

378.713
D46
WP-94-6

Working Papers Series

AUG 12 1994

Working Paper WP94/06

June 1994

WAITE MEMORIAL BOOK COLLECTION
DEPT. OF AG. AND APPLIED ECONOMICS
1994 BUFORD AVE. - 232 COB
UNIVERSITY OF MINNESOTA
ST. PAUL, MN 55108 U.S.A.

IS THERE A ROLE FOR STRATEGIC ALLIANCES
IN ONTARIO'S CHICKEN INDUSTRY?

by

Erna van Duren
Wayne Howard
Helen McKay
Marc Le Maguer

UNIVERSITY
of GUELPH

**Department of Agricultural Economics
and Business**

University of Guelph
Guelph, Ontario
Canada
N1G 2W1

378.713
D46
WP-94-6

Is There a Role for Strategic Alliances in Ontario's Chicken Industry?

Erna van Duren
Wayne Howard
Helen McKay
Marc Le Maguer *

Department of Agricultural Economics and Business
Ontario Agricultural College
University of Guelph
N1G 2W1

June 1994

Working Paper 94/06

* Working Papers are published without formal review within the Department of Agricultural Economics and Business

The authors are associate professors, research assistant, Department of Agricultural Economics and Professor and Chair Department of Food Science, Ontario Agricultural College, University of Guelph.

Helpful comments were received from Mike Terpstra, Policy Analyst, Ontario Chicken Producers' Marketing Board. However, all opinions are solely those of the authors.

This research was funded by the Ontario Ministry of Agriculture and Food.

Is There a Role for Strategic Alliances in Ontario's Chicken Industry?

1. Introduction

Canada's chicken industry has evolved very differently from its counterpart in the United States (U.S.) over the last thirty years. As a response to the technical and structural change that was occurring during the 1950s and 1960s, Canada's chicken producers first organized provincial supply management systems and were finally able to obtain national supply management powers in the late 1970s (Forbes et. al). Three decades of supply management in some form in Canada have created an industry that is quite different from its counterpart in the U.S., in structure as well as in the business processes and strategies pursued at various levels of the industry (Martin et al, Miramon). However, changes in the global business environment are beginning to exert substantial competitive pressure on firms in Canada's chicken industry. This pressure is felt sharply in Ontario, which is Canada's largest producer, processor and consumer of chicken in Canada although annual provincial output is only about equal to U.S. production for one week.

The Canada-U.S. Free Trade Agreement (FTA) improved U.S. access to the Canadian market by phasing out tariffs on processed products and relaxing import quotas. More importantly, the recently concluded General Agreement on Tariffs and Trade (GATT) negotiations are altering the legal framework for conducting supply management. Thus, as the necessity of having to compete outside the Canadian market gains acceptance among organizations in Canada's chicken industry, firms and governments are increasingly recognizing that the supply management system will have to adapt. The National Poultry Taskforce examined several private and public options for changing the poultry industries' supply management systems so that they could realize their full potential in the changing business environment.¹ In addition, to recommending several changes to the "nuts and bolts" of the supply management system, the Poultry Taskforce stressed that the industry should pursue "new partnerships" (Growing Together, 1992). The latter recommendation was strongly echoed by a parallel Taskforce on

¹ Canada has four national supply management agencies in its poultry industry: the Canadian Chicken Marketing Agency, the Canadian Turkey Marketing Agency, the Canadian Egg Marketing Agency and the Canadian Broiler Hatching Egg Marketing Agency (van Duren).

the Competitiveness of the Agrifood Industry which recommended that all agrifood sector participants forge stronger vertical linkages (Growing Together, 1991). Unfortunately, few of the Poultry Taskforce's recommendations were acted on, and during 1993, the Ontario industry initiated action to withdraw from the national supply management plan. This action led to an ongoing national attempt to reform the system.

