade approach to food aid has merits that may appeal to the farm community more than other forms of food aid. Farmers generally prefer government programs that are self-help in nature, rather than those that involve "government handouts". The use of countertrade permits the TWCs to become more independent and provides a means for these countries to eventually overcome the need for charity. Farmers are also businessmen and can appreciate the potential that a countertrade approach could have for long term market development. Clearly the use of food aid to help TWCs to become self-sufficient in food production is much less helpful to Canadian farmers than a program that could help the TWCs to finance the import of Canadian food.

Although the TWCs would actually be "paying" for food aid that they might have received "free", there are reasons to believe that they could be very interested in such a program. The countertrade approach offers the TWC governments a means of obtaining needed food imports which does not depend solely on the goodwill of the donors. Once the non-traditional export industry is established, these goods could be offered in countertrade or on conventional terms to other countries. As a result, the countertrade approach could be viewed as a more stable source of supply than traditional food aid, and less subject to unwanted pressure from the donors for reforms of internal programs and policies of the TWC governments.

Next to the balance of payments, the most chronic problem in the majority of TWCs is high unemployment, or under-employment. Any project that can generate new investment and employment has positive political implications for the government. Employed workers can afford to pay more for food and other services which support the growth of the domestic economy. If a countertrade/food aid program means new jobs as well as support for the balance of payments, it is likely to be well received by TWC governments.

5.5 SUMMARY

The countertrade approach to development is radically different from other development efforts sustained by food aid because it attempts to increase employment in new export industries. Virtually all other forms of food aid development assistance are focused on import subsitution projects. Although substituting domestic products for imported goods can help to overcome a TWC's balance of payments problem, such projects are frequently undermined by a lack of political support, or consumer resistance to a dietary change, or both.

The development rationale for the countertrade/food aid concept is based on the growing evidence that TWCs which adopt export oriented development policies experience more rapid economic progress than those that concentrate on import substitution programs [49]. Statistical data for the period 1961-1981 indicate that TWCs which have become more integrated with the world economy have been able to increase their average calorie consumption levels and reduce their dependence on food aid donations [37]. Through countertrade, assistance could be given to establish infant export industries that ultimately may lead to self-sustaining growth in trade and development.

The key institution for implementing the countertrade/food aid approach is the Canadian trading house. Conceptually, the program could operate by using the services of trading houses to identify potential countertrade products and opportunities. With the commissions earned on the food aid procurement and shipment, as well as the potential profits from countertrade, the program offers an incentive for many trading houses to expand into new markets and gain experience in new products.

Commodities received as food aid could be sold by the TWC government in their market. Part of these sales would finance the production of non-traditional exports equal to the countertrade commitment. The remaining finances could be directed to a counterpart fund to support related export development projects. For example, the counterpart fund could be used to finance the development of needed transportation infrastructure, or other measures necessary to help TWC entrepreneurs become established in developing non-traditional export goods.

In order to monitor these projects a new office is envisioned which would operate outside the established CIDA bureaucracy. This office would be responsible for ensuring that the terms of the countertrade contracts were observed in accordance with the Memorandum of Understanding signed by CIDA and the TWC government.

An advantage of the countertrade/food aid approach is its ability to stretch the existing food aid budget to serve different conditions. Regardless of whether world food stocks are high or low, countertrade can appeal to both the donor and the recipient. In general, higher world food stocks will make countertrade more important to the donor because it may permit larger volumes of surplus stocks to be disbursed more easily. During periods of lower world food stocks and higher prices, the use of countertrade will offer balance of payments support to the TWCs and food aid assistance that might replace other sources which are reduced because of the donors' budgetary constraints.

The countertrade approach is neither a replacement for all other forms of food aid, nor suitable for every TWC, at all times. For example, care will be required to minimize the potential disincentive effects of countertrade/food aid on the local agricultural system. Also, it is unlikely that a countertrade approach would be applicable in emergency situations. Given the large number of eligible recipients for Canadian bilateral development assistance however, there are sufficient numbers of core and non-core countries that could benefit from countertrade/food aid to justify such a program.

Opposition to the countertrade/food aid approach is likely to arise from some groups because it has a more commercial orientation than traditional food aid programs. Also, those groups that are dedicated to multilateralism in trade and aid are likely to resist the bilateral emphasis of the countertrade/food aid concept. In essence, the countertrade/food aid concept would be equivalent under the GATT and the MTN Code, to Canada's military offset program. Although some may oppose it on philosophical grounds, a countertrade/food aid program would not undermine Canadian support for these institutions or otherwise compromise Canadian commercial trade policy.

Support for the countertrade/food aid concept is likely to rest on its development rationale and the advantages it has to offer for those directly affected. The countertrade approach to food aid is consistent with the dual objectives of Canadian foreign assistance: namely, the encouragement of economic and social progress in the recipient country, and the promotion of exports from the donor country. It is also in keeping with the more market-oriented philosophy of the present Government of Canada. The advantages of this approach are that it could stretch the existing budget for food aid, it could promote the growth and development of the trading house sector of Canada, and it could lead to long term market development for agricultural exports. Moreover, a countertrade approach to food aid could be a very popular and an effective form of development assistance in the TWCs.

Chapter VI

SUMMARY AND CONCLUSIONS

The concluding chapter is divided into three parts. The first section contains a summary and the principal policy recommendation of the study. The subsequent section considers the broader impacts and consequences of the policy. In the final section, the limitations of the analysis are discussed and some implications for further research are outlined.

6.1 SUMMARY AND PRINCIPAL POLICY RECOMMENDATION

Since the mid-1970s, the growth of world trade has been declining and in 1982 actually turned negative. Although a gradual expansion of world trade has resumed, the benefits have been unevenly distributed. In particular, the international trade of agricultural products continues to be characterized by weak demand, low commodity prices, and the growing use of export subsidies.

The weak demand for agricultural exports can be attributed mainly to the economic difficulties of the importing TWCs and communist countries. In many of these countries, foreign exchange earnings are now insufficient to finance both current imports and repay their outstanding debt obligations.

As a result of the weak international demand, the level of world food stocks has increased and the prices received by U.S. and Canadian farmers have dropped substantially. Farm bankruptcies in North America have reached record numbers and pressure for political action is growing. In the United States, anger has been focused on the EEC's use of export subsidies to expand their market share. In response, the U.S. has indicated its intention to match the export subsidies of the EEC in competing for foreign sales.

Although Canada is not the intended target of U.S. retaliation, Canadian farmers will be adversely affected if an export subsidy competition results between the U.S. and the EEC. A subsidy competition will depress international price levels and make it difficult for Canada to maintain its current volume of exports. As a relatively small nation, Canada cannot compete directly with the treasuries of these larger economic powers and must seek an alternative marketing strategy. One strategy that may be applicable is to use countertrade to finance the sale of Canadian agricultural exports.

The past decade has witnessed a rapid growth in the use and spread of countertrade. In particular, the TWCs have adopted countertrade as a means of overcoming their balance of payments problems and for assisting the development of their export industries. If Canada were to accept even partial countertrade in payment for agricultural exports, it could be used to offset the equivalent benefits of an export subsidy.

Most OECD countries have taken a noncommital stance toward the controversial practice of countertrade. The Government of Canada acknowledges the activity; provides information to assist exporters, and operates a military offset program, but has refused to become directly involved in other forms of countertrade. The purpose of this thesis is to examine the scope for using countertrade as a method of financing the export of agricultural products, and the appropriate mechanism for dealing with countertrade in the TWCs. The objectives of the study are:

- to survey the history and development of countertrade, its growth and orientation;
- to examine the advantages and disadvantages of the use of countertrade to finance agricultural exports from the Canadian perspective and from the perspective of the TWCs;
- to review the theoretical basis for countertrade and its principal applications;
- to evaluate the legal and political status of countertrade with respect to Canadian commercial trade policy; and,
- to propose a practicable policy option.

Estimates of the proportion of international commerce which is now conducted by countertrade vary from less than 5 percent of the total to as much as 40 percent of world trade. The wide spread between these estimates can be explained by a lack of consensus on the appropriate definition for countertrade and an absence of good statistics. Those observers who assume a broader definition of countertrade often include transactions, such as military offsets, which other writers disregard completely. Compounding this definitional dispute is the problem of data collection. No authority on countertrade activity really exists because international traders are not required to report these details of their transactions.

In spite of the strong differences over the correct definition or volume of countertrade, there is general unanimity regarding the importance of the phenomena. As the financial and balance of payments problems of the TWCs have increased, more of these countries have enacted countertrade legislation to further their economic and political objectives.

The advantages and disadvantages of countertrade are largely a function of each party's perspective. For example, the advantage gained by the TWCs in balancing their trade, may be a disadvantage for the multinational corporation that has to find a new market for the countertrade goods it receives. As a non-zero sum activity, however, countertrade could be mutually advantageous. If countertrade permits the financing of agricultural exports that would otherwise add to unwanted inventories, both the TWCs and the agricultural exporter could gain. On the other hand, the higher transaction costs and awkwardness of countertrade may reduce the benefits for both parties relative to equivalent cash transactions.

The economics of countertrade are invariably linked to ulterior political motives. Countertrade is sometimes used to circumvent regulation or to conceal an unpopular practice. For example, countertrade has been used by the TWCs to expand their exports of products which are subject to international quota restrictions or commodity agreements. Another use of countertrade is to foster the development of new export industries and to gain entry into new markets. This may be accomplished by implicitly subsidizing the countertrade goods, or by seeking an industrial cooperation agreement with an established manufacturer in order to utilize its quality reputation and marketing system.

In most cases countertrade requires the cooperation of both buyer and seller, but it can also be used as a non-cooperative bargaining strategy to extract trade concessions from weaker trading partners. For example, countertrade demands resemble an all-or-nothing trade offer and are known to be used by COMECON countries as a method of negotiating favourable terms of trade. In theory, countertrade might also be effective as a means of imposing a price discrimination strategy, or to protect an established market share. The extent to which countertrade may have been used for such purposes however, is not well documented.

