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**Effects on Competitiveness of  
Government Interventions in the  
Agri-Food Sector in Canada and the United States  
(A Conceptual Framework)**

**Working Paper 1/95**

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## PREFACE

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The framework described and tested in this working document is an initial attempt to systematically assess the differential effects of government policies on the competitiveness of the agri-food sector in two countries. Further work to improve on this framework is being planned. The purpose of this paper is to report on and share the experience gained up to now.

The paper is an abridged version of a draft report prepared by Price Waterhouse under contract for Agriculture and Agri-Food Canada, entitled "Effects on Competitiveness of Government Interventions in the Agri-Food Sector in Canada and the United States". Text appearing in this abridged version is identical to text in the full report with the exception of bracketed comments added by Agriculture and Agri-Food Canada staff. Exhibits have been renumbered and some have been revised to make interpretation easier. The first person plural pronoun "we" in this paper refers to the contractor, Price Waterhouse.

Two workshops with staff of Agriculture and Agri-Food Canada have been held to test the applicability of the framework. A compilation of comments made by workshop participants is provided in Appendix E.

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## 1.0 Introduction

### 1.1 Objective

Making it easier for the agri-food industry to improve its competitiveness is increasingly becoming an important item on the agenda of policy makers in many countries. Pressures to improve agri-food competitiveness come not only from domestic forces, having to do with distribution and growth, but also increasingly from foreign or worldwide forces. Trade barriers are being reformed and reduced and countries are becoming increasingly susceptible to the effects of events taking place abroad, whether arising out of foreign policy or industry decisions or out of other phenomena affecting markets.

Given the more direct links between events abroad and agri-food industry decisions in Canada, it is important that both policy and industry decisions be based on a continually improving understanding of how government policy may affect industry competitiveness differentially in two countries. The overall objective of the present study was therefore to develop a framework allowing the assessment of impacts of policy on the competitiveness of the agri-food industry in two (or more) countries.

The specific objective was to examine the sets of agri-food policies that apply to the chicken and pork industries in Canada and the United States, using the framework to assess the effects on competitiveness of each country's set of policies and compare the effects of the two sets.]<sup>1</sup>

The study involved two phases. Phase I was a theoretical examination of the effect on competitiveness of general policy categories. Phase II examined the specific policy categories and instruments which are directed at the chicken and pork industries in Canada and the United States to assess their relative effect on the competitiveness of these industries.

### 1.2 Scope

The scope of this project was limited specifically to addressing the impacts of government policies on competitiveness. It must be recognized that competitiveness is only one of a number of goals that should be considered in policy development for the agri-food sector. Many other socio-economic factors must be considered in the development of a comprehensive set of policies to serve the sector's and nation's best interests.

The impact of various policy types on competitiveness is an important and timely issue none the less and is therefore the sole focus of this study.

### 1.3 Method and Procedures

The method and procedures undertaken to complete the study are outlined in Exhibit 1.1 which also illustrates the three streams which comprised the work plan. One stream involved the preparation of industry profiles to provide an overview of the Canadian and U.S. chicken and pork industries. The profiles were prepared on the basis of published secondary data which was analyzed and interpreted to determine the current structure and performance of the industry, changes in these over time, and likely future trends. These profiles provided background data for

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<sup>1</sup> Bracketed text and comments are not part of the draft report prepared by the contractor.

the assessment of policy impacts on the competitiveness of the Canadian and U.S. chicken and pork industries. [Profiles are not provided in this abridged version of the report.]

A second stream of the work plan involved the identification of policy categories for the classification of policy instruments. Thirteen categories were defined and the policy instruments used in the Canadian and U.S. chicken and pork industries (i.e., the policy set) were classified into these categories. In addition, the relative significance of the policy categories was identified through the economic indicators: net benefits; producer subsidy equivalents (P.S.E's); and expenditures. The sources of policy instruments data were: the 1989 Net Benefits Results; the Hill and Knowlton Study of U.S. interventions; and published data used by the U.S.D.A. in estimating producer subsidy equivalents. Primary research into the specific instruments operating in Canada at the federal and provincial levels was required in order to obtain descriptions of the nature of these instruments so that they could be classified appropriately. In addition, primary research was undertaken to identify policy instruments for the chicken industry in the south eastern United States which was not covered by the Hill and Knowlton study.

The core stream of the work plan involved the development and application of the analytical framework for assessing the relative impact on competitiveness of specific policy categories. The framework is composed of two elements: an economic theory perspective and a business systems perspective. The framework was applied to each of the thirteen policy categories. The economic theory perspective was analyzed by the core project team using a spatial equilibrium model with a homogeneous product and two trading regions. The business systems analysis included using a delphi team approach. The delphi team was composed of six agricultural economists (three in academic appointments in the United States and three in academic appointments in Canada). Each team member independently completed a detailed analysis of each policy category in terms of its impact on the five determinants of competitiveness using business systems analysis forms provided to them.

The core project team then synthesized the business systems perspective and the economic theory perspective to determine the overall relative impact on competitiveness of the thirteen policy categories.

Finally, the relative significance of each policy category in the Canadian and U.S. chicken and pork industries was assessed to determine the effect on competitiveness of the policy sets used in the chicken and pork industries in Canada compared to the United States.

#### **1.4 Full Report Contents**

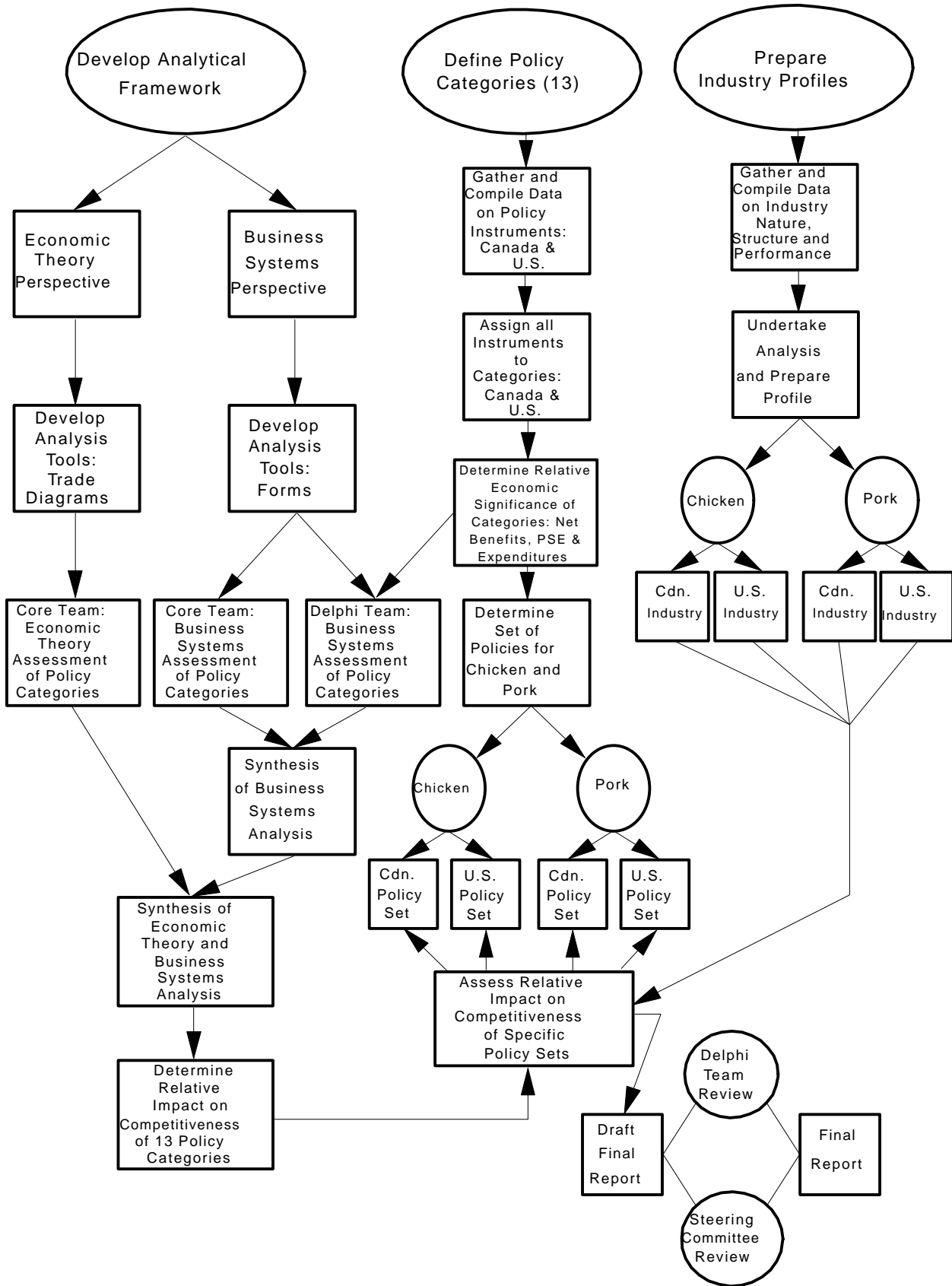
The full report describes in detail:

- the analytical framework developed for determining the effects of each policy category on the competitiveness of an individual firm and the agri-food sector as a whole;
- the policy categories developed for competitiveness assessment;
- the detailed economic theory and business systems analysis of each policy category;
- the overall rating of the policy categories in terms of their effect on competitiveness;
- the policy sets applicable to chicken and pork in Canada and the United States; and

- the relative impact on competitiveness of the policy sets applicable to the chicken and pork industries in Canada and the United States.

[This Abridged Report excludes the detailed economic theory and business systems analysis of each policy category, as well as the industry profiles on the U.S. and Canadian pork and chicken industries.]

Exhibit 1.1  
Methods and Procedures





## 2.0 The Analytical Framework

### 2.1 Introduction

The analytical framework that we have developed for assessing the impact of government agri-food policy on competitiveness synthesizes concepts from economic theory and the strategic management literature. The impacts of government policy on competitiveness are assessed from two distinct perspectives: the abstract, industry-aggregate, top-down approach of **economic theory** and the concrete, firm-specific, bottom-up approach of the **business systems model** which we developed from the strategic management literature.

The analytical framework is described in the following sections. First, we provide a definition of competitiveness. Second, we provide a definition of the agri-food sector. Third, we outline the components of our analytical framework. Fourth, we discuss how economic models can be used to examine the impacts of government policy on competitiveness. Fifth, we develop a business systems model and explain how it can be used for this analysis.

### 2.2 Defining Competitiveness

In this study we use the Agri-Food Competitiveness Task Force's definition of competitiveness, which is **the sustained ability to profitably gain and maintain market share**. Two dimensions of this definition are particularly important to this study.

First, the definition suggests that the combination of profitability and the increase or maintenance of market share is an appropriate indicator of competitiveness, at any level of aggregation: the nation's economy as a whole, a sector or an individual firm.

Second, the definition suggests that the profitable gain or maintenance of market share must be sustainable. This implies that government intervention must be of a type that allows the continuation, or further enhancement, of the positive effects of the intervention after it is removed.

### 2.3 Defining the Agri-Food Sector

In this study we use a number of terms to refer to the various components of the agri-food sector. These terms are defined below.