Given that change is inevitable in the Canadian chicken industry, many of its participants are committed to pursuing new partnerships within the legal framework of supply management. Achieving these new business linkages could be facilitated with answers to the following. First, would pursuing strategic alliances be beneficial for the Ontario chicken industry? Second, what types of strategic alliances should be pursued. Third, how should these alliances be pursued? Throughout this paper we define a strategic alliance as *any business relationship that is entered into voluntarily by two or more independent organizations for the objective of pursuing a mutually shared goal*. Vertical strategic alliances occur between organizations at different levels of an industry (i.e. farmers and processors), while horizontal alliances occur between organizations at the same level (i.e. processors with processors).

Three research techniques were used to answer the above three questions, as follows. Section two is a literature review which provides a brief description of supply management. Section three examines if and how strategic alliances could benefit the Ontario chicken industry using an economic model, a review of the economics and strategic management literature and case studies. Section four examines what types of strategic alliances could benefit the Ontario chicken industry using the same set of techniques, while section five examines the question of how strategic alliances should be pursued through a review of the strategic management literature and case studies. Section 6 contains the conclusions.

2. Supply Management

Under Canada's Farm Product Agencies Act (CFPAA 1972, 1993) any group of producers that

holds a national vote may establish a national agency with powers to control marketing levels, interprovincial trade and export trade etc. provided the majority of producers are in favour. Canada's chicken producers voted to establish the Canadian Chicken Marketing Agency (CCMA) in 1978, and as part of its national plan several marketing powers were allocated to the corresponding provincial marketing boards under a federal-provincial agreement.²

The national supply management system for chicken allows the CCMA to determine a national production level (national quota) and manage imports through import quotas to ensure a price is maintained. Two types of import quota are used: a global import quota which is set at a percentage of national production and is available to firms on the basis of historical import levels, and a supplementary import quota which is available to buyers who can prove that the appropriate product is not available domestically. Although both types of quota were consistent with GATT before December 1993, the recent GATT agreement's requirement that import quotas be tariffed will require changes to this approach to limiting imports. Ongoing discussions are addressing how these tariff rate quotas are to be distributed.

The quantity of chicken marketed in each province is decided by its share of national production at the time the national system was introduced. Thus, Ontario's share of the national quota is at its 1978 level with some changes that resulted from changes in population, changes in patterns of regional consumption, prior use of quota and comparative advantage. Ontario's Chicken Producers' Marketing Board (OCPMB), like its other provincial counterparts, has the authority to allocate the quota available at the provincial level to individual farmers and oversee transfers among farmers. The OCPMB can also choose how the raw product is sold to processors and how the price is determined. In Ontario, an occasional cost-of-production survey for chickens, which is indexed annually, has played an important role in pricing. Market conditions are the other major factor considered by the OPCMB when setting prices with an aim to ensure "reasonable returns" to farmers. Beginning in the spring of 1992 this information has been used in negotiations between the OPCMB and chicken processors to determine

² A federal-provincial agreement is required in areas of legislation in which the national and provincial governments share jurisdiction.

price, while previously the OPCMB set the price unilaterally, subject to appeal.

Ontario is the fastest growing provincial market for chicken in Canada. Processors, retailers and firms in the hotel, restaurant and institutional trade in Ontario have become increasingly dissatisfied with the inflexibility of the supply management system. Restaurant managers and retailers are striving to keep up with the demand for white meat, but with increasingly popular products and a constrained supply their task is not an easy one (Food Service and Hospitality, 1992). Fast food outlets have occasionally run out of product due to supply restrictions and are demanding that they be allowed to import from the U.S. (Financial Post, 1992). In 1992, McDonalds wanted to introduce "chicken fajitas" and to minimize transaction costs and maintain quality standards it wanted to sole source the chicken from Cuddy Food Products. However, because of frictions among the CCMA, the OCPMB and its provincial counterparts McDonald's was forced to introduce "beef fajitas" to its Canadian menu instead (Farm and Country, 1992).

Problems also exist at the processor and producer level, as well as at the interface between the two. Fifty farmers and three processors were accused of organized cheating by the OCPMB in October of 1992 (Ontario Farmer, 1992). The specific offenses included growing birds to heavier weights than reported to the OCPMB and not paying license fees. The litany of problems continues to grow, and illustrates why change is being pursued in the Ontario chicken industry.