The potential for using countertrade as a tool for export market development has a number of potential applications in Canadian agriculture. Although the private sector has an almost unlimited scope for pursuing any of these opportunities, the role of the government in facilitating countertrade is subject to certain political constraints. In particular, the Government of Canada has an obligation to support the multilateral agencies of which it is a member, and must be concerned with the possible reactions and retaliation of other traders.

Given Canada's existing commercial trade policy, there appears to be little scope for a direct role by the government in the countertrade of agricultural products. Although countertrade may not be prohibited by the Articles of the GATT, it is obviously contrary to the spirit of the agreement, and tends to undermine the authority of this multilateral institution. Nevertheless, certain aspects of trade are totally exempt from the GATT rules. One example is the government procurement of military equipment and another is foreign tied aid programs. The Government of Canada uses countertrade in its procurement of military equipment and it would be equally consistent with the current commercial policy to use countertrade in the distribution of Canadian food aid.

The principal recommendation of the study is for Canada to develop a program for using countertrade to distribute food aid. The precedent for using a countertrade/food aid policy has been well established by the U.S. agricultural barter program. In the early 1950s, the U.S. Government began a barter program with the TWCs to dispose of its excess agricultural stocks. Although suspended during the 1970s, the U.S. program has been re-instated since 1982. As a direct result of this agricultural barter program, the U.S. Government facilitated the export of over $6 1/2 billion worth of agricultural products, and established its presence in virtually every TWC market.

The development rationale for a countertrade/food aid approach is based on the growing evidence that TWCs which adopt export promotion policies experience faster rates of economic growth than those countries which follow import substitution policies. Using a countertrade/food aid program, Canada could assist the TWCs to obtain food aid to meet their current needs, while establishing the means for these countries to finance commercial imports in the longer term.

The countertrade/food aid approach provides a mechanism and a means for the TWCs to develop new export markets for non-traditional goods. The key to implementing this program is to harness the marketing skills of the Canadian trading house industry. Conceptually, such a program could be operated by shifting the functions of procuring and shipping food aid from CIDA to a Canadian trading house. Under this proposed program, CIDA finances less than 100 percent of the costs of the total food shipment. In order to recover the balance of its costs, and earn its commissions, the trading house has to market a pre-arranged quantity of countertrade goods for the recipient TWC. Given the scope for developing new commercial trading opportunities and the commissions for food aid procurement, it should not be difficult to encourage trading houses to participate in this program.

In order to assist the TWCs with the means of fulfilling their countertrade obligations, the food aid commodities received from Canada could be sold to establish a counterpart fund for export market development. These funds could be used to construct basic transportation and marketing infrastructure, to train workers, or to finance the initial development phases of a new export industry.

The countertrade/food aid approach has advantages for both Canada and the TWCs. Countertrade could provide a means for the Canadian Government to stretch the existing food aid budget in order to meet its promised commitment to increased food aid, without aggravating the size of the current budget deficit. Countertrade could help to relieve the pressure of excess food stocks and assist domestic producers during a difficult period of low prices and tight export markets. This program could also lend support to the expansion of the trading house sector which is becoming recognized as a dynamic force for improving export market performance.

The economic benefits for the TWCs are balance of payments support and the potential stimulus for export related growth. All food aid provides immediate balance of payments support, but the countertrade approach enables the TWCs to establish export industries that provide an on-going and renewable source of foreign exchange earnings. In addition, the countertrade of non-traditional exports could create new employment opportunities, encourage investment and expand the tax base which would promote the internal development of the TWC's economy.

6.2 IMPACTS AND CONSEQUENCES OF COUNTERTRADE

The expansion of countertrade is viewed by most Western governments as a problem for their exporters to overcome, rather than as an opportunity of which to take advantage. One factor which helps to explain this attitude is the political and economic problems which the industrialized countries face in permitting countertrade imports into their markets. The industrialized countries maintain a wide array of trade measures to protect sensitive industries (e.g. agriculture, textiles, etc.) from import competition. These barriers to trade prevent the TWCs from maximizing their comparative advantage in the export of labour intensive manufactures and certain natural products. In countertrade, the TWCs have discovered a strategic negotiating tool, "buyer's power", with which to force the industrialized countries to open their markets for TWC exports. As the pressure for countertrade increases, all Western countries are being forced to reconsider the role of countertrade in their commercial policy.[53]

---

[53] Since all commerce is subject to the regulation and supervision of national governments, any country that has not taken a strong and active stand to prohibit countertrade already has an unofficial policy of "tacit approval".

The critics of countertrade sometimes appear to be attacking the symptoms of a larger problem which they refuse to acknowledge. The causal relationship runs from a declining rate of growth of world trade to an expansion of countertrade, not the inverse. Most observers agree that in the short run countertrade has promoted trade which otherwise might not have occurred because of foreign exchange constraints [38,47,79,91].

Concerns about countertrade raised by the IMF and the GATT are mainly to do with the long term impacts and consequences for the multilateral trading system. A key problem associated with countertrade is the need for bilateral balancing. Countries faced with countertrade are forced to offset their exports with imports from the other country regardless of how inappropriate the range of goods that might be offered in exchange. Bilateral balancing limits the freedom of import/export decisions and works against efficient allocation of resources.

Another aspect of countertrade that troubles the Western industrial countries is the threat of increased protectionism and unfair trading practices. For example, countertrade can be used to hide discounts and dumping which may permit countries to use price discrimination. Countertrade also poses a challenge to certain Western countries that use non-tariff barriers to protect sensitive industries from direct competition with TWC products. Western countries generally disagree with countertrade on the theoretical grounds that it distorts the multilateral flow of goods and creates inefficiencies. These arguments carry little weight, however, in an environment of oligopolistic competition and a virtual absense of any sort of truly "free trade". A more cynical view is that countertrade is disliked because it forces the industrialized countries to internalize some of the negative external effects of their own foreign trade policies.

The impacts and consequences of countertrade are quite different if examined from the point of view of the Third World and centrally planned countries. The bargaining power offered by countertrade is seen as a key to gaining access to the markets of the rich industrialized countries, and as a means of financing their import needs. In an age of mounting debt problems, unstable exchange rates, inflation and roller coaster interest rates, multilateral trade is a luxury which countries outside the OECD have found increasingly difficult to afford. Bilateral balancing may have undesirable aspects for the TWCs too, but the alternatives of a greater negative trade imbalance, or simply foregoing needed imports, are even less desirable.

At this point in time, any judgements regarding the impacts or consequences of countertrade are mere conjecture. Fears have been raised that if countertrade were carried to an extreme, it could lead to a deterioration of the multilateral trading system. No evidence exists however, to support such prognosis. Even the critics of countertrade concede that the growth of the practice is probably limited by its own success. When the TWCs reach a point that cash becomes an alternative to countertrade, cash will likely supersede it because of the greater convenience and flexibility that cash transactions can offer to both buyer and seller.

The present outlook suggests that countertrade will be demanded by even more TWCs. In addition to burdensome financial and economic problems, the TWCs are beginning to experience the pressure of a long predicted population explosion. In many TWCs, over half of the population is less than 25 years old. Even with reduced family size, the population of the TWCs will double to 7 billion by 2025, while the population of the developed countries will rise only slightly from 1.2 to 1.4 billion[54] [55]. The impacts of such growth are without precedent, but it is safe to predict that the TWCs are going to need better access to developed country markets for their exports in order to import the goods required to support these populations.

The projected growth of world population is another reason to give careful consideration to a policy of agricultural countertrade. It is obvious that during the next 40 years, almost the entire growth in demand for food products will occur within the TWCs. In order to participate in these markets, however, some means must be found to enable the TWCs to finance food imports.

Nations often argue that international trade of food products is different from the trade of manufactured goods and that it requires a different set of rules. For example, agriculture was given a separate and more lenient treatment under the GATT. The case also can be made that countertrade of agricultural products deserves special treatment. Food

---

[54] The dimensions of the impending population growth are so incredible that even the projections of respected sources sound wildly exaggerated. For example, much of the projected growth is expected to accumulate in urban centres of the TWCs. "Over the last quarter of this century the number of Third World cities with populations above 10 million is projected to increase from 3 to 21."[55:p.1117]

imports should not be rationed to the TWCs on the basis of their ability to finance the necessary foreign exchange. Countertrade has disadvantages and may not be the ideal method of financing agricultural sales to the TWCs, but it is one of the workable alternatives available.

6.3 LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

The dearth of factual information on countertrade is probably the most significant limitation of any research into the practice. Lack of a countertrade data bank prohibits any quantitative analysis of the phenomena and forces the researcher to rely on secondary sources of information. Since countertrade is such a controversial and furtive subject, much of the existing literature is merely a collection of opinion, beliefs, description, anecdote, and conjecture. As a result, the basic premises of this study are weakened by the absence of unequivocal supporting evidence.

The growth and diversity of countertrade is such that no single study can provide a complete and comprehensive coverage of all aspects. The main focus of this study is centered on the TWCs with only selected references made to the COMECON countries. The decision to concentrate on the TWCs was made because they have been on the leading edge of countertrade expansion and there has been less effort devoted to the study of countertrade with the TWCs than with COMECON. Also the potential for growth of agricultural trade is greater in the TWCs than in the COMECON countries, despite Canada's large grain sales to the USSR.

So far the efforts of the COMECON countries to commit the Government of Canada to a direct role in countertrade have been resisted. This stance is unlikely to change, because of problems in dealing with the state trading organizations of centrally planned economies, and the dilemma of marketing their manufactured products in Canada. For example, the COMECON countries often attempt to offset their purchases with goods that compete directly with domestic producers in Canada. Although the decision to reduce the coverage which was given to the problems of countertrade with the COMECOM countries was considered unavoidable, it is recognized as a major limitation of this study.