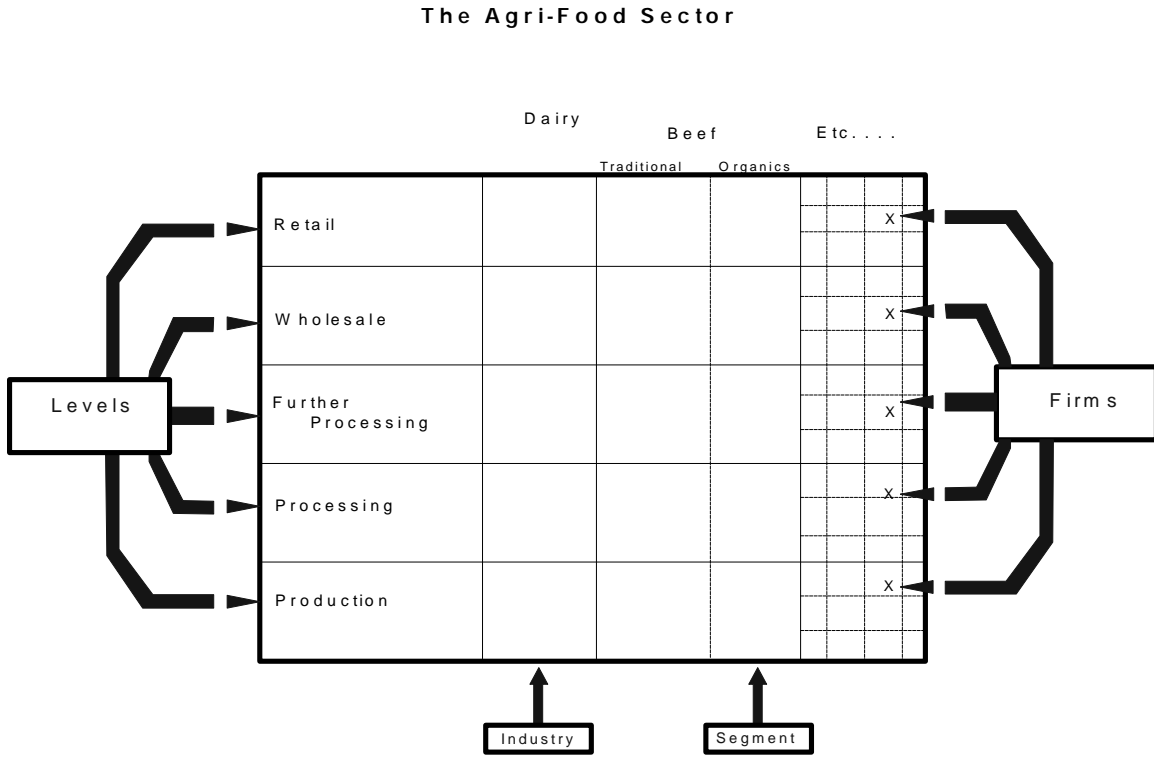
**Sector** is a collection of several related industries. For example, the agri-food sector contains various industries involved in different aspects of agriculture and food.

**Industry** is a set of firms involved in the production and marketing of products that fulfill similar final consumer needs. As such, an industry may be vertically organized and include several levels. For example, in the beef industry cattle producers and beef packers are both involved in producing and marketing a product that fulfills similar final consumer needs.

**Level** refers to a component of an industry or sector which is involved in a particular set of activities. For example, farmers, processors and retailers are three examples of different industry levels.

**Segment** is a sub-part of an industry, or a market, which is based on a more narrow interpretation of similar final consumer needs or strategic orientation. For example, there is a segment of the beef industry that focuses on organic beef which is a differentiation strategy.

Exhibit 2.1  
The Organizational Components of the Agri-Food Sector



**Firm** is an individual business operating within an industry.

The relationships among sector, industry, level, segment and firm are illustrated in Exhibit 2.1.

## 2.4 Components of the Analytical Framework

Exhibit 2.2 depicts a conceptual overview of the analytical framework that was used in this project. As the Exhibit shows, the analysis is divided into two sections. The left section represents the **economic trade model perspective** of the analysis. The right section represents the **business systems perspective**.

As shown by the business systems model on the right side of the exhibit, the objective of the project is to determine the impact of government policy on competitiveness, through the determinants of national competitive advantage:

- factor conditions,
- demand conditions,
- relationships and support,
- structure and rivalry, and
- firm strategy.

The first four determinants appear on the outside of the concentric circles because they affect all aspects of the environment (the macro environment, sector environment, firm environment, and functional environment within the firm) in which decisions and actions that affect competitiveness are made. The last determinant, firm strategy, is represented in the core of the circle. Firm strategy is affected by each of the other four determinants and is the key to assessing how signals from all spheres of the environment are interpreted and responded to by business decision makers within the firm. Since chance can also have an impact but is not the focus of this project, it is depicted at the bottom of the circle.

As shown by the economic trade model on the left side of Exhibit 2.2, indicators of competitiveness are observable. They can be observed in real industries, through indicators of profitability and market share and sustainability. Economists and policy analysts can also simulate the effects of government policy and other influences affecting the determinants of competitiveness using economic trade models. These models, can be used to simulate such effects on variables representing market share, profitability and the sustainability of such variables.

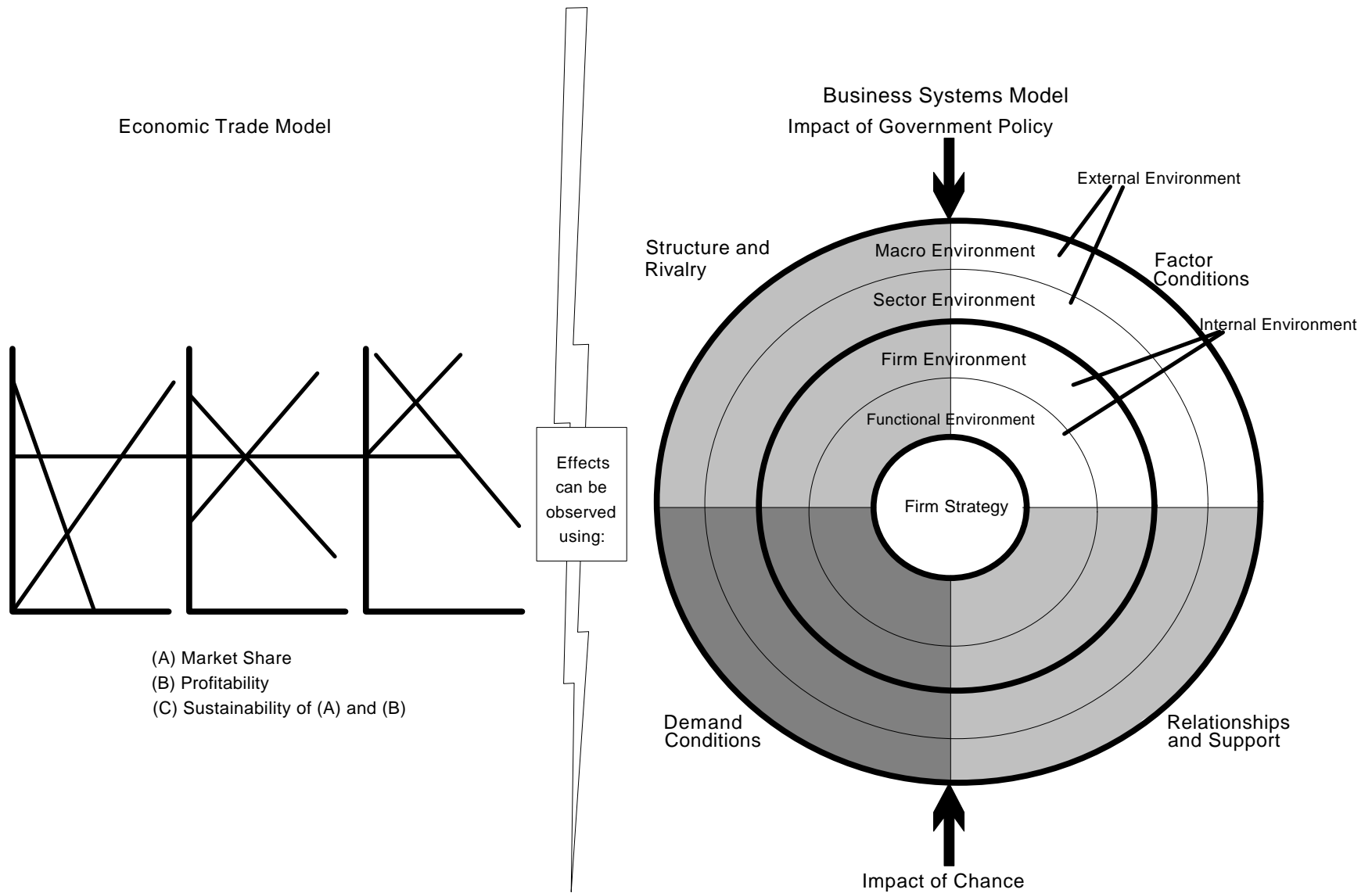
The final analysis of the effects on competitiveness of government intervention requires the synthesis of both the economic trade model and the business systems model. Sections 2.5 and 2.6 that follow describe the nature and method of application of the economic and business systems models in detail.

## 2.5 Economic Trade Models

Typically, economists have assessed the impacts of government policy using economic models. In Canada, economic or spatial trade models have been popular for this purpose, often with varying numbers of products, market levels, regions and countries, as well as other characteristics needed to adequately represent the industry being analyzed. Such models allow the examination of the impact of most policy types under varying market structures and conditions of Canada being an exporter or an importer. All of the model's parameters can be estimated econometrically, or a synthetic version of the model can be devised. The latter technique encompasses many

procedures, including surveying industry participants to obtain experts' estimates, review of existing research, econometric estimation and inference from observed values of key variables.

### Exhibit 2.2 Analytical Framework



Economic trade models can be solved using a number of methods, of which simultaneous equation and mathematical programming are the most popular. They certainly facilitate the assessment of the impact of policy types on the variables that are of typical interest to policy makers, namely; prices, quantities produced, consumed and traded, as well as the typical economic welfare variables such as producers', consumers' and total economic surplus.

Economic trade models can also be used to assess several aspects of competitiveness, especially the impacts of exogenous changes on variables that are indicators of competitiveness. Changes in profitability can be represented by changes in producers' surplus. Changes in market share can be represented by changes in production levels in one country as a proportion of total production. Under certain assumptions they can also be represented by trade ratios. The most relevant trade ratios are the net export orientation ratio, the export orientation ratio and the import penetration ratio. The trade coverage ratio may also be useful  $(\text{exports} + \text{imports}) / (\text{average of production and consumption})$ , particularly if different industry levels are accounted for.

An economic trade model with multiple industry levels can also be used to estimate gross margins. Constant or increasing values in these indicators through a dynamic application of the model can be used to assess whether market share can be profitability gained and/or maintained.

In order to be useful in assessing impacts on competitiveness, however, the economic trade model must be put in the perspective of the business systems model.

Therefore, the remainder of this section is organized as follows. Sub-section 2.5.1 explains how a simple economic trade model can be used to assess certain aspects of the impact of government policy on competitiveness. Sub-section 2.5.2 uses that model to examine the theoretical impacts of government policy on the **determinants** of competitiveness. Finally, sub-section 2.5.3 uses the model to examine the theoretical impacts of government policy on the **indicators** of competitiveness.

### 2.5.1 Assessing Competitiveness with an Economic Trade Model

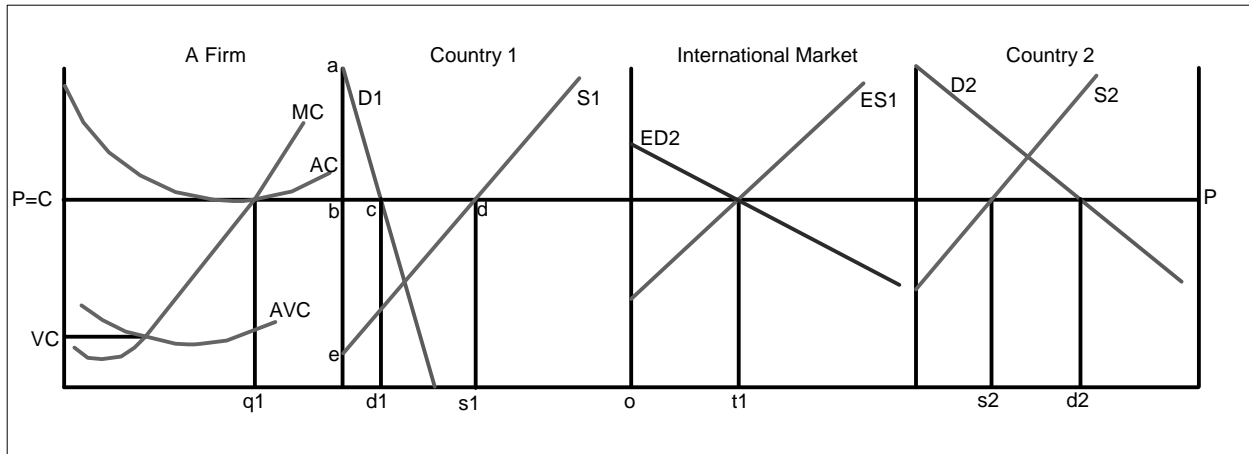
Exhibit 2.3 contains a simple two country trade model for a single homogenous product with zero transfer costs in the base "free trade" situation.

Each country's domestic supply function ( $S_1, S_2$ ) is the aggregation of the marginal cost, that is, supply curves of firms in that industry in that country. Thus, it is derived from standard neoclassical economic principles. The cost curves for a type of representative firm are indicated at the left for the country that will be used for the policy analysis. Each country's domestic demand curve is either the derived demand or final consumer demand facing that industry in that country ( $D_1, D_2$ ). The excess supply and excess demand curves are derived from the domestic supply and demand curves for country 1 and 2 respectively ( $ES_{1,2}, ED_{1,2}$ ).