3. Would Strategic Alliances Benefit the Ontario Chicken Industry?

This section presents our analysis of if and how strategic alliances could benefit the Ontario chicken industry.

3.1 Insights from Literature Review

To begin our analysis we summarize the advantages and disadvantages associated with strategic alliances with respect to efficiency, cost and management as reported in the economics and strategic management literature. Table 1 indicates that the advantages of strategic alliances are

Table 1: Should Strategic Alliances be Pursued: An Assessment of their Advantages and Disadvantages

CRITERION and Specific Factors	ADVANTAGES	DISADVANTAGES
EFFICIENCY		
<ul style="list-style-type: none"> • Productivity 	<ul style="list-style-type: none"> • improved quality control • improved allocation of resources • reliable supply levels and timing • shared and improved innovation (product and process development) • improved control and coordination, including balance among various stages of throughput • direct access to technology • direct access to research and development process and expertise 	<ul style="list-style-type: none"> • loss of window on technological change that can be accessed through use of many suppliers • joint research and development may lead to reduced retention of benefits • conflict among partners in resource allocation decisions
<ul style="list-style-type: none"> • Flexibility 	<ul style="list-style-type: none"> • appropriate supply and throughput levels • reduced lead times • accelerated product development 	<ul style="list-style-type: none"> • potential reduction in ability to change internal process, since change could affect partners • potential increase in specialization
MANAGEMENT		
<ul style="list-style-type: none"> • Effectiveness 	<ul style="list-style-type: none"> • increased predictability/knowledge of aspects of business environment; better focus • improved ability to control flow of proprietary information to unwanted parties • enhanced ability to see beyond the organizational boundary; through another's perspective (aids product development etc.) • reduced internal bureaucracy • do not need all management expertise in-house; dependability of partner(s) 	<ul style="list-style-type: none"> • need different management skills; may take time to develop <ul style="list-style-type: none"> • flatter organizations • better communication skills • habits for learning from partner(s) • cultural re-alignment • V.P of External Relations (possibly) • vulnerability to leaving part of one's business in partner's hands • may be difficult to develop commitment to joint strategic direction
<ul style="list-style-type: none"> • Strategic Flexibility 	<ul style="list-style-type: none"> • better ability to re-align effort and resources to respond to changes in the business environment • can assist in managing complexity because partner may have expertise or organization slack to absorb management load (requires joint strategy development) • potential impact on industry evolution; increased market power (bargaining; relative to competitors) 	<ul style="list-style-type: none"> • with inappropriate partner may become more difficult to respond to changes in the business environment, since mutual commitment required • reduced ability to change business relationships • increased exit barriers due to relationship specific investments in people, processes, capital etc.
COSTS		
<ul style="list-style-type: none"> • External 	<ul style="list-style-type: none"> • reduced transaction costs <ul style="list-style-type: none"> • information gathering and interpretation • contract negotiating and monitoring • invoicing (EDI) • reduced input costs over the long-run <ul style="list-style-type: none"> • more appropriate quality • improved reliability 	<ul style="list-style-type: none"> • initial external costs likely to be greater; warranted by potential payoff from search for best partner • input costs may be higher at times since chosen supplier will likely not be required to respond to price cycles etc.
<ul style="list-style-type: none"> • Internal 	<ul style="list-style-type: none"> • reduced costs <ul style="list-style-type: none"> • inventory • internal paperwork (eg. accounts receivable) • research and development • physical handling costs; inspection, distribution etc. • economies of coordinated operations (scale, scope) <ul style="list-style-type: none"> • may be able to avoid certain capital costs 	<ul style="list-style-type: none"> • may need to incur additional capital costs to serve partner's needs; may incur higher fixed costs • coordinating activities across firms can increase internal costs until partners work together effectively; "as one"
SUSTAINABILITY		
<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • reduced risk of total business failure for only one partner 	<ul style="list-style-type: none"> • may not be feasible to continue if partners' objectives begin to diverge too significantly

considerable, ranging from reductions in various types of costs to improved management effectiveness and increased strategic flexibility. Many of the disadvantages can be minimized if the potential for their existence is recognized and managed properly.