Another possible criticism of this study is that it is lacking in specific examples or cases for agricultural countertrade. Because this thesis is exploratory and deals with a conceptual perspective on countertrade, no attempt was made to investigate specific applications. Clearly specific instances for using agricultural countertrade are recognized, and some potential applications are suggested, but it was considered beyond the scope of this thesis to evaluate their economic feasibility.

6.3.1 Topics for Further Research

The principal recommendation of this study is that Canada should develop a countertrade approach to food aid. Prior to the development of such a program, more research needs to be devoted to defining the institutional and legal relationships between CIDA, the trading houses, and the countertrade auditing office. Subsequently, a field test with a small number of TWCs should be conducted to evaluate the feasibility of the concept and to formulate procedures for implementation.

Other forms of foreign development assistance may also be suitable to combine with countertrade to improve their cost-effectiveness. For example, CIDA operates an industrial cooperation program which finances joint ventures between Canadian manufacturing firms and TWCs. Using a "buy-back" form of countertrade, CIDA might be able to finance 100 percent of the costs of establishing certain basic industries. Subsequently, these countries and the participating Canadian firm(s) could purchase an equity position in the company by exporting part of the output to a CIDA nominated trading house. The buy-back form of industrial cooperation might help to encourage Canadian investment in the TWCs which have less commercial appeal. The range of possibilites for combining countertrade with official development assistance could form the basis for an entire research program.

The chronic bilateral trade imbalance between Canada and the USSR threatens the future of Canadian grain exports to the Soviet Union. One solution which was suggested in the study may be to search for triangular countertrade alternatives in which the USSR could supply goods which are not in direct competition with Canadian producers. Given the reluctance of the government to become directly involved with such countertrade however, an appropriate mechanism to undertake the details of countertrade with the USSR needs to be developed. Possible options range from directing Soviet grain purchases through private Canadian trading houses, to establishing a countertrade subsidiary under the auspices of the Canadian Wheat Board. Research is needed to evaluate the appropriate marketing mechanism and to identify complementary imports from the USSR.

Several potential countertrade opportunities are suggested by this study which might be worthwhile to examine further. For example, the possibility of linking countertrade with guest workers for Canada's seasonal horticultural industry could be an effective means of developing new export markets for these crops. TWCs which now prohibit the import of storable horticultural crops (apples, potatoes, carrots, onions, cabbage, etc.) might be amenable to an exchange involving the services of their workers. In addition to supplying a guaranteed labour force to Canadian farmers these workers could create a direct expansion of production for a new export market. At the present time, Canadian immigration laws and labour regulations restrict the use of guest workers and impose certain wage/benefit standards. Further research is required to investigate the regulatory environment and to determine the potential feasibility of a guest worker/horticultural countertrade.

Another service-oriented countertrade that has potential advantages for Canada is to develop a countertrade based on tourism. The mechanics of the exchange could vary depending on the willingness and ability of the TWC to provide a saleable holiday package for Canadians. Given the chronic deficit that Canada experiences in tourism, and the potential to develop new agricultural export markets, this form of countertrade should have broad appeal. In addition to the agricultural sector and the government, the airline industry may find this prospect of increasing their business interesting. The newly de-regulated transportation market is going to place increased competition on the airlines for business. Research is needed to calculate the economic feasibility of this type of countertrade, and to gather reactions from potential TWCs regarding the countertrade/tourism concept.

Appendix A

TAXONOMY OF INTERNATIONAL BARTER TRADE

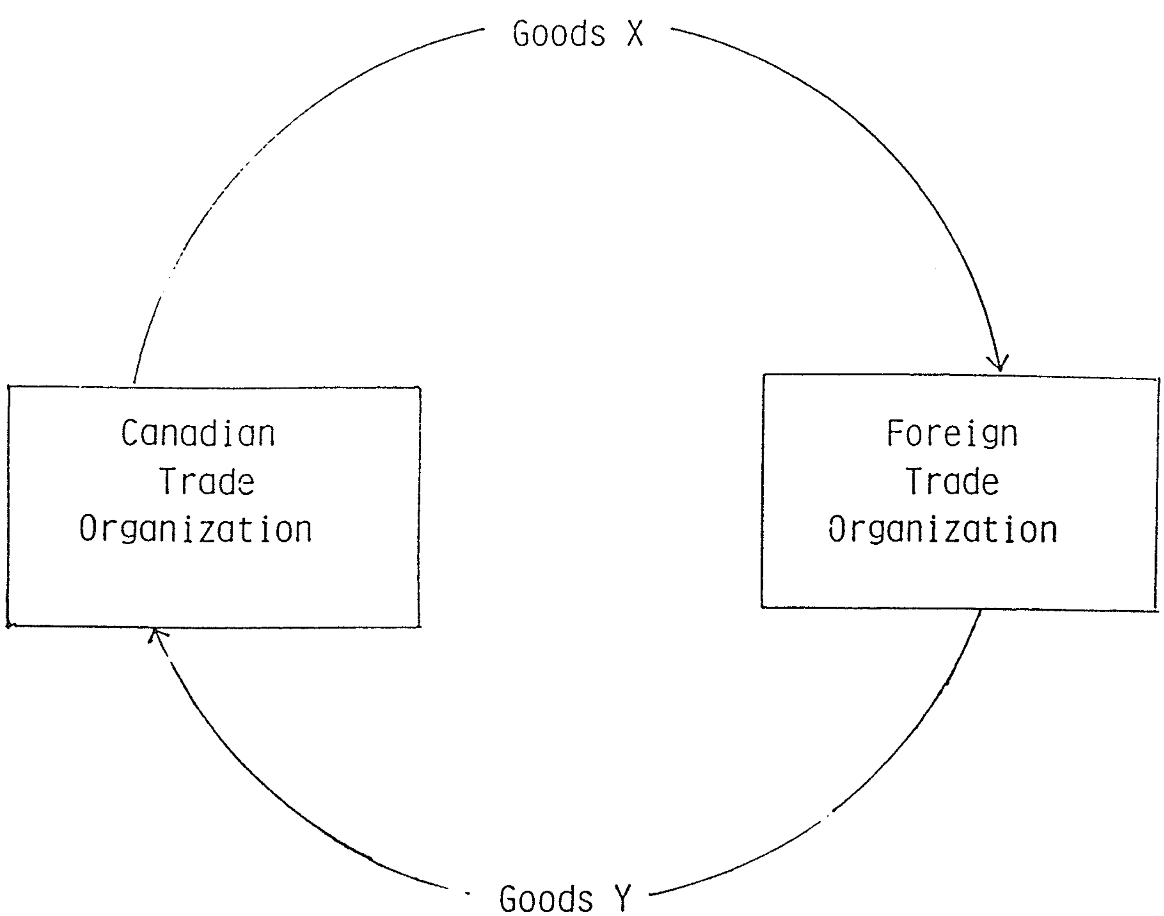
Modern forms of international barter trade are extremely varied and are widely discussed in the literature [13,24,26,38,72,79,84,85,89]. Their intricacies and pitfalls will not be repeated here, but a brief survey of the common types of countertrade arrangements will be described with the aid of some simple diagrams.

A.1 CLASSICAL BARTER

Figure A.1 represents a classical barter transaction in which no money changes hands. Some examples of classical barter are the powder milk-for-bauxite trade between the United States and Jamaica [82], the lamb-for-oil barter between New Zealand and Iran [6], and the soybean-for-blackbean barter between Brazil and Mexico [90]. Although direct exchanges are the oldest and most easily understood type of barter, this form is not frequently used in international trade. Problems in determining the terms of trade, in financing and in finding a double coincidence of wants, reduce the opportunities for arriving at a suitable balance. Also, the advantages of modern barter trade make classical barter obsolete.