The determinants of competitiveness are embedded in firms' cost curves, domestic supply curves, domestic demand curves and the excess supply and demand curves,

Typically, economists use such an economic model to calculate the value of several variables in a base case, and then in a case in which the model is confronted with some type of change such as government policy. The general economic indicators listed in the top part of Exhibit 2.3B and those listed in the middle are most commonly used for analysis. However, these variables are easily rearranged and combined in groups of variables that are broadly consistent with the indicators of competitiveness: profitability, market share and sustainability.

Exhibit 2.3A  
 Use of a Simple Spatial Equilibrium Model to Assess Competitiveness





## Exhibit 2.3B

### Assessing Competitiveness with a Simple Spatial Equilibrium Model

General Economic Indicators		
Indicator	Country	Per Exhibit 23.A
Market Price	both	P
Supply	1	S1
	2	S2
Demand	1	D1
	2	D2
Production	1	s1
	2	s2
Consumption	1	d1
	2	d2
Trade	both	ot1
Profit/Welfare Indicators - For Country Applying Policy Only		
Indicator	Per Exhibit 2.3A (Country 1)	
Producers' Revenue	$P*s1$	
Producers' Surplus	area (bde)	
Consumers' Surplus	area (abc)	
Market Share Indicators - For Country Applying Policy Only		
Indicator	Per Exhibit 2.3A (Country 1)	
Share of Volume Sold	$s1/(s1 + s2)$	
Share of Sales	$(s1*P)/[(s1 + s2)*P]$	
Export Orientation Ratio	$(s1 - d1)/[(s1 + s1)/2]$	
Import Penetration Ratio	$(d1 = s1)/[(s1 + d1)/2]$	
Net Export Orientation Ratio	not relevant - this model*	
Trade Coverage Ratio	not relevant - this model*	

\* Not relevant in a two country model with one homogenous product

**Profitability** indicators can be formed using the price that producers receive, producers' revenues, producers' surplus and economic surplus. The indicators relating to producers can be grouped into a composite indicator. Exhibit 2.3B provides the formulae for calculating this set of indicators in this variant of the economic trade model. As well, the industry level data that can be used to calculate these indicators are provided.

**Market share** indicators can be formed by calculating the share of total volume sold by firms in one country, their share of sales, their export penetration ratio and the import orientation ratio. In this variant of the economic model, the net export orientation ratio and the trade coverage ratio offer no additional insight. The market share indicators can be grouped into a composite indicator. Again, Exhibit 2.3B provides the formulae for calculating this set of indicators, as well as the relevant industry level data.

**Sustainability** indicators can be formed by ascertaining the impact of a government policy. If a beneficial impact on the composite indicators for domestic producers' profitability and market share lasts beyond the period in which the government applies the instrument, the policy is more likely to be sustainable internally, or domestically, based on economic criteria (internal/economic). If the policy does not cause an adverse economic effect on producers in another country, the instrument is not likely to gain attention from other countries, and is thus more likely to be politically sustainable. Some policy instruments which cause these adverse economic effects may also be politically sustainable because their use is accepted under international trade law. These policy instruments have to be considered on a case by case basis.

As portrayed in Exhibit 2.2, each of the determinants of competitiveness reveals its impacts on indicators of competitiveness. These indicators of competitiveness are observable in reality and they can also be calculated from an economic trade model. Exhibit 2.2 also depicts that these impacts occur through the effects that the determinants have on the opportunities and threats that exist in the business environment, and through the responses that firms make, in terms of creating strengths and overcoming weaknesses, through firm strategy, tactics and structure.

Exhibit 2.4 is a somewhat different depiction of how indicators of competitiveness are created by a set of competitiveness determinants, and Exhibit 2.5 amplifies the bottom portion of Exhibit 2.4. Competitiveness is indicated by the sustainability of profitability and market share. It is created by factors that are controlled by the firm - i.e. internal factors. As well, it is created by factors that are beyond the control of the firm - i.e. external factors that arise in the business environment. Government controls some of these factors through policy. Some factors are quasi-controllable, and can be influenced or jointly determined by groups of firms and government and some factors are non-controllable. Within the non-controllable factors, it is possible to determine their risk profiles while other factors are truly uncertain. Firms' responses to these internal and external factors are reflected in various types of strategies, of which the generic strategies of low delivered cost and differentiation are broadly representative.

Analyzing the impact of internal factors and external factors on competitiveness can be accomplished using many groupings of factors, but we assert that our re-grouping of Porter's determinants of national competitive advantage is most appropriate for assessing the impact of government policy on competitiveness. Therefore, we examine factor/supply conditions, demand conditions, relationships and support and industry structure and rivalry.

Sub-section 2.5.2 that follows analyzes the theoretical impacts of government policy on the determinants of competitiveness. It also establishes how an economic trade model can be used to assess this issue. Sub-section 2.5.3 examines the theoretical impacts of government policy on indicators of competitiveness. These sub-sections, thereby develop the remainder of the analytical framework that is used to assess the impact that various categories of government policy instruments have on competitiveness.

## **2.5.2 Economic Analysis of the Impacts of Government Policy on the Determinants of Competitiveness**

As indicated in Exhibit 2.2 and Exhibit 2.4 the determinants of competitiveness are influenced by government policy. An economic analysis of how government policy affects these determinants based on the trade model developed in Exhibit 2.3 is conducted below.

### **Factor Conditions**

Government policy can have two fundamental impacts on factor or supply conditions. First, it can produce a transient effect on these conditions that is analogous to changing the price at which a product will be offered or arbitrarily defining a product's characteristics. Second, it can produce a sustainable impact on factor or supply conditions that is similar to one that would be achieved by any combination of factors that changes firms' marginal costs of production. For either case, a government policy with a positive impact on factor conditions will cause the firm's and industry's domestic supply curve to move to the right and downward - i.e. an outward movement. If the government policy merely has a transient effect, the supply curve will move back to its original position, or at least upwards, after the policy is discontinued. However, if the government policy is able to produce a sustainable impact, the supply curve will remain in its new position or move further outward.

Exhibit 2.6 indicates that government policies which have a positive effect on competitiveness, (either through a transient effect on positional advantage or a sustainable effect on the means for competing) reduce firms' marginal costs of production (panel a). When these effects are aggregated to the industry level such government policies induce an outward movement in the domestic supply curve (panel b). In turn, this induces an outward movement in that country's excess supply curve (panel c) for an exporter, or an inward movement in that country's excess demand curve for an importer (not shown).

Numerous factors determine the nature of a government policy's effect on the supply curve and these factors determine whether the impact is transient or temporary, an inward or outward shift, a parallel shift or other movement.

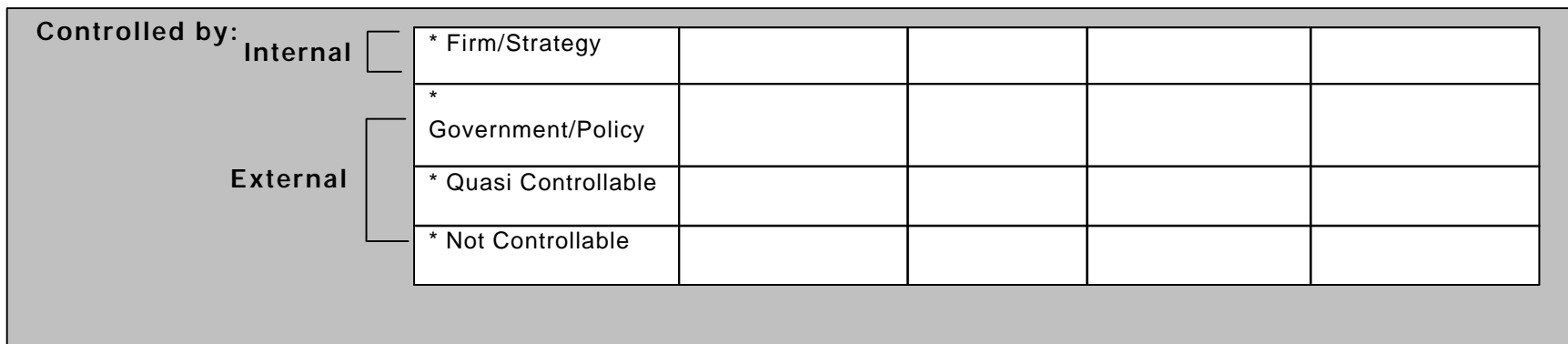
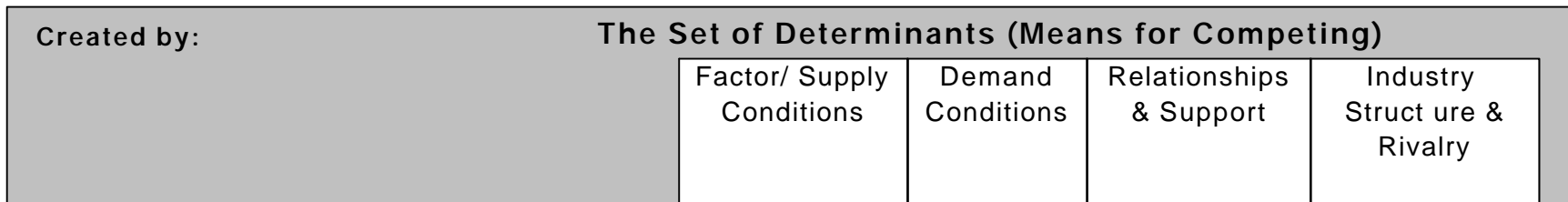
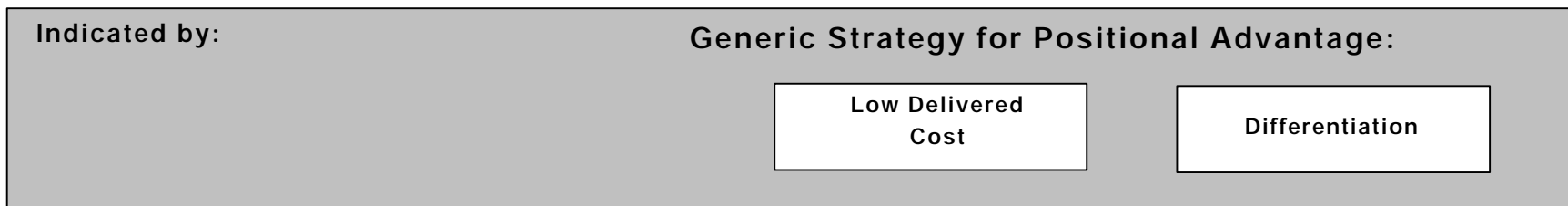
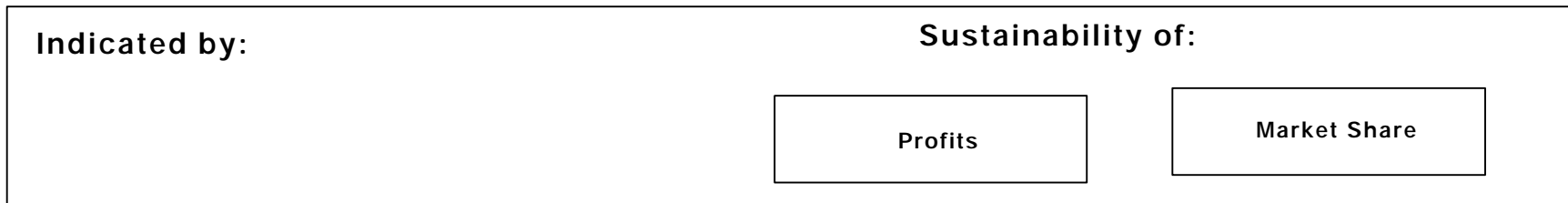
Any government policy that reduces the price of a basic factor will cause an outward movement in the supply curve. If the basic factor is also a fixed factor, the outward movement will be sustained until the productivity gains induced by its acquisition and use begin to deteriorate. Eventually, the supply curve will move inward to its original position. If the basic factor is a variable factor, the outward movement will only last as long as the government policy is in place.

An ongoing input subsidy on a basic factor may lead to an outward shift in the supply curve, but may undermine the industry's ability to sustain its original supply curve. This effect could occur because an on-going input subsidy masks the price signals that normally encourage firms to search for more efficient ways of combining inputs, and as well reduces attention to cost and/or quality control.