Developing Table 1 led us to conclude that the earliest, and still among the most useful, contribution from economic theory, to research on strategic alliances is transaction cost economics, which is concerned with the relative costs of various exchange mechanisms (Coase, Williamson, Tirole). Transaction costs economics suggest that strategic alliance can reduce search, contracting and monitoring costs. First, search costs are eventually reduced by dealing with only one or a few business partners whose attributes are better known. Second, occurrences that are not foreseeable at the contracting date can be accommodated in a strategic alliance because parties can be flexible. Third, the many contingencies that cannot be written into a contract can be handled in an alliance because it can evolve as more information becomes available. Fourth, since mutual interdependence, and thus trust, is required for a strategic alliance, the constant costly monitoring of contracts negotiated within the open market can be reduced. Fifth, enforcement costs can also be reduced for the same reason.

Costs associated with incomplete contracts underscore the advantages of strategic alliances. The theory of incomplete contracts asserts that people are self-interested and opportunistic and that it is therefore impossible to write complete contracts which take into account all possible events and eliminate all forms of opportunism or cheating. This literature suggests that long-term contracts, which can evolve as conditions arise and allow parties to the contract to develop a relationship through trust and a reputation, are a useful way of reducing transaction costs (Casson, Gravelle and Rees, Tirole). Such contracts are essentially the same as strategic alliances in which trust, a relationship specific form of human capital, assists in reducing transaction costs (Zussman).

3.2 Theoretical Analysis

Since vertical strategic alliances are voluntary relationships between organizations at different market levels, a theoretical model must reflect the perspectives of buyers and sellers. A bilateral

monopoly model (Henderson and Quandt, Koutsiyannis) offers such a vehicle. In a bilateral monopoly, such as depicted in Figure 1, there is one buyer (monopsonist), one seller (monopolist), and neither the buyer can act as the seller nor can the seller act as the buyer. The bilateral monopoly model allows us to systematically examine the impacts on prices, market share, quantity and economic welfare variables of various types of business relationships between a buyer and a seller, as well as assessing the impact of influences on those relationships of factors such as learning (knowledge) and trust (reductions of risk).

The following equations comprise the bilateral monopoly model:

- 1) $Q_d = D(a,b,P_d)$ the buyer's demand function
where
 Q_d = quantity demanded
 a,b = parameters
 P_d = purchase price

- 2) $Q_s = S(c,d, P_s)$ the seller's supply function
where
 Q_s = quantity supplied
 c,d = parameters
 P_s = selling price

By determining total revenue and differentiating with respect to quantity, it is possible to derive,

- 3) $MR = R(a,b,d,Q_d)$ the buyer's marginal revenue function.
where
 MR = marginal revenue

By multiplying the quantity supplied by the selling price and differentiating with respect to quantity, it is possible to derive,

- 4) $ME = E(c,d,Q_s)$ the seller's marginal expenditure function.
where
 ME = marginal expenditure

Equations (1) to (3) can be interpreted as usual, but (4) can be interpreted several ways as our review of the literature revealed (Henderson and Quandt, Koutsiyannis, Gravelle and Rees, Just et. al). In this paper, we interpret the marginal expenditure curve as the marginal change in spending on inputs that the seller must incur in order to meet the marginal revenue from selling an additional unit of output.