Figure A.1

Classical Barter



Source: Adapted from Schuster

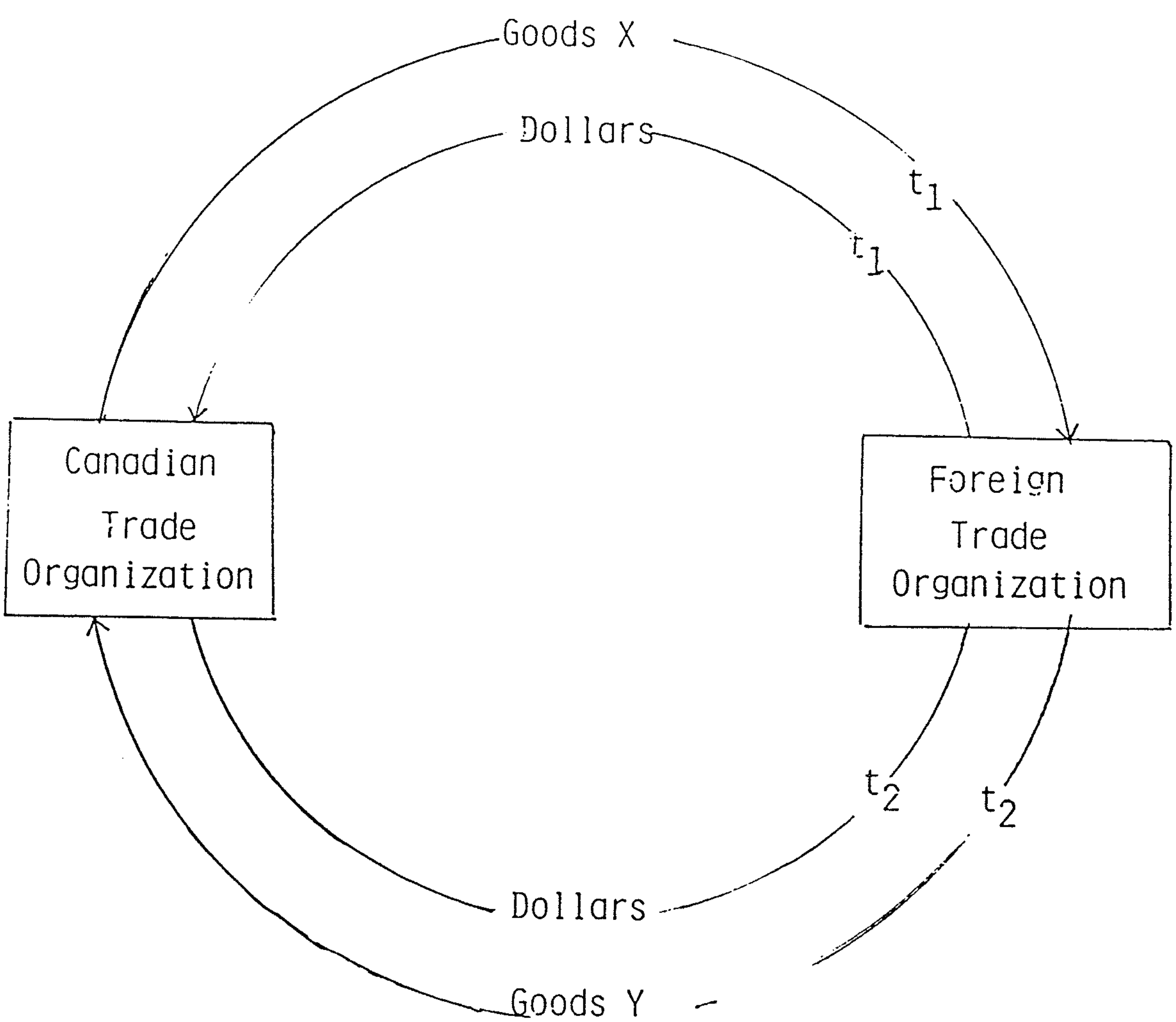
A.2 COUNTERTRADE

The essential feature of a countertrade arrangement is the commitment of each party to purchase a specific value of goods from each other. The commitment may be for less or more than the exports of the seller depending on the priority of the purchase and the buyer's bargaining power. As illustrated in Figure A.2, the countertrade is facilitated with money (which is usually in the form of a letter of credit). Normally, the exchange is conducted with two separate contracts and does not necessarily take place simultaneously. The timing of the countertrade is included in the contract, and may extend over several years. Failure to fulfill the countertrade obligation usually involves a monetary penalty, as well as, jeopardizing any chance of future trade.

Another form of countertrade often encountered is a so-called "buy back" arrangement. Under the terms of these contracts an exporter will provide the buyer with a turnkey manufacturing or processing plant. The buyer will pay for the plant by supplying the seller with a certain percentage of the plants output equal to the value of the plant and its financing costs. The buy back form of countertrade has been most popular in Eastern Europe and China [44].

Figure A.2

Countertrade (Parallel Barter)



t_1: moment of Goods X delivery

t_2: moment of Goods Y delivery

Source: Adapted from Schuster

A.3 CO-OPERATION AND CLASSICAL BARTER

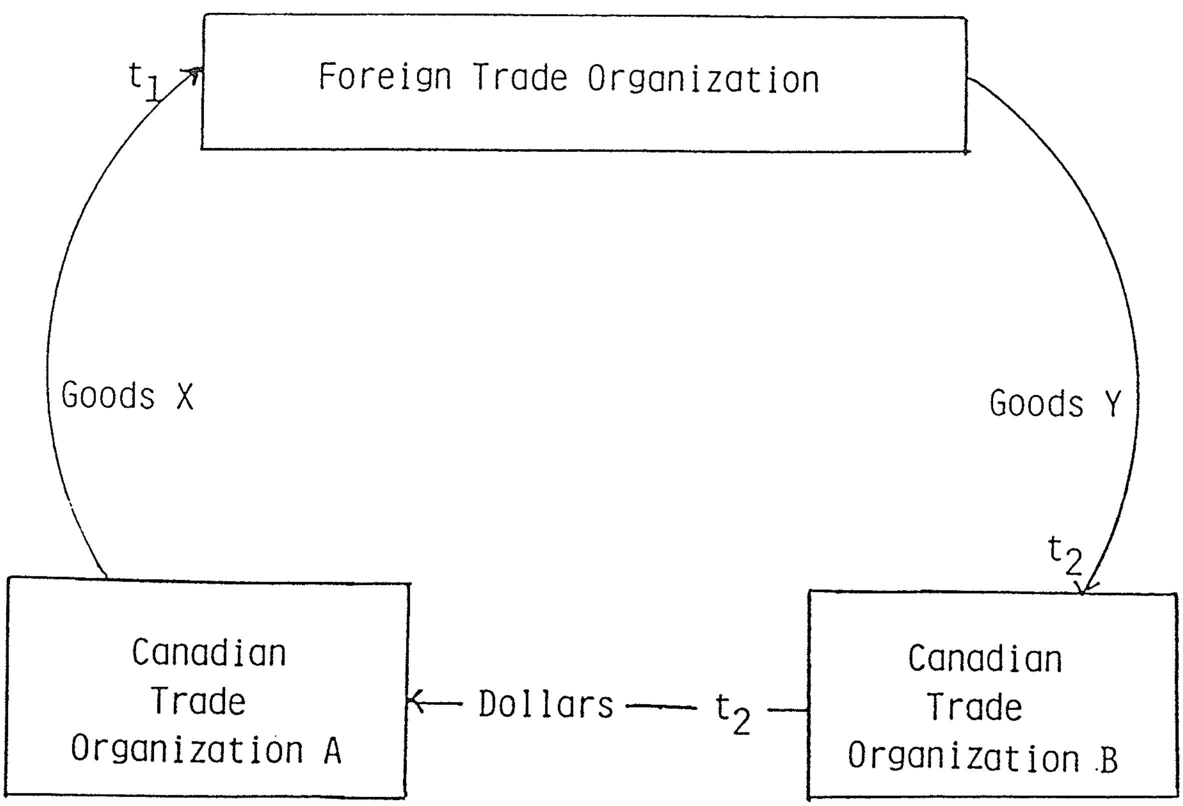
Co-operative arrangements extend the barter agreement to a third party which can be a trader in either the same country, or a different country. Figure A.3 depicts two Canadian trade organizations which agree to participate in the handling of a countertrade demand. The exporter is relieved of the responsibility for marketing the countertrade goods and instead is paid in domestic currency by the third party.

Three-way barter arrangements between countries are not frequently encountered. Some examples are present in the literature[55] such as the natural gas agreement between Western Europe, the USSR and Iran. The USSR supplied natural gas to Western Europe which in turn paid Iran for natural gas shipped to the USSR. Through this co-operative barter arrangement transportation costs were saved [72].

[55] A triangular agreement that included agricultural products is reported to have been negotiated between Mexico, Cuba and the USSR [84].

Figure A.3

Cooperation and Classical Barter



t_1: Moment of Goods X delivery

t_2: Moment of Goods Y delivery

Source: Adapted from Schuster

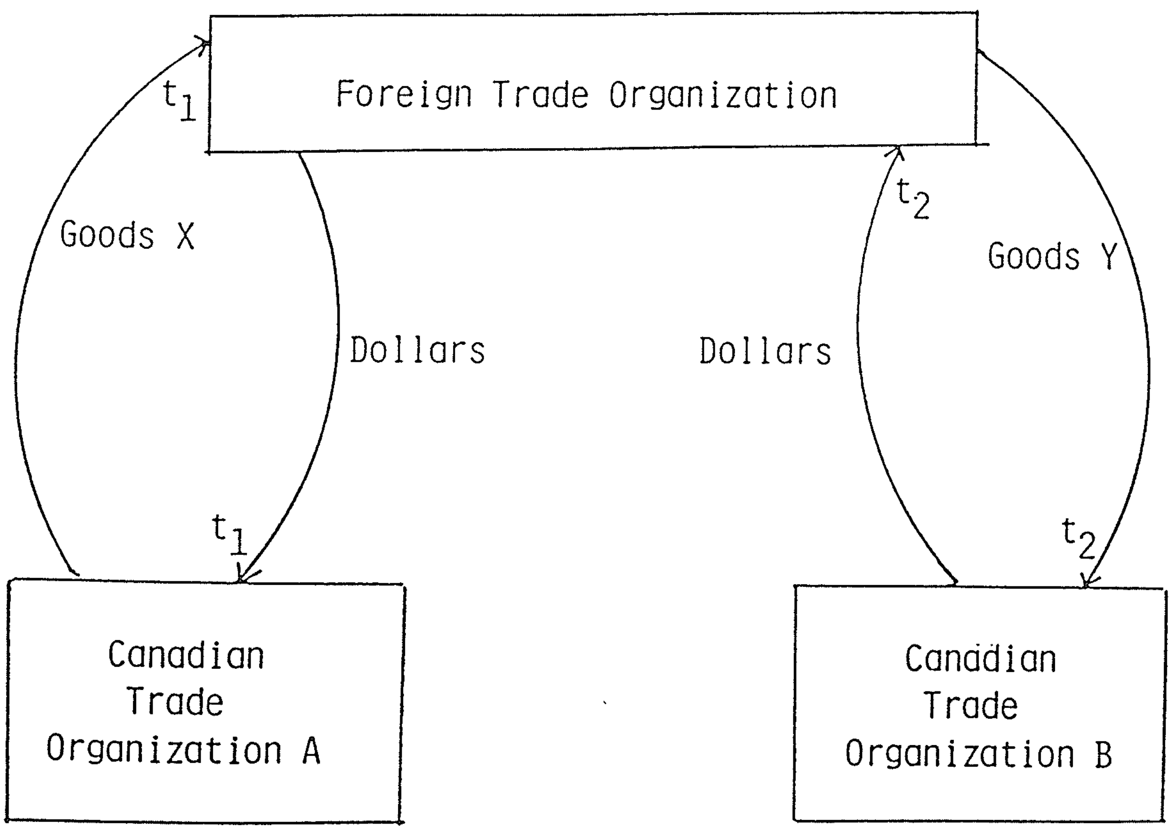
A.4 CO-OPERATION AND COUNTERTRADE

The use of co-operation in countertrade involves the transfer of counter purchase commitments from one trader to another. When these arrangements involve three separate countries and three goods, they are generally referred to as triangular countertrades. In cases where a counter purchase commitment is sold to a third party (usually a specialized trading house), with or without the knowledge and consent of the country of origin, the arrangement is termed "switch trading". Specialized international trading houses (switch traders) have been established to relieve the recipient of countertrade products it cannot dispose of easily. The advantage to the exporter is immediate payment for his goods and a reduction in the logistics of organizing the marketing of possibly unrelated goods. Depending on the nature of the products, discounts can equal up to 40 percent. Figure A.4 illustrates a third form of cooperation and countertrade. The countertrade obligation of one Canadian trade organization is offset by the cooperation of a second Canadian firm. As in the case of switch traders, the exporting firm would likely pay the importing company some commission for relieving it of its counter purchase commitment.