### Exhibit 2.4

## Indicators, Strategics and the Determinants of Competitiveness

**Competitiveness is:**



## Exhibit 2.5

## Factors Affecting Competitiveness Classified by Type of Determinant, Locus and Degree of Control

	Factor/Supply Conditions	Demand Conditions	Relationships and Support	Industry, Structure and Rivalry
Firm/Strategy	<ul style="list-style-type: none"> <li>*procurement/ logistics strategy</li> <li>*operations strategy</li> <li>*elements of supporting business</li> <li>*technology</li> <li>*training/labour policy</li> <li>*private R&amp;D</li> <li>*cost control</li> </ul>	<ul style="list-style-type: none"> <li>*product/market strategy</li> <li>*sales and service</li> <li>*elements of supporting business functions</li> </ul>	<ul style="list-style-type: none"> <li>*vertical strategic alliances</li> </ul>	<ul style="list-style-type: none"> <li>*horizontal strategic alliances</li> </ul>
Government/ Policy	<ul style="list-style-type: none"> <li>**those with primary impact on firms' factor conditions (i.e., input subsidies)</li> </ul>	<ul style="list-style-type: none"> <li>**those with primary impact on firms' demand conditions (i.e., generic advertixsing)</li> </ul>	<ul style="list-style-type: none"> <li>*mixed strategic alliances</li> <li>*those with primary impact on firms' relationships and support (i.e., competition policy)</li> </ul>	<ul style="list-style-type: none"> <li>*mixed strategic alliances</li> <li>*those with primary impact on firms' relationships and support (i.e., competition policy)</li> </ul>
Quasi-Controllable	<ul style="list-style-type: none"> <li>*input prices</li> <li>*international disputes/ negotiations</li> </ul>	<ul style="list-style-type: none"> <li>*output prices</li> <li>*international disputes/ negotiations</li> <li>*certain demographics &amp; psychographic trends</li> </ul>	<ul style="list-style-type: none"> <li>*aspects of: <ul style="list-style-type: none"> <li>- supplier power</li> <li>- buyer power</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>*aspects of: <ul style="list-style-type: none"> <li>- entry barriers</li> <li>- rivalry determinants</li> <li>-substitution threat</li> </ul> </li> </ul>
Non Controllable	<ul style="list-style-type: none"> <li>*certain basic factors</li> <li>*natural disasters</li> </ul>	<ul style="list-style-type: none"> <li>*certain demographic &amp; psychographic trends</li> <li>*natural disasters</li> </ul>	<ul style="list-style-type: none"> <li>*aspects of: <ul style="list-style-type: none"> <li>- supplier power</li> <li>- buyer power</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>*aspects of: <ul style="list-style-type: none"> <li>- entry barriers</li> <li>- rivalry determinants</li> <li>- substitution threat</li> </ul> </li> </ul>

A government program that creates the infrastructure to produce advanced and specialized factors that are likely to be important to the industry's success in the future, will induce ever-increasing, and thus sustainable, outward shifts in an industry's supply curve. These can be either fixed or variable factors. If they are variable factors, however it is likely that they will need to be treated like a fixed factor. For example, treating labour as a strictly variable factor becomes more difficult if it is highly skilled and specialized, and if advantage is to be gained by preventing it from moving to the competition.

The type of infrastructure and advanced, specialized factors that enhance the ability of firms to become competitive would be expected to vary by generic strategy. Therefore, the initial theoretical economic impacts of government policies on factor conditions, and thus the supply curve, must be considered using the low delivered cost and differentiation strategies. Since firm strategy, tactics and structure comprise a separate component of our framework, this analysis is contained in a subsequent section.

### **Demand Conditions**

In this discussion of the impact of government policy on demand conditions, the domestic demand curve represents the demand of firms in the relevant regional market. Thus, for protected industries the demand curve is strictly national, while for industries competing in a trade bloc, the demand curve is supra-national.

Government policy can have two fundamental impacts on demand conditions. First, it can produce a transient effect on these conditions that is analogous to changing the price at which a product will be purchased or by arbitrarily defining a product's characteristics. Secondly, it can produce a sustainable impact on demand conditions that is similar to one that would be achieved by any combination of factors that changes a buyers' willingness to pay. For either case, a government policy with a positive impact on demand conditions will cause the demand curve facing a firm or industry to move to the right and upward - i.e. an outward movement. As with the impact of government policy on factor/supply conditions, if it merely has a transient effect, the demand curve will move back to its original position, or at least downwards, after the policy is removed. However, if the government policy is able to produce a sustainable impact, the demand curve will remain in its new position or move further outward.

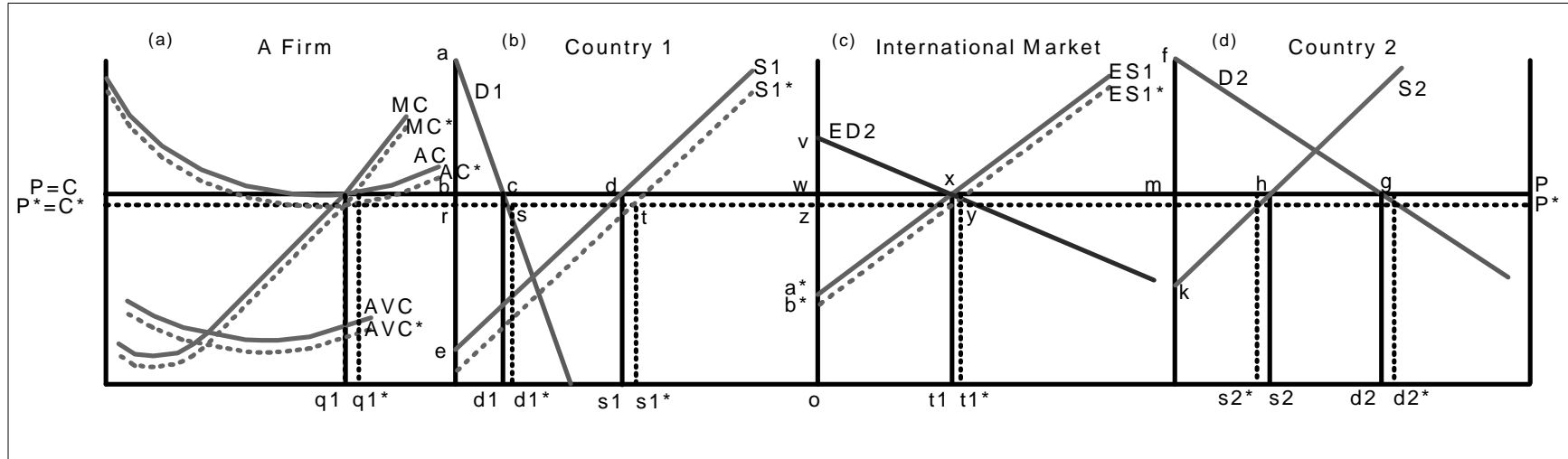
Exhibit 2.7 indicates that government policies that have a positive impact on competitiveness through the demand conditions will increase the amount that customers are willing to pay for a product with the same physical and service characteristics. Thus the demand curve, which can be either consumers' demand curves for final products or downstream firms' derived demand curves, moves outward (panel b). In turn, this induces an inward movement in that country's excess supply curve (panel c) for an exporter or an outward movement in that country's excess demand curve for an importer (not shown).

Again, it is important to recognize that there are several potential paths to the outward movement in the demand curve. As with the impact of government policy through the factor condition some are parallel shifts, and some are pivots. More importantly, some are more sustainable than others, and it is the sustainability that is key to competitiveness. Only a sustained outward movement in the demand curve could be expected to induce an outward movement along the long run supply curve, through the factor conditions.

A one time consumer subsidy that only makes it possible to buy more of the target product (i.e. food stamps for a given product such as butter) will cause a temporary outward movement in the

demand curve. However, it is not sustainable. When the subsidy is removed the demand curve will move back to its original position.

Exhibit 2.6  
Impact of Government Policy on Factor Conditions - Supply Curve





A one time consumer subsidy than can be used to purchase any of several products would be expected to cause some outward movement in the demand curve; but the demand curves for other products will be affected simultaneously, and the relative impacts on these demand curves may be greater or smaller.

An ongoing consumer subsidy, of either of the above types, may lead to an outward shift in the supply curve, but may make it difficult for the industry to judge the position of the true underlying demand curve.

A government program that encourages consumers to be more selective/discriminating, more sophisticated and advanced in their tastes assists in the creation of demand conditions that identify what a growing number of consumers will be willing to pay more for in the future. A program that regulates the safety of the food supply in Canada, could hypothetically lead to such an increase in demand.<sup>2</sup>

Similarly, a subsidy program, such as a school lunch program which introduces or "educates" young people into consumption of a specific product may have a sustained effect on the demand curves for that and other products by making these people lifelong consumers of the product.

The type of demand conditions that enhance the abilities of firms to become competitive would be expected to vary by generic strategy. Therefore, the initial theoretical economic impacts of government policies on demand conditions, and thus the demand curve must be considered using the low delivered cost and differentiation strategies. Again, since firm strategy, tactics and structure comprise a separate component of our framework, this analysis is contained in a subsequent section.

### **Structure and Rivalry**

Until this point, we have examined government policy that has impacts on competitiveness through either the supply curve (factor/conditions) or the demand curve (demand conditions) under assumption of perfect competition. In reality, several of these impacts occur simultaneously and iteratively, and they may occur under industry conditions other than perfect competition. These complications become evident in our examination of government policy on competitiveness through its effects on industry structure and rivalry, as well as relationships and support of other firms and industries which are discussed below.

The structure, nature and intensity of rivalry in an industry can affect the impact of government policy on an industry's competitiveness. Both the horizontal and vertical dimensions must be considered. Since many aspects of the analysis for the vertical dimensions can be considered under relationships and support, they are discussed there.

Numerous economic models exist for analyzing the welfare and distributional impacts of horizontal market structures other than perfect competition. Several types are relevant to the agri-food industry, most notably monopoly and oligopoly.

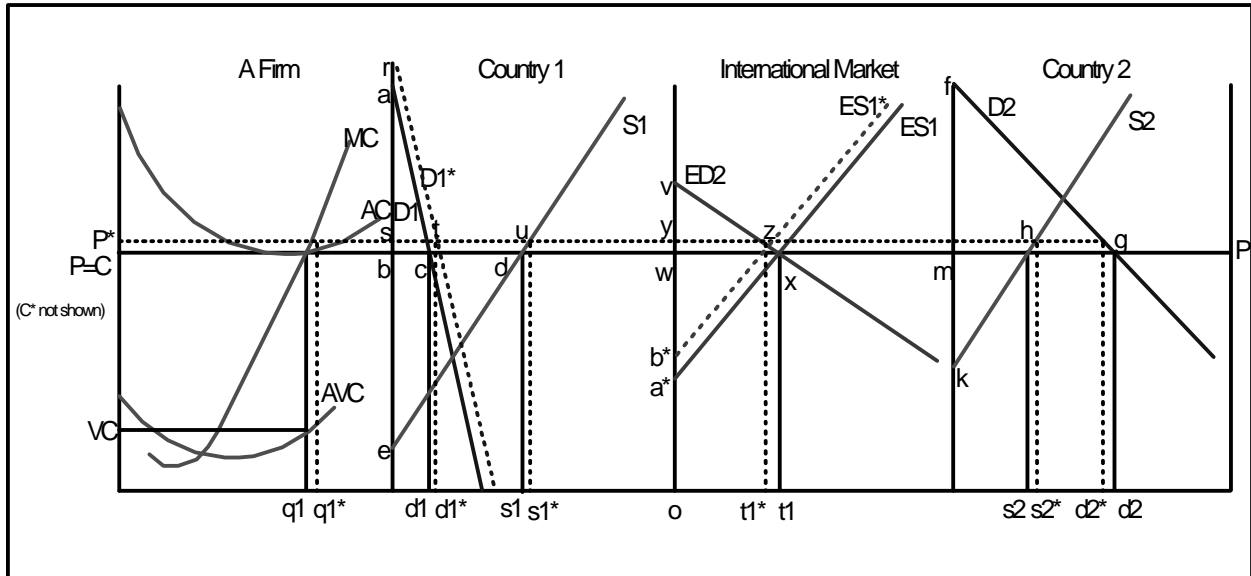
### **Relationships and Support**

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<sup>2</sup> In a strict sense this conclusion cannot be derived from a single, homogenous product spatial equilibrium model. However, the essence of the result is the same as would occur through the use of the appropriate heterogenous product model.

In this study we define relationships and support as relevant to levels of the industry upstream and downstream to the level that is the target of the analysis. A government policy that results in a more competitive upstream level creates several potential benefits for purchasers of its products; lower prices, better quality and lower transactions costs etc. Each of these benefits results in a decrease in the

Exhibit 2.7  
Impact of Government Policy on Demand Conditions - Demand Curve



purchasing firm's marginal costs of production, and therefore a downward and/or outward movement in the supply curve (as in Exhibit 2.6).