We use the bilateral monopoly model to determine the following. First, what is the impact on prices, quantities, economic welfare due to varying assumptions about the nature of the relationship

Figure 1: Bilateral Monopoly Model

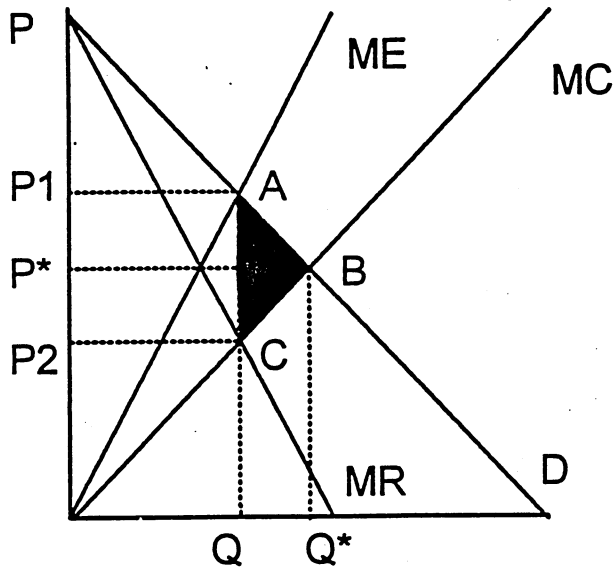


Table 2: Bilateral Monopoly Model Analysis

Variables	Value of Variable by Type of Relationship				Impact of Improved Knowledge or Trust
	Perfect Competition	Monopoly	Monopsony	Bilateral Monopoly	
PRICE	P^*	P_1	P_2	P_1 to P_2	decreases
MARGINAL REVENUE	P^*	P_2	P_2	P_2	decreases
MARGINAL EXPENDITURE	P^*	P_1	P_1	P_1	decreases
MARGIN	0	0	$P_2 - P_1$	$P_2 - P_1$ TO 0	empirical
QUANTITY	Q^*	Q	Q	Q	increases
ECONOMIC SURPLUS - seller	OBP^*	OAP_1	OCP_2	OCP_2 + part of (P_1P_2AC)	empirical
- buyer	PBP^*	PAP_1	$PACP_2$	OCP_2 + part of (P_1P_2AC)	empirical
- total	PB^*O	$PACO$	$PACO$	$PACO$	increases
- buyer's share	PBP^*/PB^*O	$PAP_1/PACO$	$PACP_2/PACO$	$[OCP_2 + \text{part of } (P_1P_2AC)]/PACO$	empirical

between the buyer and seller? Second, what happens to these variables under these various types of relationships when mutual interdependence or trust is increased and learning or the knowledge embedded in the relationship improves? For the sake of brevity, the analysis of these two questions is summarized in Table 2. The results presented are for a simple linear version of the model with the following restrictions: (a) the intercept of the demand function is greater than that of the supply function, and (b) the product of the intercept of the demand function and the price coefficient on the supply function exceeds the product of the intercept of the supply function and the price coefficient in the demand function and (c) that the absolute values of the slope coefficient on the supply and demand function are equal ($b=d$). Restriction (c) simplifies comparative analysis with the model since it ensures that the quantity exchanged in the bilateral monopoly, monopoly and monopsony situation stays constant.

The perfectly competitive market in which buyers and sellers meet is a theoretical extreme that assumes profit maximising behaviour, perfect information et cetera. During the 1950s and 1960s, the perfectly competitive market began to breakdown in the North American chicken industry, as processors became increasingly larger and further vertically integrated. In Canada's chicken industry, supply management was a response to the increasing monopsony power being exerted by chicken processors (Forbes et. al). The creation of a national agency, with its parallel provincial boards, created an entity at the farm level with countervailing power to the ever decreasing number and larger sized processors, and in effect created a situation closer to the bilateral monopoly.

In a bilateral monopoly situation, if the buyer has greater bargaining power or prowess, the result approaches that of a monopoly, and price increases, quantity decreases, total surplus decreases, seller's surplus decreases and the buyer's surplus increases relative to the perfectly competitive market. The converse results occur if the seller has the greater bargaining power. However, with either a bilateral monopoly, monopsony or monopoly, price increases, quantity decreases and the total surplus available to be shared by buyers and sellers decreases. Therefore, by improving the amount of information in the relationship between the buyer and seller, it is possible to move towards the perfectly