The transfer of countertrade obligations has the potential to back fire on the Third World Countries. Switch traders may dump their products on established markets which depresses prices and/or robs them of cash markets. Also large multinationals, such as Noranda, have set up barter trade divisions and could force the host country to limit its import purchases to their "client companies". Noranda foresees the development of what they call Junctims:

Figure A.4

Cooperation and Countertrade



t_1: Moment of Goods X delivery

t_2: Moment of Goods Y delivery

Source: Adapted from Schuster

> These are the establishment of linked deals where companies, who purchase from countertrade countries, register their purchases as a countertrade credit which can then be applied to future imports to these countries. Thus certain companies that are large buyers, usually of raw materials, may have readily available countertrade credits and, thus, can offer a very reasonable fee for an exporter to that country [51:p.16].

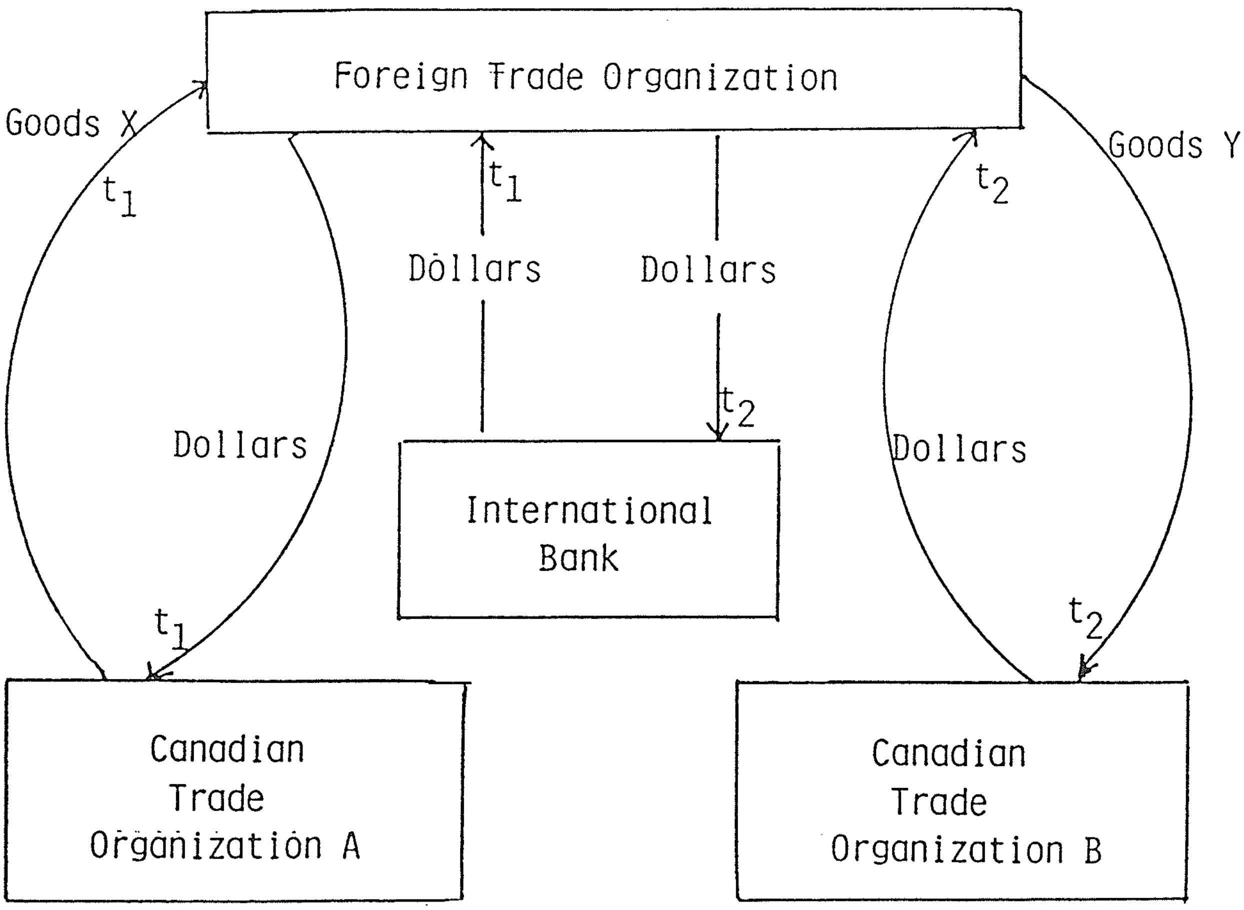
Another form of third party cooperation involves the sale of bilateral countertrade credits. Some bilateral trading agreements lead to chronic imbalances in one party's bilateral clearing account. In order to liquidate these credits in favour of desired products, they are sold to a third party. These financial switch transactions usually involve substantial discounts [84].

A.5 CO-OPERATION, COUNTERTRADE AND FINANCIAL INTERMEDIATION

Figure A.5 illustrates the central role of banks in the operations of countertrade. A seller that accepts a countertrade obligation may be forced to take responsibility for financing both sides of the transaction. The banks have become important partners in financing and assisting exporters to find markets for their countertrade products. The most established and experienced financial intermediaries are located in Austria where banks have integrated with trading houses to facilitate countertrade. In Canada, the Royal Bank is offering specialized financial services for countertrade [67], but does not as yet publicize any links with trading houses.

Figure A.5

Cooperation, Countertrade and Financial Intermediation



t_1: moment of Goods X delivery

t_2: moment of Goods Y delivery

Source: Adapted from Schuster

A.6 COUNTERTRADE USING AN EVIDENCE ACCOUNT

Problems frequently encountered in countertrade include a narrow range of goods, inconsistent and/or low quality standards and supply shortages. One method of ameliorating the situation is for the seller to negotiate an evidence account with the importing nation. An evidence account is a record at the national bank of all the buyer's purchases which are credited toward the seller's countertrade obligation.[56] In Figure A.6, an evidence account is depicted as recording the transactions of a Canadian trade organization which buys from three different suppliers on three separate occasions to offset its exports.

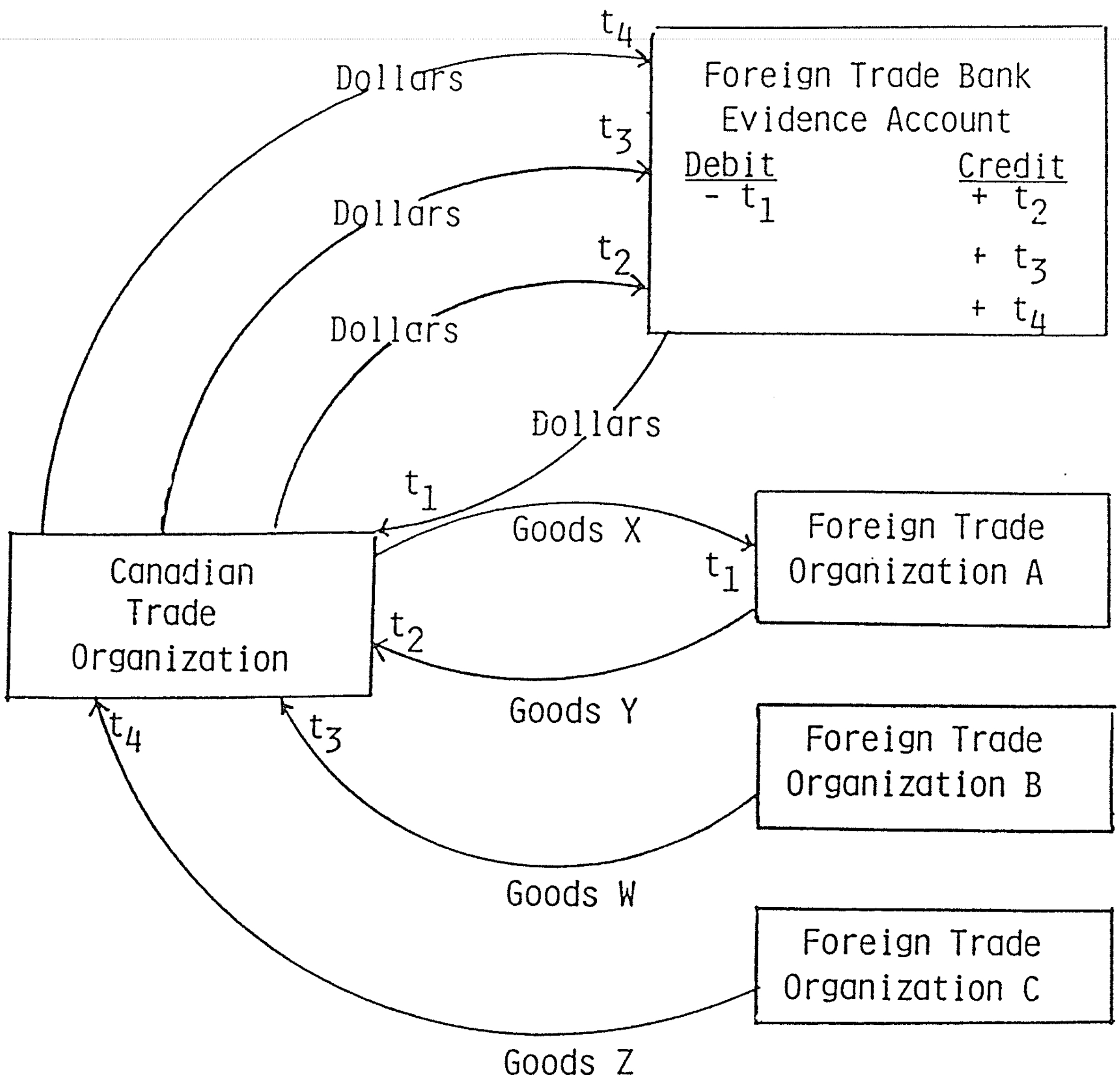
The advantage to the buyer is the opportunity to shop around for suitable countertrade commodities. This allows the buyer to experiment with various products on his home market to determine their marketability. It also benefits the country demanding countertrade because the suppliers are made aware of necessary improvements which will enhance their reputation on foreign markets. In a study of recent trends in countertrade [79] evidence accounts were found to be growing in popularity. Also it was noted, an imbalance in an evidence account is permitted (within limits) to be extended from one year to another.