A government policy that results in a more competitive downstream level creates several potential benefits for a seller of products to that level - for example, willingness to pay more, willingness to purchase greater quantities and lower transaction cost. Each of these benefits results in an outward movement in the demand curve faced by an industry (as in Exhibit 2.7).

The impacts of government policy on relationships and support between levels can affect an industry's supply and demand curves simultaneously and, therefore, have a range of effects on the indicators of competitiveness (as in Exhibits 2.6 and 2.7).

### **Firm Strategy**

Government policy inhibits national competitiveness if it limits the set of firm-level strategies, and their attendant structures. The specific impacts of government policy on strategy can only be determined by a business systems analysis such as described in section 2.6. However, some insight into the impact of government policy on competitiveness can be gained using economic analysis, which we do with the 4 panel economic trade model.

In terms of this model, the only observable impact of a type of government policy limiting strategic options is on the firm's cost curve; marginal costs increase (through the Le Chatelier principle, Silberberg). In turn, this causes the domestic supply curve to move inward and/upwards. The excess supply curve is also affected the same way.

Firms pursuing different generic strategies may also exhibit cost curves with different shapes, or they may choose to operate at different points on these cost curves.

A firm's choice of generic strategy is embedded in an industry's supply curve, since the cost functions of individual firms which comprise the supply curve reflect their managers' objectives (Silberberg). Economic theory has not examined this issue. However, it may be appropriate to present the following hypothesis with respect to this issue. Supply curves for industries or industry segments with firms pursuing a low delivered cost strategy would be flatter and cover greater quantity space due to the underlying economies of scale (greater own price elasticities of supply), while the supply curves reflecting a differentiation strategy would be steeper and cover relatively little quantity spaces (lower own price elasticities of supply). Supply curves could be discontinuous for industry segments populated by niche oriented firms.

### **2.5.3 Economic Analysis of the Impacts of Government Policy on the Indicators of Competitiveness**

Exhibits 2.2 and 2.6 indicated that sustainability of profitability and market share are appropriate indicators of competitiveness. In this sub-section, we present a summary of the impacts that various groups of government policies have on forms of these indicators. We use five very broad groups of government policies: those that have an impact on the supply curve; the demand curve; both; the excess supply or demand curve; and the trivial category of no impact on any of these economic relationships. We examine two types of indicators: those that can be calculated from various types of economic models (econometric, synthetic etc.); and those that can be calculated using the industrial organization type of data that are collected through census of manufactures'

surveys and various other sources. A summary of the analysis is presented in Exhibit 2.8. Again, the discussion is organized according to the determinants of competitiveness.

### **Factor Conditions**

Government policies that have competitiveness enhancing effects through an industry's factor conditions will generally do so through a sustainable outward movement in the domestic supply curve. This will result in a decrease in the price for producers and buyers in all countries, an increase in production, an increase in

## Exhibit 2.5

### Factors Affecting Competitiveness Classified by Type of Determinant, Locus and Degree of Control

Impact: -1 = negative 1 = positive 0 = neutral 2 = case specific	Policy That Causes Outward Movement In:					
	Domesti c Supply	Domesti c Demand	Both Supply & Demand	Supply > Demand	Supply < Demand	Excess Supply or Demand
<b>General Economic Indicators</b>						
Internal Market Price	-1	1	0	-1	1	1
External Market Price	-1	1	0	-1	1	-1
Internal:						
Production	1	1	1	1	1	1
Consumption	1	1	1	1	1	1
Export	1	-1	0	1	-1	1
Imports	-1	1	0	-1	1	-1
<b>Industry Welfare</b>						
Producer Price	-1	1	0	-1	1	1
Producer Revenue	2	1	1	2	1	1
Producer Surplus	2	1	1	2	1	1
Consumer Surplus	1	2	1	1	2	-1
Producer Composite	2	1	1	2	1	1
<b>Market Share</b>						
Volume Share	1	2	1	1	2	1
Sales Share	1	2	1	1	2	1
Export Orientation Ratio	1	2	-1	1	2	1
Import Penetration Ratio	-1	2	1	-1	2	-1
Market Share Composite	1	2	1	1	2	1
<b>Sustainability</b>						

Internal/Economic	2	1	2	2	1	2
External/Political	2	1	2	2	2	2

consumption, an increase in exports and a decrease in imports for firms in the country using the program. For these firms, the impact on producers' revenues and surplus can only be determined empirically, while consumers'/buyers' surplus increases. The country that provides its firms with such a policy will improve its share of the world market in volume and sales terms, and as well will improve its export orientation ratio and import penetration ratio. These impacts are summarized in Exhibit 2.8. The sustainability of these effects can only be determined for specific policy instruments and industry parameters.

Government policies that have competitiveness enhancing effects through an industry's factor conditions may also affect excess supply or demand by reducing the cost of an international transaction. This would occur if some factors are specialized to trade (for example, an export contact information database). Such policies would improve the market price to firms in the country that uses the policy and reduce it in others. In the country using the policy, production would increase, consumption would decrease, exports would increase and imports would decrease. In terms of welfare measures, the producer price would increase, as would the revenues and economic surplus earned by firms benefitting from this government program. However, consumers' surplus would decrease. All market share measures would improve; volume share, sales share, the export orientation ratio and the import penetration ratio. Again, the sustainability of these effects can only be determined for specific policy instruments and industry parameters.

### **Demand Conditions**

Government policies that have competitiveness enhancing effects through an industry's demand conditions will generally do so through a sustainable outward movement in the domestic demand. This will result in an increase in the price for producers and buyers in all countries, an increase in production, an increase in consumption, a decrease in exports and an increase in imports for firms in the country using the program. For these firms, the impact on producers' revenues and surplus is positive, while the impact on consumers'/buyers' surplus can only be determined empirically. The impacts on these firms' share of the world market in volume and sales terms and their industries' export orientation ratio and import penetration ratio can be determined empirically. These impacts are summarized in Exhibit 2.8. The sustainability of these effects can only be determined for specific policy instruments and industry parameters.

Government policies that have competitiveness enhancing effects through an industry's demand conditions may also affect excess supply or demand by reducing the cost of an international transaction. This would occur if some factors are specialized to trade (for example, an export/import contact information database). The impacts are the same as those discussed for this type of policy under factor conditions.

### **Structure and Rivalry**

Government policies that have competitiveness enhancing effects through industry structure and rivalry cannot be readily analyzed through the economic trade model that we have been using.

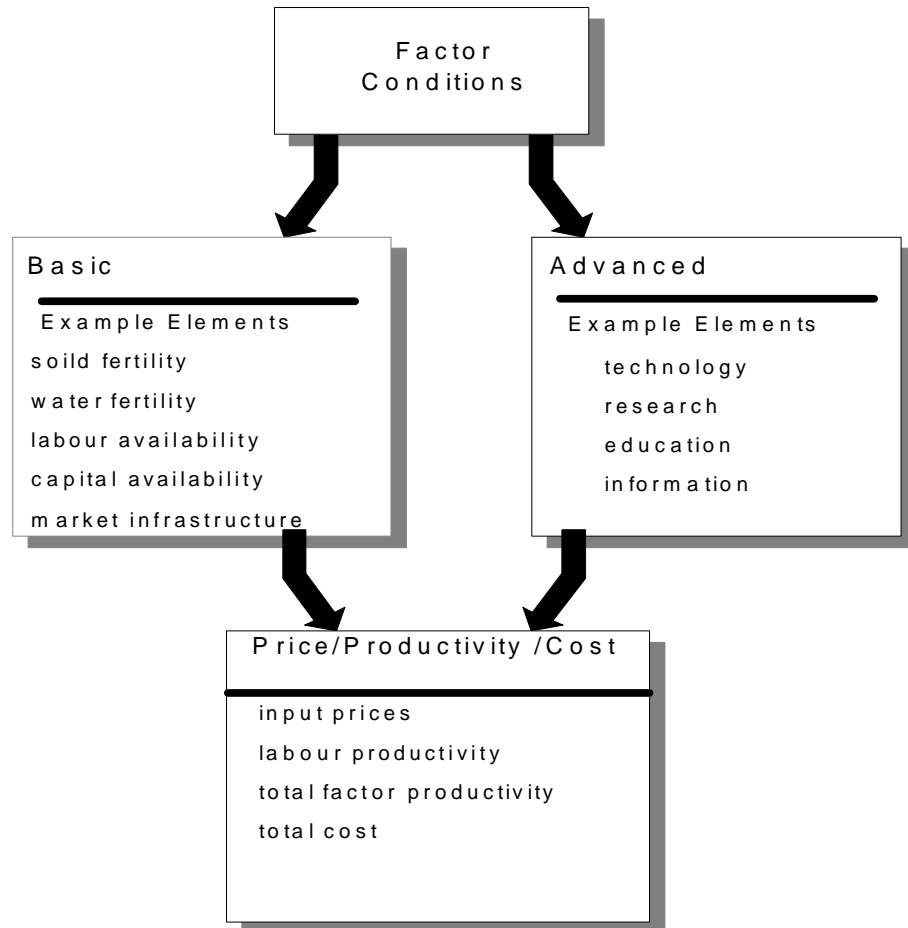
### **Relationships and Support**

Government policies that have competitiveness enhancing effects through an industry's related and supporting industries will do so by a combination of sustainable outward movements in the

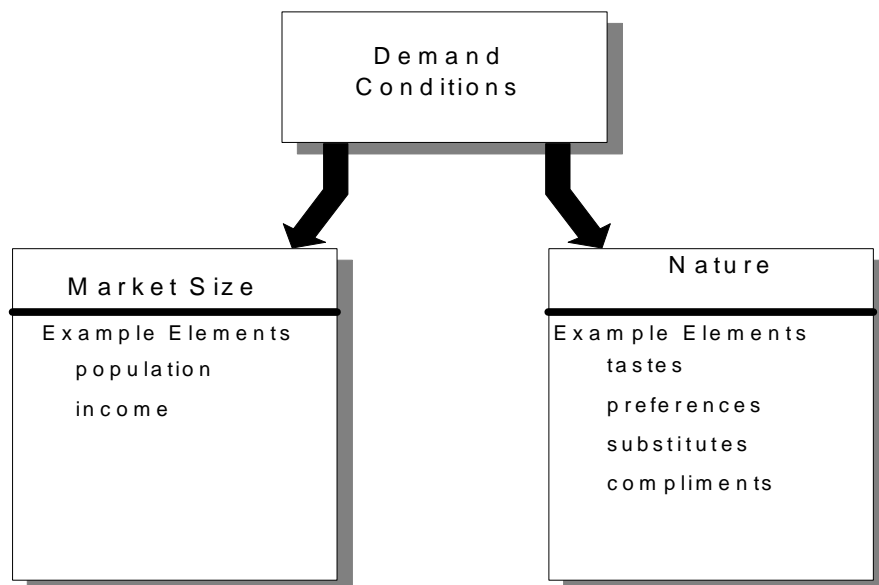
domestic demand and supply curves. Therefore, the issue of whether the outward movement in the domestic demand or supply curve is greater is important to the resulting impact of the policy on the competitiveness indicators. The range of results is provided in Exhibit 2.8.



### Exhibit 2.9 Components of Factor Conditions



### Exhibit 2.10 Components of Demand Conditions



If the outward movement in the supply and demand curves is equal, prices are not affected, production and consumption in the country using the government policy increase, while there is no impact on exports or imports. Firms in this country experience an increase in revenue and surplus, as do consumers. Their share of the world market increases in volume and sales terms. The export orientation ratio decreases and the import penetration ratio increases. The sustainability of these effects can only be determined for specific policy instruments and industry parameters.

If the outward movement in the domestic supply curve exceeds the outward movement in the domestic demand curve, the impacts are the same as those for a policy that causes only an outward movement in the domestic supply curve. Similarly, if the outward movement in the domestic demand curve exceeds the outward movement in the domestic supply curve, the impacts are the same as those for a policy that causes only an outward movement in the domestic demand curve. In both these cases, the sustainability of these effects can only be determined for specific policy instruments and industry parameters.

### **Firm Strategy and Structure**

Government policy that has impacts on firm strategy and structure can have any of the above effects.

## **2.6 Business Systems Models**

The business systems approach to analyzing firm performance was introduced by McKinsey and Co. during the 1970's and accorded academic and general renown through Porter's popularization of the "value chain" in his 1985 work Competitive Advantage<sup>3</sup>.