---

[56] An evidence account is the same concept as the Junctim, explained above, except that it applies to an exporter, rather than to some existing importing concern.

Figure A.6

Countertrade Using an Evidence Account



t_1: moment of Goods X delivery

t_2: moment of Goods Y delivery

t_3: moment of Goods W delivery

t_4: moment of Goods Z delivery

Appendix B

GAME THEORETIC FORM OF THE BARTER TRADE MODEL

Following Shapley and Shubik [74] and Rapoport [64], the characteristic function of the Edgeworth Box model of barter trade is

(B.1) $v(0) = 0$

(B.2) $v(1) = U(A,0)$

(B.3) $v(2) = U(0,B)$

(B.4) $v(12) = 2U(A/2,B/2)$.

The characteristic function specifies the payoffs to each coalition if they trade strictly among themselves. The null set (B.1), a coalition of zero players, has no payoff. In a coalition of one, trader X can receive the payoff A (B.2) and trader Y can receive payoff B (B.3), which is what they have to begin with because there is no trade. If the set of players X and Y form a coalition, they can trade among themselves and receive the joint utility $2U(A/2,B/2)$.

The division of the proceeds obtained jointly by the players is termed an imputation, e.g. $q = (q1,q2)$. Imputation q is said to be effective, if each player receives as much as he could acting alone (individual rationality), and is strictly effective if each receives more than they could acting alone. Domination of one imputation by another occurs if there exists an effective set of players for q which when offered imputation r all prefer r. In this case, the division of the proceeds specified by the new imputation r dominates the previous impuation q.

Domination is the basis of the Core solution concept. The Core is defined as the set of undominated imputations. Returning to Figure 2, the entire contract curve, CC', for a two player game is the Core solution.

The Core solution consists of a set of imputations

$$(2pU(A/2,B/2)-pU(0,B)+(1-p)U(A,0),\quad 2(1-p)U(A/2,B/2)+pU(0,B)-(1-p)U(A,0)). \tag{B.5}$$

The value in the lefthand side of the bracket is trader X's share of the joint utility $2U(A/2,B/2)$, and the righthand side is trader Y's share.

The parameter p can be interpreted as the market exchange value of commodity A in terms of commodity B. The Core solution for a two player barter does not single out specific terms of trade. For each value of p there is an imputation in the Core.

Rapoport [64] gives the following interpretation to the result. Through trade, trader X obtains

$$2pU(A/2,B/2)-pU(0,B)+(1-p)U(A,0) \tag{B.6}$$

but trader X begins with $U(0,A)$. Thus, the net gain to trader X is

$$[2pU(A/2,B/2)-pU(0,B)+(1-p)U(A,0)] - U(A,0) \tag{B.7}$$

which reduces to

$$p[2U(A/2,B/2)-U(0,B)-U(A,0)] \tag{B.8}$$

Trader X ends up with the p-th portion of joint utility gained by forming the two player coalition.

The payoff to trader Y equals the balance of the joint utility gained

$$(1-p)[2U(A/2,B/2)-U(0,B)-U(A,0)]. \tag{B.9}$$

The cooperative non-zero sum nature of barter trade can be illustrated by examining one outcome. First, the price vector, p, is normalized so that it ranges from 0 to 1 (i.e when p=0, commodity A is worth zero and when p=1, commodity B is worth zero). When p=o, one limit of the Edgeworth Box contract curve will be reached. Trader X will end up with (A/2,B/2) in his possession, but with the same level of utility U(A,0). Even though commodity A has no value on the market, trader Y has to part with some of commodity B in order to gain trader X's cooperation and instigate trade.[57] In return, trader X has paid trader Y an amount of utility equal to his gain from trade U[(A/2,B/2)-(A,0)]. While trader X's utility is unchanged by barter, trader Y is better off which makes the cooperative outcome non-zero and more Pareto efficient.

[57] Parting with some commodity A at a zero price would not be individually rational for trader X because a lower level of utility would obtain. Thus any division (A/2,B/2) proposed by trader Y that yielded a level of utility less than U(A,0) would be dominated by an imputation in which trader X retained all of commodity A.

Appendix C

ENTRY DETERRENCE MODEL OF MARKET SHARE BATTLES

The need for a credible threat to ensure entry deterrence is illustrated in a model by Dixit [25]. In figure C.1a, a two-stage game between an established trader and a prospective entrant is presented. The first stage is the entrant's decision. If he stays out, the incumbent earns Pm, which is the profits from trade, and the entrant gets no earnings. At each terminal point, the payoffs to each player are presented (i.e. encumbant, entrant). If entry occurs, the established trader must decide in the second stage whether to fight a price war, with payoffs of Pw to each, or to share the market with profits Pd to each. Assuming that the market can be profitably shared, but that both players suffer losses in a price war, i.e. Pm>Pd>0>Pw, the incumbent will always end up sharing if a new entrant challenges. If a potential entrant knows the optimal response of the incumbent will be to share, then he will disregard the incumbents threats of reprisal.

Figure C.1b presents a three-stage game in which the established trader can choose a strategy that has a credible threat. The first stage is now the incumbent's decision. If the incumbent is passive, the game reduces to the two-stage process in Figure C.1a and the threat of deterrence is empty. The alternative choice involves the incumbent incurring a cost, C, for an irrevocable commitment to fight potential entry. In the second stage, the new entrant decides to come in or to stay

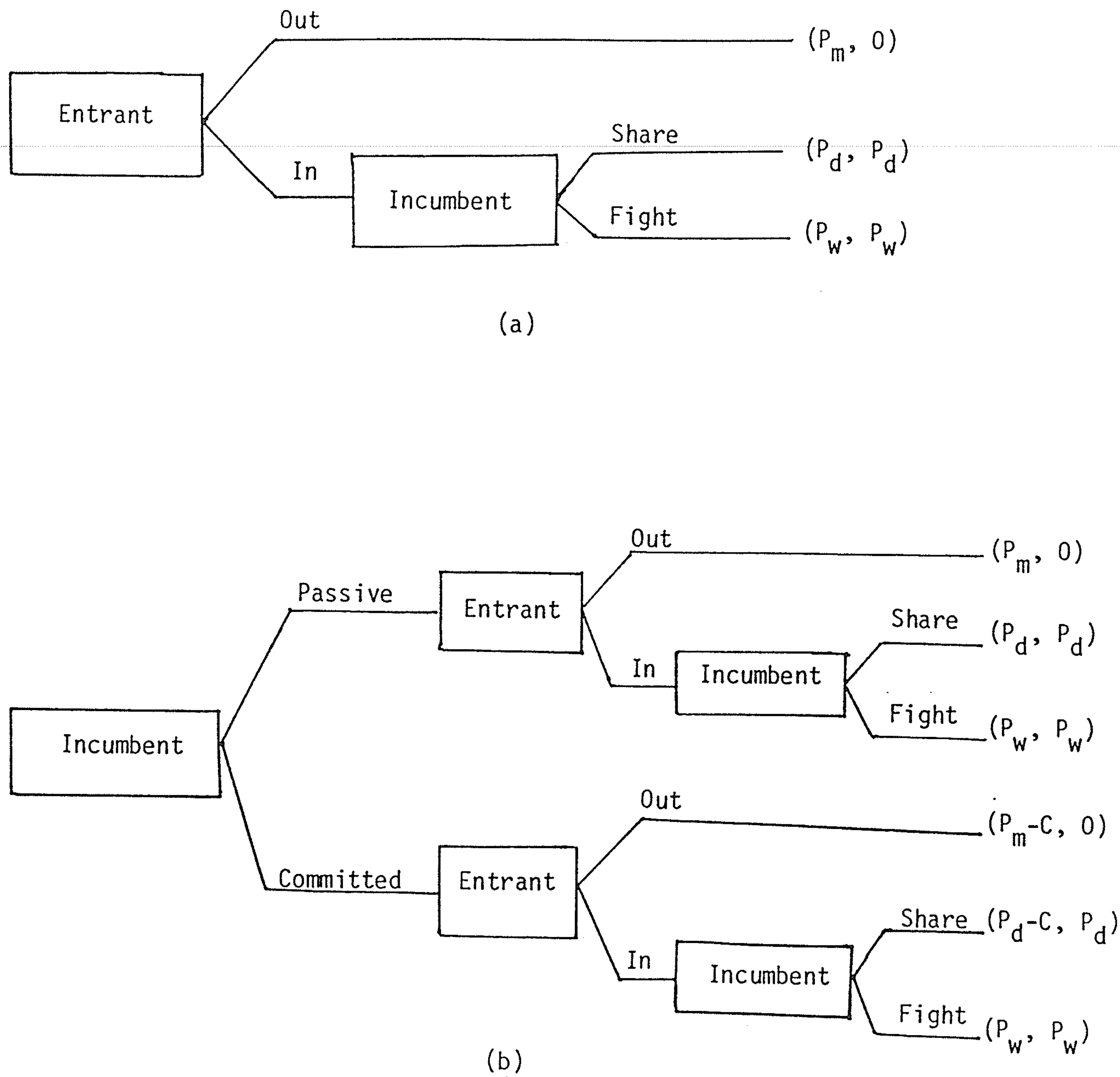


Figure C.1 Oligopolistic Entry Deterrence Model

Source: Adapted from Dixit

out. If he stays out, the incumbent earns Pm-C, which is less than before because the commitment to fight is not costless. In the third stage, the incumbent must decide whether to share or fight. If the payoff to sharing is less than fighting (i.e. Pw>Pd-C), the optimal strategy is to fight. Provided the potential entrant has prior knowledge of the commitment, and that it is irrevocable, the threat is credible and entry should be deterred.[58]

---

[58] Mistakes could always happen and the established trader could be forced to invoke a price war, but depending on the nature of the commitment his chances of winning are superior to the new entrant's.

Appendix D

STATE TRADING ORGANIZATIONS

The use of countertrade has been facilitated by the continued establishment of state trading organizations which now account for a growing proportion of world trade. When the GATT and IMF were being set up, the objective was to deal with state trading organizations as if they were private competitive traders. Kostecki describes this as "wishful thinking" and points out that "as a rule, state traders exist precisely to behave in a manner different from private traders." [48:p.16] The use of state trading organizations (STOs) to implement government policy has the advantage of responsiveness, without the disadvantage of direct accountability. For example, a STO could be instructed to negotiate agricultural countertrade by simply issuing a directive.

Frequently, STOs are accorded monopoly/monopsony powers and are provided with sufficient financial resources that they can take advantage of scale economies. Given the size of countertrade contracts that may be necessary for profitable exchanges, scale economies could be critical to success or failure. The strong bargaining power of the STOs creates the potential for the effectual use of price discrimination through countertrade and for offsetting attempts to discriminate against them. Finally, governments of centrally planned and Third World Countries often prefer to deal with state trading organizations rather than private firms [48]. Many TWCs are suspicious of the conduct of private traders, (especially multinational corporations) and like the political ties (real or imagined) that are connected with government-owned trading organizations.

D.1 CANADIAN STOS

Canada has several nationally operated marketing agencies that function as exporting STOs for agricultural products (e.g. Canadian Dairy Commission, Canadian Wheat Board, Canadian Egg Marketing Agency, etc.). Although inquiries have certainly been made [9], no record exists of any countertrades having been completed between foreign governments and any of these agencies. Some of these agencies may require amendments to their governing legislation before they could enter into countertrade arrangements.

In 1982, a new crown corporation, Canagrex, was established for the exclusive purpose of expanding agricultural trade. In the case of Canagrex, Section 14(1) of the Act [11], appears to give it sufficient power to negotiate countertrade. At the present time, however, the prospects for Canagrex appear doubtful. The new Conservative government, which strongly opposed the formation of Canagrex prior to winning power, has announced its intention to disband the agency.

Whether the actions of Canadian state-trading organizations would be subject to the GATT is uncertain. Liebman [50:p.258] points out, "the consistency with which it [countertrade] is invoked by state-trading organizations may be sufficient to give rise to a presumption that it is a government practice."

D.2 COMECON STOS

Miller [56] reports that the STOs of the centrally planned economies have substantial autonomy in fulfilling government countertrade goals. Miller describes a second parallel barter economy in which the STOs actively wheel and deal between themselves and the remainder of the domestic economy in order to fulfill the plan. The creation of a second parallel barter economy stems from the government imposed controls on hard currencies. Faced with a choice of returning hard currencies to the Central Bank, or purchasing excess goods, the managers of the STOs expend all their funds and stockpile the excess goods over which they have control. These excess goods are later used to meet contingencies arising from market vagaries or shortages created by optimistically taut planning.

The conclusions of this insightful study by Miller are quoted here _in extenso_.

> 1. Barter between a Western partner and an Eastern FTO [foreign trade organization] is most easily accomplished when the goods are readily in hand, having originated with the FTO that is trying to make the deal;
>
> 2. Barter involving additional links tends to be more difficult, time consuming, riskier as chains have to be worked through;
>
> 3. Barter "lists" (items which are reputed to be available for barter) are unreliable as fixed dependable offers precisely because items go on and off such lists as quickly as deals are made.
>
> 4. Barter is more than the traditionally unwanted goods, excesses are more than mere unsalables;
>
> 5. Barter does not exclude selling imports back for other imports;
>
> 6. Barter can involve items from the domestic economy: "excess production" that has no place on an official FTO product list may be bartered unofficially;

7. Finally, barter in the foreign trade sector is a predictable outcome of a rigid planning system and a logical extension of the domestic barter economy -- a second-tier clearing (without the use of money) of excesses and shortages for plan fulfillment.

The degree to which these characteristics of East-West trade may apply to countertrade with the market oriented economies of the TWCs is unknown. Although TWCs often use STOs for barter transactions, a paucity of information exists on how these institutions conduct countertrade.[59]

---

[59] Saulniers [69] outlines some of the characteristics of the STOs in Latin America, but does not deal directly with the topic of countertrade.

REFERENCES

1. "Argentina gives USSR small offset commitment". Countertrade Outlook. Vol.2 No.45 (1984).

2. "Argentina has law promoting CT; offset demands possible for gov't contracts". Countertrade Outlook. Vol.2 No.48 (1984).

3. "Australia-Chinese Barter Expected". Countertrade Outlook. Vol.2 No.45 (1984).

4. "Barbados seeks ideas from Detroit on Tourism/Automotive Countertrade". Countertrade Outlook. Vol.2 No.41 (1984).

5. Banerji, Ranadev. The Development Impact of Barter in Developing Countries, The Case of India. Development Centre, Organisation for Economic Cooperation and Development, Paris, 1977.

6. Banks, Gary. "The Economics and Politics of Countertrade". The World Economy. Vol.6 (June 1983):159-181.

8. "Beans means machines!" Coffee & Cocoa International. No.4, 1983: 40-4.

7. Bauer, Peter and Basil Yamey. "The Political Economy of Foreign Aid" Lloyds Bank Review. October 1981:1-14.

9. Bertin, Oliver. "Canagrex seen easing export sales." Globe and Mail. 28 November 1983, p. B10.

10. Bracher, Roy N. "If countertrade is inevitable make the best of it" The Banker. May 1984, 69-71.

11. Canada. Laws, Statute, etc. Bill C-85. First Session, Thirty-second Parliament 29-30-31 Elizabeth II, 1980-81-82.

12. Canadian Commercial Corporation "Countertrade From A World Perspective," (February1981), in Export Marketing: The Case of Countertrade. Handbook assembled by the Canadian Export Association for 1983 Countertrade Seminar.

13. ________. "Countertrade - A Canadian Perspective." (March 1981), in Export Marketing: The Case of Countertrade. Handbook assembled by the Canadian Export Association for 1983 Countertrade Seminar.

14. Canadian Export Association. "Countertrade - The CEA's Point of View" (December 1982), in Export Marketing: The Case of Countertrade. Handbook assembled by the Canadian Export Association for 1983 Countertrade Seminar.

15. "Canadian Government Won't Fund CT Center." Countertrade Outlook. Vol.2 No.37 (1984).

16. Canadian International Development Agency. Elements of Canada's Official Development Assistance Strategy 1984. Hull: Canadian International Development Agency, 1984.

17. Caves, Richard E. "The Economics of Reciprocity: Theory and Evidence on Bilateral Trading Arrangements," in International Trade and Finance, pp. 17-54. Edited by W. Sellekaertesd. White Plains: International Arts and Sciences Press, 1974.

18. "CEO promotes countertrading ag exports." Feedstuffs. January 1984, p. 5.

19. Chacholiades, Miltades. Principles of International Economics. New York: McGraw-Hill Inc. 1981.

20. Chapman, Anne. "Barter as a Universal Mode of Exchange." L'Homme. Vol.20 No.3 (1980):33-83.

21. Cooper, Richard N. "An Analysis of Currency Devaluation in Developing Countries." in International Trade and Money: The Geneva Essays. pp. 167-96. Edited by M.B. Connolly and A.K. Swoboda. Toronto: University of Toronto Press, 1973.

22. ______. "Why Countertrade?" Across the Board. Vol.21 (March 1984):36-41.

23. Dennis, Robert D. "The Countertrade Factor in China's Modernization Plan" Columbia Journal of World Business. Spring 1982:62-75.

24. de Miramon, Jacques. "Countertrade: A Modernized Barter System." The OECD Observer. 114 (January 1982): 12-15.