The business systems approach as outlined in Exhibit 2.2 considers the five determinants of competitive advantage (factor conditions, demand conditions, relationships and support structure and rivalry and firm strategy) and how these determinants are each affected by government policy. In the subsections that follow we discuss: the determinants of competitiveness; government policy and its effect on the external business environment; and government policy and its effect on firm strategy.

### **2.6.1 The Determinants of Competitiveness**

#### **Factor Conditions**

Two types of factors play a role in national competitiveness; basic factors and advanced factors. Basic factors are the land, homogenous labour, natural resources and capital that determine the flow of trade in standard economic theory. These are relatively unimportant to competitive advantage, however, because, by themselves, they cannot create a sustainable competitive advantage over the competition. In contrast, advanced factors such as technology and skills can form the basis for a competitive advantage, especially if they are specialized to a certain industry. The advantage arises because advanced factors are difficult to imitate. Advanced factors are created, usually to overcome a weakness within a firm or an industry, or to address a threat in the external business environment. Access to sufficient quantities of both basic and advanced factors, at "competitive" prices is important to national competitiveness.

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<sup>3</sup> Porter's value chain can be modified slightly in order to improve its use in agri-food research. Therefore, we use the "agri-food" version of the value chain to reflect the essential business activities conducted by agri-food firms.

The **price** of factors is one component of factor conditions. To the extent that basic and advanced factors can be accessed at a competitive price<sup>4</sup>, they serve to enhance national competitiveness. When these inputs are available in sufficient quantities, and can be combined with high **productivity**, the **cost** of the factors can become a source of competitive advantage. Exhibit 2.9 provides a summary of factor conditions.

### **Demand Conditions**

When home demand gives firms a clear picture of emerging consumer needs it is an impetus to national competitive advantage. The size of home demand is not nearly as important as the nature of home demand. Sophisticated, selective and demanding consumers provide a window on advanced customer needs, and assist in gearing strategy for the consumer of tomorrow. Exhibit 2.10 outlines the relevant demand conditions.

### **Relationships and Support**

When firms that are related to and supporting of the group of firms being analyzed are internationally competitive, they spur that group of firms to become more competitive. Suppliers enhance competitive advantage by providing high quality or low cost inputs. More importantly, suppliers and buyers can provide close working relationships that induce innovation and upgrading. Exhibit 2.11 shows the role of relationships with and support from other firms.

### **Structure and Rivalry**

With respect to structure and rivalry, Porter asserts that strong domestic rivalry is critical to fostering the dynamic improvement required for a sustainable competitive advantage. His critics respond by indicating that the number of firms required for strong domestic rivalry may not allow the scale and scope of operations required for global competition. The issue is really in the definition of "domestic". In a free trade environment, borders expand and consequently so does the definition of "domestic". For example, France's "domestic" competitors would lie within the EU, not France. Exhibit 2.12 outlines the components of structure and rivalry.

### **Firm Strategy**

The approaches used to compete and the manner in which firms are organized are also important to national competitiveness. No one managerial system is appropriate for all industries and all nations. What works is a function of the culture and the factors required to be successful in a given industry.

## **2.6.2 Government Policy and the External Business Environment**

As indicated in Exhibit 2.2, two spheres of the business environment, (the macro environment and sector environment), are external to the firm. Each of these can be affected by government policy. Government policy in turn affects the four determinants of national competitive advantage.

The most general sphere of the business environment is the macro environment which houses forces that affect the entire economy. The various forces will have more or less beneficial or

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<sup>4</sup> A competitive price is not necessarily the lowest price, or a price equal to the U.S. price. Rather, price must be assessed relative to quality. If the productivity of an input is higher, then the price paid for that input can be higher and the price would still be competitive.

negative impacts on different industries. Examples of such government policy include monetary policy and social policy. This

Exhibit 2.11  
Components of Relationships and Support

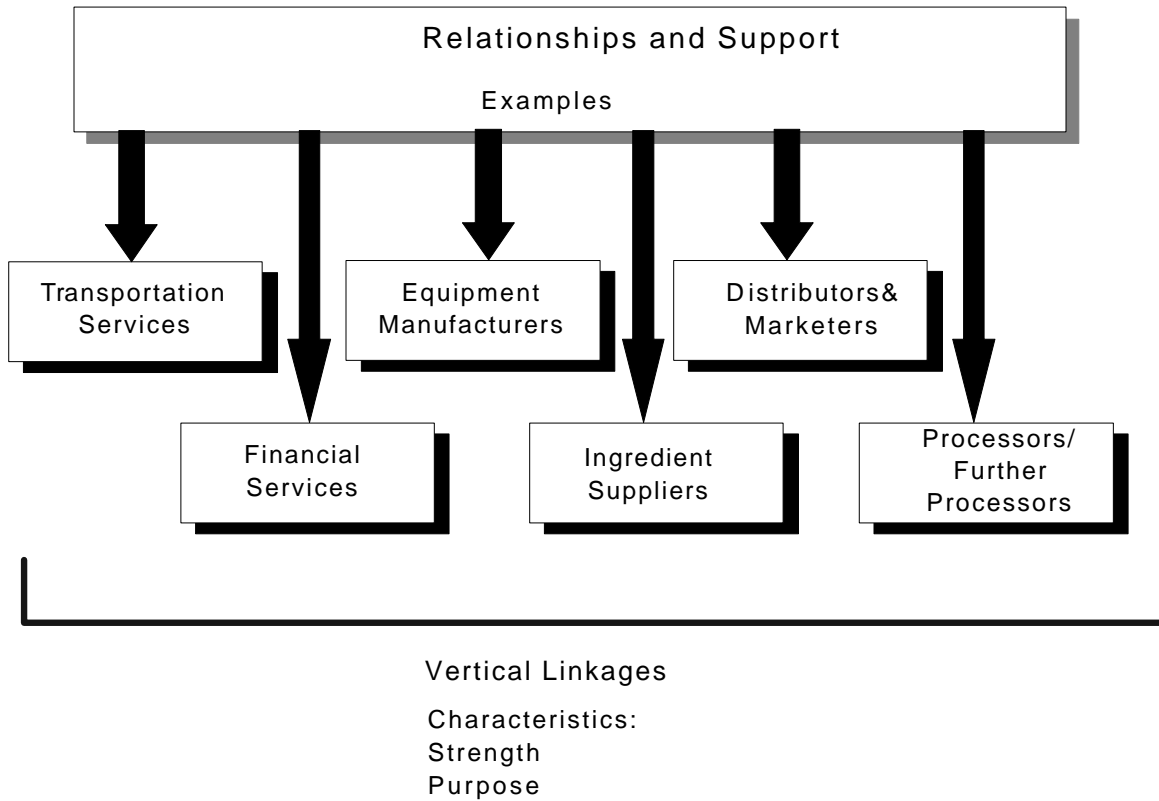
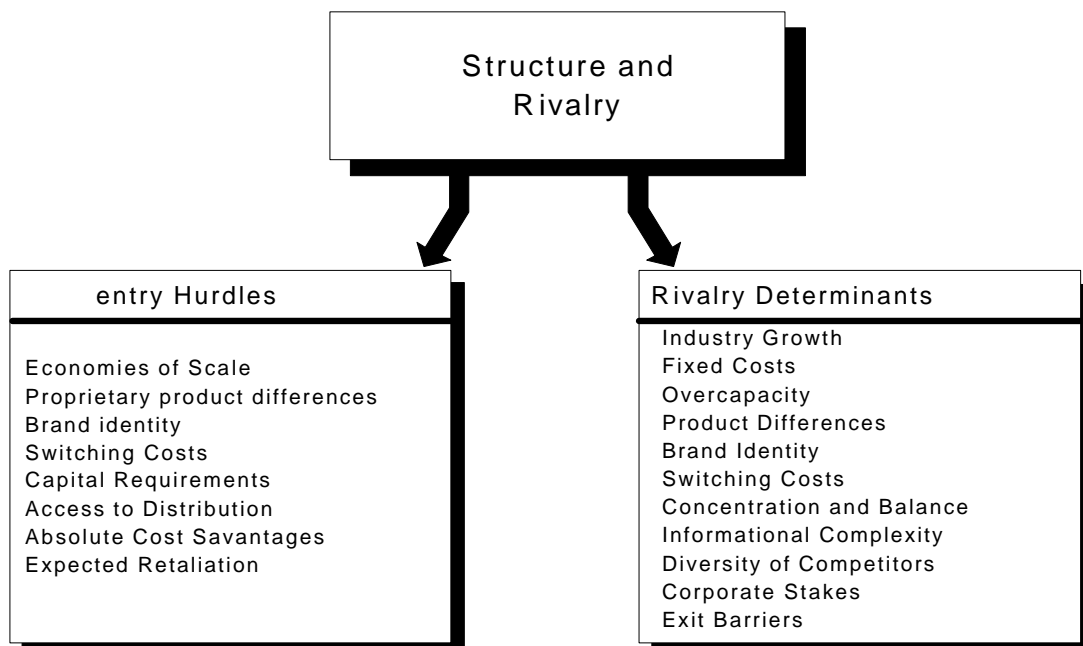


Exhibit 2.12  
Components of Structure and Rivalry



study is not generally concerned with government policy that is directed at the macro environment, although such policy can obviously have important effects on both the short-run and long-run competitiveness of agri-food firms, agri-food industries and the whole agri-food sector.

The more specific sphere of the external business environment is the sector environment. The sector environment houses forces that affect either an industry (e.g. dairy) or a level within the industry (e.g. dairy processing). In some cases, forces may affect a particular level across more than one industry in the sector (e.g. all food processors).

Clearly, government policy may be targeted at one industry in the sector but have impacts on another. Similarly, government policy may be targeted at one level of an industry but have impacts on another.

In the two spheres of the business environment outside the firm, government policy affects the **opportunities** and **threats** that a firm must address with its competitive strategy. The opportunities and threats that a firm faces can be affected through each of the four determinants of national competitive advantage, as is described below.

### **Factor Conditions**

At the sector level of the business environment, government policies that affect factor conditions provide important opportunities and threats to firms. To the extent that government policy encourages the formation of advanced, specialized factors of production, and discourages dependency on basic factors (the land, labour and capital resources so important to neo-classical trade theory), government policy creates opportunities to becoming more competitive. Of course, it remains the responsibility of firms, through the creation and implementation of good strategy, to take full advantage of these opportunities. To the extent that the opposite is true, government policy is a threat to becoming more competitive.

### **Demand Conditions**

The types of effects that government policy has on the demand conditions facing an industry also provide opportunities or threats to becoming more competitive. To the extent that government policy dampens the sophistication and selectivity of consumers who are leading indicators of global demand, government policy is a threat to becoming more competitive. To the extent that government policy allows a clear transmission of these important demand trends, or even amplifies them, it is an opportunity to become more competitive.

### **Relationships and Support**

The presence of related and supporting firms that are internationally competitive creates an opportunity to become more competitive. Their presence encourages innovation and upgrading based on close working relationships which are spurred by short lines of communication, quick and constant exchange of information and continuous exchange of new ideas. To the extent that government encourages internationally competitive related and supporting firms, it provides an opportunity to becoming more competitive.

### **Structure and Rivalry**

With respect to structure and rivalry, Porter asserts that strong rivalry is critical to fostering the dynamic improvement required for a sustainable competitive advantage. Government policy can affect the presence or absence of rivalry in numerous ways.

### **Firm Strategy**

An appropriate firm level strategy is required for international competitiveness, but it is difficult, if not impossible, to generalize as to what is appropriate with respect to strategy. Government policy discourages competitiveness to the extent that it reduces the set of options for firm strategy. The more choices a firm has, the more chances it has to choose a successful strategy.

In order to analyze the impact of government policy on competitiveness from the perspective of firm strategy, an additional tool must be introduced. This is outlined in the sub-section that follows.

### **2.6.3 Government Policy and Firm Strategy**

Exhibit 2.13 depicts a value chain for a typical agri-food firm. Its primary business activities include **procurement**, **operations** and **marketing**. They are the firm's primary source of value creation. We include procurement as a primary business activity, and not a support activity. We do this to focus on the links between different levels of the agri-food sector and their implications for industry competitiveness. Several business activities support these primary activities including technology, finance and personnel, and firm infrastructure. They enhance or detract from the firms' ability to create value. The value captured by a firm is the difference between the cost of performing the primary and supporting business activities and the revenue realized from a transaction with an organization at a different market level.