25. Dixit, Avinash. "Recent Developments in Oligopoly Theory." American Economic Review. Vol.72 No.2 (May 1982):12-17.

26. Dizard, John, W. "The Explosion of International Barter." Fortune. (February 1983):88-95.

27. Edgeworth, Francis Y. Mathematical Psychics. London: Kegan Paul, 1881.

28. External Affairs Canada. Countertrade Primer for Canadian Exporters. (Draft) October 1985.

29. F.A.O. Principles of Surplus Disposal and Consultative Obligations of Member Nations. Rome: Food and Agriculture Organization of the United Nations, 1980.

30. Frizelle, Anthony D. "Counter Trade and Barter" paper presented at Countertrade Seminar, Montreal, Quebec, 14 March 1983.

31. Friedman, Milton. Price Theory: A Provisional Text. Chicago: Aldine Publishing Company, 1962.

32. "General Motors works with Deerfield to accrue offset credits in Jamaica". Countertrade Outlook. Vol.2 No.45 (1984).

33. Government of Canada. Promoting Canadian Exports: The Trading House Option. Department of External Affairs, November 1984.

34. ______. Export Financing: Consultation Paper. Department of External Affairs, January 1985.

35. Hammond, Peter. "Charity: Altruism or Cooperative Egoism?" in Altruism, Morality and Economic Theory. Edited by E.S. Phelps, New York, N.Y.: Russell Sage Foundation, (1975): 115-131.

36. "How barter started a wicker craze, or the law of available product". International Management. (editorial) Vol.39 August 1984:2.

37. Huddleston, Barbara. Closing The Cereal Gap With Trade And Food Aid. International Food Policy Research Institute, Research Report 43, January 1984.

38. Huh, Kyung Mo. "Countertrade: trade without cash?" Finance and Development. International Monetary Fund and the World Bank. 20 (December 1983):14-16.

39. Humphrey, Caroline. "Barter and Economic Disintegration" Man. Vol.20 (1984):48-72.

40. International Monetary Fund. IMF Exchange Arrangements and Exchange Restrictions, Annual Report 1983. International Monetary Fund (1984).

41. ______. IMF Exchange Arrangements and Exchange Restrictions, Annual Report 1984. International Monetary Fund (1985).

42. ______. International Financial Statistics. Vol.38 No.8 (August 1985).

43. Jones, Robert A. "The Origin and Development of Media of Exchange" Journal of Political Economy. Vol.84 No. 4 (1976):757-75.

44. Jones, Stephen F. North/South Countertrade. London: The Economist Intelligence Unit, Special Report No. 174, 1984.

45. Karp, Larry S. and Alex F. McCalla. "Dynamic Games and International Trade: An Application to the World Corn Market." American Journal of Agricultural Economics. Vol. 65 (1983): 641-50.

46. Kenen, Joanne. "Costa Rica Eyes Barter To Prop Its Exports." The Journal of Commerce. New York, 17 August 1983, p. 1.

47. Khoury, S.J. "Countertrade - Forms, Motives, Pitfalls and Negotiation Requisites". Journal of Business Research. Vol.12 No.2 (1984):257-270.

48. Kostecki, M.M. "State Trading by Advanced and Developing Countries," in State Trading in International Markets. pp. 6-21. Edited by M.M. Kostecki. New York: St. Martin's Press, 1982.

49. Krueger, Anne O. "Import substitution versus export promotion: Why outward-oriented policies are better," Finance and Development. International Monetary Fund and the World Bank. 22 (June 1985):20-23.

50. Liebman, Howard M. "Comment: GATT and Countertrade Requirements". Journal of World Trade Law. Vol.18 No.3 (May-June 1984):252-261.

51. Lote, Richard. "Countertrade Export Marketing In An Uncertain World Economy," paper presented at Countertrade Seminar, Winnipeg, Manitoba, 25 October, 1983.

52. Massey-Ferguson Limited. Annual Report 1984.

53. McDonell, Robert J. "Countertrade An Idea as Old as Time" Canada Commerce. July/August 1985:17-19.

54. Mcllroy, Thad and Peter Raymont. "The Barter Barrier" Canadian Business. October 1984:152-156.

55. McNamara, Robert S. "Time Bomb or Myth: The Population Problem". Foreign Affairs. Vol.62 No.5 (1984):1107-1131.

56. Miller, Elisa B. "Barter Trade in East-West Commerce: Extending the "Parallel Market" Concept." ACES Bulletin. Vol. 23 No. 3-4 (1981):81-91.

57. Mirus, Rolf and Bernard Yeung. Economic Incentives For Countertrade. Institute for Financial Research, Faculty of Business, University of Alberta, Working Paper No.13, May 1985.

58. ______. Countertrade Literature: A Critical Review, Future Directions and Regional Implications. Institute for Financial Research, Faculty of Business, University of Alberta, Working Paper No.13B, May 1985.

59. Murrell, Peter. "Product Quality, Market Signaling and the Development of East-West Trade." Economic Inquiry. Vol.20 (1982): 589-603.

60. "New Australian Marketing Act Gives Wheat Board Broad Powers". Kansas City Grain Market Review. 4 October 1984, p.2 col.2.

61. "Oil, Coffee in Countertrade" Engineering News-Record. No.210, June 23 (1983):45-6.

62. Organisation For Economic Co-operation and Development, Executive Committee, Forty-third Special Session. "The Importance of Countertrade in World Trade: Implications of Its Extension," Note by the Secretary-General, 6 January 1984. (Mimeographed).

63. Outters-Jaeger, Ingelies. The Development Impact of Barter in Developing Countries. Development Centre, Organisation for Economic Cooperation and Development, Paris 1979.

64. Rapoport, Anatol. N-Person Game Theory: Concepts and Applications. Ann Arbor: University of Michigan Press, 1970.

65. "Richardson and Sons meets Yugoslav, Israeli Resistance to Using Trading House". Countertrade Outlook. Vol.2 No.30 (1984).

66. Rosson, Parr. "Aggressive Marketing Needed," The Manitoba Co-operator. 8 September 1983, p.5.

67. Royal Bank of Canada. Trading with Confidence. The Royal Bank of Canada, Brochure No. 7528, March 1983.

68. Saint-Cyr, Ginette and Wayne MacDonald. "Program Profile" Evaluation Assessment of Canadian Food Aid Program. Vol.1, Policy Branch, Canadian International Development Agency, February 1983.

69. Saulniers, Alfred. "State Trading Organizations: A Bias Decision Model and Applications." World Development. Vol. 9 No. 7 (1981): 679-94.

70. Schotter, Andrew and Gerbard Schwodiauer. "Economics and the Theory of Games: A Survey." Journal of Economic Literature. Vol. 18 (1980): 479-527.

71. Schuh, G. Edward. "Food Aid As A Component Of General Economic And Development Policy," in The Development Effectiveness Of Food Aid In Africa. pp. 69-89. Agricultural Development Council, 1982.

72. Schuster, Falko. "Barter Arrangements With Money: The Modern Form of Compensation Trading." The Columbia Journal of World Business. 15 (Fall 1980): 61-66.

73. Sender, Henriette. "The Booming World of Countertrade" Dun's Business Month. January 1984:76-78.

74. Shapley, L.S. and Martin Shubik. "Concepts and Theories of Pure Competition." in Essays in Mathematical Economics in Honour of Oskar Morgenstern. Edited by Martin Shubik. Princeton, N.J.: Princeton University Press, (1967): 63-79.

75. _______. "Trade Using One Commodity as a Means of Payment." Journal of Political Economy. Vol. 85 No. 5 (1977): 937-68.

76. Starr, Ross M. "The Structure of Exchange in Barter and Monetary Economies." Quarterly Journal of Economics. Vol. 36 (1972): 290-302.

77. "Survey Reveals Dramatic Growth in Countertrade". Business America. December 26, 1983:39.

78. Teitelman, Robert. "Buy a jet, get a tourist" Forbes May 20, 1985:228-229.

79. United States International Trade Commission. Analysis of Recent Trends In U.S. Countertrade. USITC Publication 1237, March 1982.

80. Vogt, Donna U. "Bartering Our Farm Surpluses." Farmline. November 1982: 4-7.

81. ______. "Barter Of Agricultural Commodities Among Developing Countries," paper presented at Metal Bulletin's meeting on International Barter: To Trade or Countertrade, New York City, 1-2 September, 1983.

82. ______. U.S. Government International Barter. Congressional Research Service, The Library of Congress, Report No. 83-211 ENR, December 1983.

83. ______. The Reagan Administration's Response to Barter. Congressional Research Service, The Library of Congress, Pamphlet, May 1984.

84. Vogt, Donna U., Cathy, L. Jabara, Dee A. Linse. Barter of Agricultural Commodities. U.S. Department of Agriculture, Economic Research Service, IED Staff Report, April, 1982.

85. Vogt, Gerhard and H.E. Nowak, "Canada's Foreign Trade With The USSR, Other CMEA Countries and Countries Demanding Countertrade." Paper presented at Countertrade Seminar, Montreal, Quebec, 14 March 1983.

86. Walsh, James I. "Countertrade: Not Just For East-West Any More." Journal of World Trade Law. 17 (Jan.-Feb. 1983): 3-11.

87. ______. "The U.S. Stand on Countertrade:" Across the Board. Vol.21 (March 1984):40-41.

88. Webb, Alan J. and Edward C. Wilson. An Overview of Bilateral Trade Agreements for Agricultural Commodities in International Markets. IED Staff Report No. AGESS 810616, Economics and Statistics Service, USDA, June 1981.

89. Weigand, Robert E. "Barters and Buy-Backs: Let Western Firms Beware!" Business Horizons. 23 (June 1980): 54-61.

90. Welt, Leo G.B. "Countertrade: Old Trading Practice Gains New Life". Foreign Agriculture. July 1984:10-13.

91. Yoffie, David B. "Profiting from Countertrade." Harvard Business Review. May-June (1984): 8-16.

92. Zarin, Donald. "Countertrade and the Law" George Washington Journal of International Law and Economics. Vol.18 (1984):235-295.