### **The Value Chain and Firm Strategy**

A firm must configure its value chain to pursue a strategy. Although, in reality there is a continuum of strategies, all strategies are based on two elements: low cost or product differentiation<sup>5</sup>. Exhibit 2.14 indicates that firms have two fundamental choices for competing with other firms in their industry; by being the firm with the lowest delivered cost or by differentiating the product so that consumers are willing to pay a premium. Each of these choices for competing can be used to address all segments of the market or in only one segment of the market.

### **Using the Value Chain to Assess the Impact of Government Policy on Firm Strategy**

A firm must create a value chain that optimizes its chances of being successful with its chosen generic strategy. This means the firm must create the **means** for competing. Creation of assets, skills, processes, structures is an integral component of a strategy for gaining competitive advantage. The best configuration of means for competing depends on the type of strategy that an organization aims to pursue. For example, a firm pursuing low delivered cost will attempt to configure its business activities to reduce costs at the required level of quality, while a firm pursuing a differentiation strategy will attempt to configure its activities to enhance the product attributes that customers are willing to pay more for.

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<sup>5</sup> Product differentiation refers to either the physical characteristic of the product or the services attached to the product.

Exhibit 2.15 indicates that government policies can have various impacts on a firms' business functions, the price or revenue it obtains and the value it retains (i.e. its profitability). The profitability or value retained by a firm pursuing a low delivered cost strategy will be affected more by policy types that increase input prices than the profitability of a firm pursuing a differentiation strategy. Similarly, a government policy that requires firms to produce products of a given quality, may benefit firms pursuing



Exhibit 2.13  
The Value Chain for a Typical Agri-Food Firm

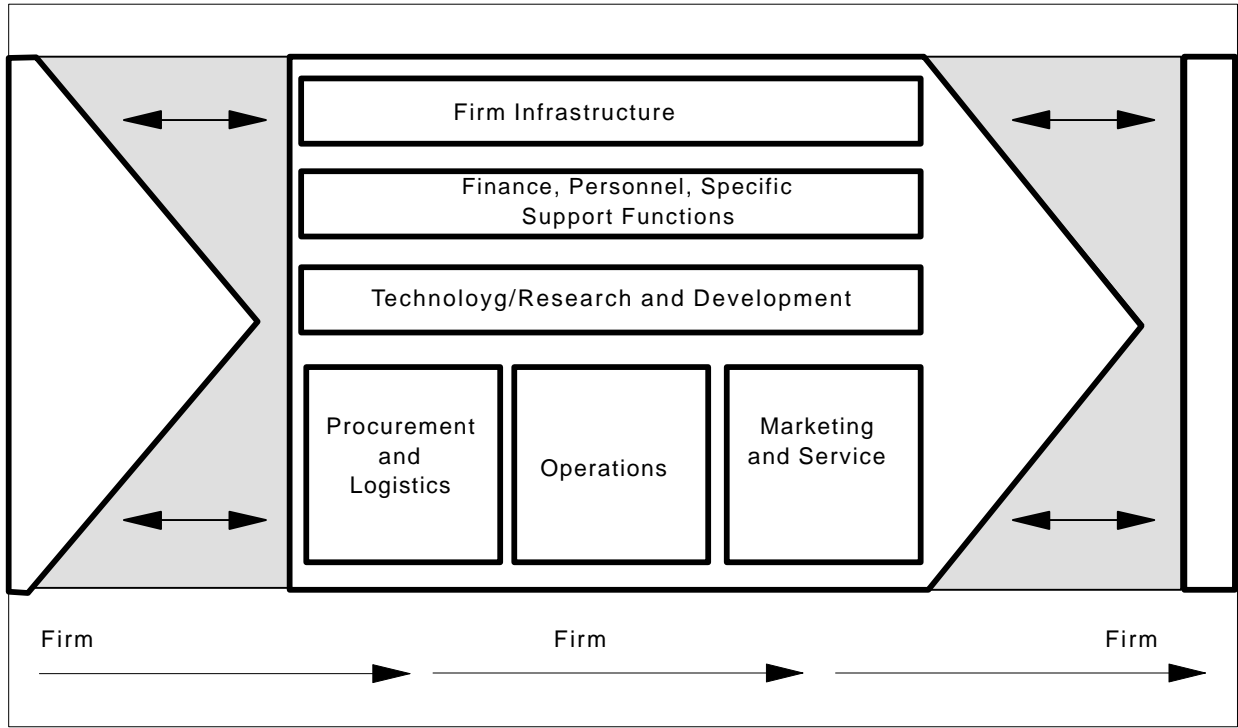


Exhibit 2.14  
Fundamental Basis for Competing - Generic Strategies

		Basis For Competing	
		Low Cost	Consumer Willingness to Pay a Premium
Segment of Market Addressed	Mass Market (All Segments)	Low Delivered Cost Strategy	Differentiation Strategy
	One Market Segment	Low Cost - Focus	Differentiation - Focus

Source: Adaptation de Porter, Michael E., "Competitive Advantage: Creating and Sustaining Superior Performance", 1985

**Exhibit 2.15****Potential Impacts of Government Policy on the Firm's Value Chain**

<b>Locus of Impact by Business Function</b>	<b>Potential Impacts On:</b>
<b>Primary</b>	
Procurement	* cost, flexibility, alternative sources, price determination, effectiveness of quality assurance programs, business partnerships
Operations	* cost, scale, operating period, flexibility, effectiveness of quality assurance programs, effectiveness of employee empowerment strategies, cycle time, business partnerships
Marketing	* cost, flexibility, alternative marketing channels, price determination, product mix, promotion activity, distribution operations, positioning, business partnerships
<b>Supporting</b>	
Technology	* level of activity, degree of adoption/adaptation, product development/ commercialization, response time, business partnerships
Finance	* cost, risk, flexibility, business partnerships
Personnel	* cost, flexibility, effectiveness of employee empowerment strategies, business partnerships
Infrastructure	* development/us of operational and strategic information systems, business partnerships
<b>Total Cost ( sum of primary and supporting)</b>	
<b>Revenue Indicator</b>	
Price	* fixed of percentage impact, ceiling or floor
Unit Revenue	* fixed or percentage impact, ceiling or floor, quantitative restriction on sales
<b>Value Indicator</b>	
Unit Margin	* fixed or percentage impact
Profit	* fixed or percentage impact, quantitative restriction on sales

**Exhibit 2.16****Commonly Required Factors For Success with Two Broad Generic Strategies**

<b>Factors Required by Business Function</b>	<b>Low Cost Strategy</b>	<b>Differentiation Strategy</b>
Procurement	* access to low priced inputs of a minimum quality	* access to inputs that meet quality requirements
Operations	* process engineering skills * tight cost control	* product engineering skills * tight quality control * reputation for quality of technological leadership
Marketing/Distribution	* low cost distribution system	* creative flair * strong marketing abilities * strong cooperation from channels
Technology	* products designed for ease in manufacture * strong capability in development	* creative flair * strong capability in basic research
Finance	* tight cost control * frequent detailed cost reports	* sales performance data appropriately segmented
Human Resources	* close supervision of labour * compensation based on cost and other relevant quantitative targets	* strong coordination among functions, especially; R&D, product development and marketing

low delivered cost strategies, while perhaps making it more difficult for firm pursuing differentiation to develop suppliers that will ensure quality standards that exceed those required by government policy.

By determining the impacts of government policy on firm level characteristics that are typically required for success with a given type of generic strategy, it is possible to determine whether government policy **strengthens** or **weakens** the abilities of firms to become internationally competitive. Exhibit 2.16 summarizes these success factors. If a government policy makes it more difficult for a firm to access low cost inputs, it weakens the ability of firms pursuing a low delivered cost strategy to be competitive, but it may have only a negligible effect on firms pursuing a differentiation strategy.

## 3.0 The Policy Categories

### 3.1 Introduction

The various instruments of agri-food policy can be grouped into categories for comparison and assessment. The choice of policy categories is dependent on the type of analysis that is being undertaken. For the purposes of this analysis we have chosen to define the categories on the basis of their likely effects on competitiveness. Accordingly, policies (instruments, programs, regulations, etc.) that are likely to have a similar effect on the determinants of competitiveness are grouped into the same category. For example, the provision of low cost credit, a land tax rebate, or feed freight assistance would all be considered direct input subsidies because they lower the cost of inputs to producers. Lowering the cost of inputs directly affects factor conditions, one of the determinants of competitiveness.

Our directive has been to limit the number of categories analyzed and, by doing so, reduce the amount of potential overlap among categories. As shown in Exhibit 3.1 we are examining the set of all agri-food policy instruments in place in Canada and the United States. The circle representing this set has been divided into thirteen slices. Each slice represents a category of like policy instruments. Each slice however may have subcategories within which the instruments may be further divided. For example, domestic supply control policies can be very distinct in their operational approach. One approach is to use quotas to strictly control production or marketing. Another approach is to reduce factors of production (such as cows or acres) by paying to remove them from production. Regardless of these distinctly different approaches the goal of supply reduction or control remains the same and hence they are grouped together.

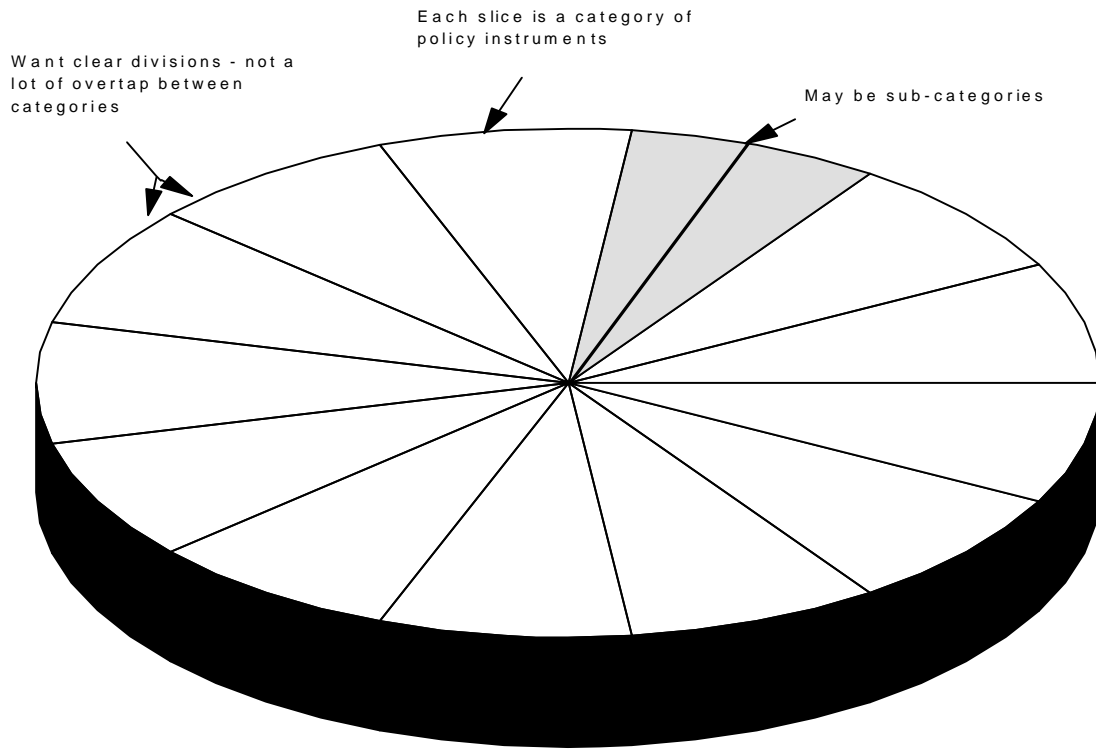
The thirteen policy instruments categories as defined for this study are:

1. Direct Input Subsidies
2. Direct Output Subsidies
3. Domestic Supply Controls
4. Border Price Controls
5. Quantitative Border Restrictions
6. Domestic Demand Enhancing Programs
7. Inventory Management
8. Export Assistance
9. Fees and Levies
10. Research and Development Investment
11. Market Failure Programs
12. Business Programs and Regulations
13. Technical Regulations

A brief explanation of each category, some examples of the types of programs or policies falling under each category, and a brief summary of the general nature of effects of the policy instruments in each category are provided.

### Exhibit 3.1

#### Premise for Establishment of Policy Instruments Categories



Circle represents the set of agri-food policies in a country

## **3.2 Description of Policy Categories**

### **3.2.1 Direct Input Subsidies**

#### **Explanation**

Direct input subsidies are those instruments which reduce the cost of inputs to the producer or processor thus lowering the cost of production or processing. It includes the costs of delivery to market. Direct input subsidies can be divided into two sub-categories: those directed at variable inputs and those directed at capital inputs.

Subsidies which are intended to correct for externalities are not included in this category.

#### **Examples**

Some examples of direct input subsidies are: income and sales tax reductions, exemptions, and rebates; financial assistance and loan guarantees, input subsidy payments; the provision of specific infrastructure such as irrigation and the provision of marketing services and administration.

#### **General Effects**

In general, direct input subsidies will cause the marginal and average costs of production of an individual firm to fall. Individual firms will accordingly be inclined to increase production moving the domestic supply curve for the industry outward. The nature of the movement will depend on the program design, the cost curve for the firm and the elasticity of demand for the respective input.

### **3.2.2 Direct Output Subsidies**

#### **Explanation**

Direct output subsidies are policy instruments which make direct payments to producers thus adding to the revenue they receive from the market place. Payments are often made on the basis that factors beyond the control of the producer caused revenues to be below a level deemed acceptable.

#### **Examples**

Examples of direct output subsidies include: deficiency payments, crop insurance payments, stabilization and price insurance payments; and embargo compensation.

#### **General Effects**

In general, direct output subsidies raise producers' income above that which it would be in the absence of the payment. Depending on the size of the payment and the design of the program (e.g. if producers have knowledge of payment in advance) it may result in the maintenance or expansion of production above the level that would otherwise occur. The result would be a movement of the supply curve for the domestic industry to the right of where it would otherwise lie.

### **3.2.3 Domestic Supply Control**

#### **Explanation**

Domestic supply control refers to policy instruments which are intended to reduce the supply of product from domestic producers. This may be done in two ways. One, through legislation limiting the amount of product that can be produced or marketed by domestic producers. Or two, by instituting programs which provide incentives to reduce production or remove specific factors of production.

#### **Examples**

Examples of the first type of supply control are found in the poultry, dairy, and tobacco industries in Canada which have legislated supply management programs. Examples of the second form of supply control include the dairy herd reduction program and the crop acreage removal programs in the United States.

#### **General Effects**

Supply control programs generally reduce supply levels below that which would otherwise occur. They shift the supply curve inward causing a movement up the demand curve and a corresponding increase in product prices.

### **3.2.4 Border Price Controls**

#### **Explanation**

Border price controls are instruments that increase the price of imported products above that at which they would otherwise enter the domestic market.

#### **Examples**

Examples of border price controls include tariffs, countervailing duties, and minimum import pricing.

#### **General Effects**

Generally, border price controls raise the price of product in the importing country and reduce the amount of product entering the country. This moves the excess supply curve of exporters inward. The importing country's suppliers will expand production to meet demand at the new price level.

### **3.2.5 Quantitative Border Restrictions**

#### **Explanation**

Quantitative border restrictions are instruments that limit the volume of a product that may be imported. It can result either from controls imposed by the importing country or restrictions placed voluntarily by the exporting country.



## **Examples**

Examples of quantitative border restrictions include import quotas, import licensing requirements, and voluntary export restraints.

## **General Effects**

Generally, quantitative border restrictions reduce the amount of imports entering a country's domestic market. The excess demand curve of importers moves inward. Whether domestic production expands to fill the gap in supply depends on a number of factors including the presence or absence of legislated supply management.

### **3.2.6 Domestic Demand Enhancing Programs**

#### **Explanation**

Demand enhancing programs are policy instruments which attempt to increase domestic prices for specific products by methods other than supply-side restrictions such as legislated production or marketing quotas. The extent that prices rise depends on the elasticities of supply and demand and the influence of other market interventions such as domestic supply control.

#### **Examples**

They include market development type programs. Examples of demand enhancing programs include: purchase programs such as the U.S. School Milk program; and promotion activities such as the "Foodland Ontario" campaign.

#### **General Effects**

In general demand enhancing programs work to move the demand curve for a product outward. Prices will rise depending on the relative elasticities of supply and demand and/or if there is a resultant shift in the supply curve.

### **3.2.7 Inventory Management**

#### **Explanation**

Inventory management refers to government purchase and maintenance of product stocks for the purpose of stabilizing prices by reducing or expanding supply. In world product markets very large stocks are required to have any effect on commodity prices.

#### **Examples**

The U.S. commodity loan rate program is considered an inventory management program. This type of program is also used however in specific domestic product markets such as maple syrup in Canada.

#### **General Effects**

Inventory management programs affect product supply at levels that may affect domestic or world prices. The extent of effect on prices is dependent on the size of inventory maintained and the elasticities of demand.

### **3.2.8 Export Assistance**

#### **Explanation**

Export assistance refers to policy instruments which lower the cost to an importing country of purchasing a product from an exporter thereby increasing sales of the product by the exporter. It may also include policy instruments such as promotion and marketing which increase awareness of the product in the importing country in an attempt to increase demand.

#### **Examples**

Examples of export assistance measures include the U.S. Export Enhancement Program, U.S. Targeted Export Assistance, and, in the view of some, credit sales such as those of the Canadian Wheat Board.

#### **General Effects**

In general export assistance measures operate in reverse to border price controls. They move out the excess supply curve and correspondingly reduce prices in the importing country. The importing country may reduce supplies in response to the decreased domestic price.

### **3.2.9 Fees and Levies**

#### **Explanation**

Fees and levies are policy instruments which place a tax, fee, or levy on the inputs to a product or the product itself once it is produced.

#### **Examples**

Examples include fees for inspection or grading, and producer "checkoffs" or levies to marketing agencies.

#### **Summary of Effects**

In general, a fee or levy increases average costs to the individual firm and results in a shift in the industry's supply curve inward.

### **3.2.10 Research and Development Investment**

#### **Explanation**

Research and development generally refers to policy instruments which invest in improving the physical aspects of products produced or the capabilities and knowledge (including management capabilities) of the sector. It includes the extension and adoption of technology.

#### **Examples**

Examples of research and development include grants to research institutes and organizations, government operated research centres, and government extension programs.

### **General Effects**

The effects of investment on research and development can be on either the supply or demand side. Research which improves yields would shift the supply curve outward. Research which improves the quality of a product, thus creating a demand that did not previously exist, would shift the demand curve outward.

### **3.2.11 Market Failure Programs**

#### **Explanation**

Unlike the previous categories which each represent a type of intervention, this category represents a variety of forms of intervention used for a common purpose. Thus, market failure programs refers to policy instruments used to address externalities, structural deficiencies or disaster relief.

#### **Examples**

Examples of market failure programs include aid provided in the case of natural disasters such as a flood or tornado. In many cases this would be directed at rebuilding lost infrastructure such as buildings and equipment. Another example is programs aimed at environmental protection such as soil conservation and groundwater quality maintenance.

#### **General Effects**

In general, these types of transfer payments are not directly targeted at the inputs or outputs of production but are more random and indirect in their support. Consequently, they are less inclined to have any long term effects on supply and demand curves within a country.

### **3.2.12 Business Programs and Regulations**

#### **Explanation**

Business programs and regulations are instruments which affect the method by which business is conducted by a firm and it includes regulations on the transfer of goods between firms (buyers, sellers, competitors, etc.)

#### **Examples**

Examples of business and transaction regulations include requirements for product marketing through a designated organization or legislation restricting farm debt foreclosures.

#### **General Effects**

In general business programs and regulations affect the way the firm conducts its business activities. Regulation can restrict or control the nature of business activities. Some programs may encourage specific business activities, others may increase the cost of operation.

### 3.2.13 Technical Regulations

#### Explanation

Technical regulations are policy instruments which affect the form or method of production, processing, or marketing of a product primarily in terms of the physical aspects of the product.

#### Examples

Examples of technical regulations include animal health regulations, food production and inspection regulations and packaging and labelling regulations.

#### General Effects

In general technical regulations increase the cost of production of a product. Technical regulations may increase demand by enhancing consumer confidence. On the other hand if they are unnecessarily restrictive they may dampen demand. Technical regulations can also be used as a means of border control to restrict imports of a product.

### 3.3 Categorization of Agri-Food Policies

All agricultural policy instruments (federal and provincial or state) in Canada and the United States as documented in the 1989 Net Benefits Results and the Hill and Knowlton Study (1990) of U.S. Agricultural Programs were reviewed relative to the thirteen categories described above. This involved not only reviewing the Net Benefits and Hill and Knowlton documents but also undertaking detailed investigations to obtain descriptions of each federal and provincial program in Canada and to ascertain if additional relevant policy instruments exist in the United States which were not identified in the Hill and Knowlton Study. In many cases a specific program involved policy instruments from more than one category. For example, Canadian supply management in dairy encompasses instruments in seven categories: (2) direct output subsidies, (3) domestic supply controls, (4) border price controls, (5) quantitative border restrictions, (6) domestic demand enhancing programs, (9) fees and levies, (13) business programs and regulations.

Consequently, the classification of a certain policy or program into a single category may not be possible. **Each individual program must be viewed in terms of the portion of each policy instrument category it encompasses.**

In addition to the specific agricultural policies referred to in this chapter there are many general government policies which affect the agri-food sector. Examples include interest and exchange rate policy, general taxation and labour legislation. Because these policies are not specifically targeted at the agri-food sector they have not been documented and classified for the purpose of this study. It must be acknowledged, however, that they have direct and indirect impacts on the competitiveness of the agri-food sector. The performance and indeed stimuli for many agri-food policies is related to the existence of these general policies.

## 4.0 Rating the Policy Categories

This section summarizes the analysis conducted in this study and provides the overall competitiveness rating of the policy categories.

### 4.1 Components of Analysis

Exhibit 4.1 contains a summary of all the elements of our analysis. There are six elements which are used to determine the overall competitiveness score in the far right hand column of the exhibit. These are outlined briefly below.

#### **Policy Category**

In some cases, the thirteen policy categories have been divided into a number of sub-categories because the specific instruments used within that category do have different impacts on competitiveness.<sup>6</sup> For example, the diverse ways in which technical regulations can be formulated and implemented result in eight entries for technical regulations. There are also multiple sub-categories for research and development, output subsidies, programs designed to deal with market failure and programs that address business transactions.

#### **Country Type**

This column indicates whether the policy is used by an importer (I), an exporter (X), or both (B). Most policy categories can be used by exporters and importers. The exceptions are export assistance, which can only be used by countries that export and quantitative border restrictions which can only be used by countries that import. Border price controls and domestic supply controls also tend to be used predominantly by countries that import.

#### **Economics**

These two columns indicate the policy's impact on producer welfare/profits and market share which is the first criterion of competitiveness. For some of the policy sub-categories the impact of the sub-category on a composite measure of producer welfare or profits can only be determined empirically. Others have a negative impact (-) or a positive impact (+) which can be determined theoretically.

As indicated in the discussion in Chapter 2 any factor that has a positive impact on either profitability or market share and an empirically determined or neutral impact on the other (but not a negative impact) meets the first criterion of the definition of competitiveness (i.e. ability to profitably gain/maintain market share).

#### **Sustainability**

These two columns indicate the sustainability of a policy from an internal/economic perspective (in the country using it) and from an external/political perspective (by actions from countries being affected by it). Sustainability is the second criterion of competitiveness.

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<sup>6</sup> [In effect, the need to sub-divide a category indicates that the thirteen-category approach may be too aggregate for competitiveness analysis.]

As discussed in Chapter 2 sustainability has two dimensions: (1) whether the economic effect can be sustained within the country using the policy category (internal/economic effects), and (2) whether producers in another country will be adversely affected and be able to launch a retaliatory action against producers in the country using the policy category through existing trade laws (external/political effects).

### **Competitiveness**

These two columns combine the economic and sustainability findings. The "economic" column considers only the internal/economic sustainability issues while the "total" column considers the external/political issues as well. As can be seen, while many of the sub-categories are positive when only the internal/economic component of sustainability is considered, they become uncertain when the external/political factor of sustainability is considered.

### **Business Systems Ranking**

The business systems ranking was derived from the delphi team's business systems analysis. The policy category that was determined to have the most positive impact on competitiveness is indicated by a 1, while the policy category with the most negative impact is indicated by a 13. Since any one policy category may include a number of sub-categories, with different economic and competitiveness impacts, several delphi team rankings are repeated. For example, R&D: Product Innovation, which ranks as 1 is listed in the first row, while R&D: Process Innovation, which has somewhat less beneficial economic effects, but also ranks as 1 according to the delphi team's analysis .

Exhibits 4.2A through 4.2F show the details of the delphi team's policy assessment analysis. [Each dot represents an individual team member's rating of a policy. Some dots coincide, reflecting the same rating on the part of two or more members of the delphi team. A wider spread of dots along the positive-to-negative-to-indeterminate scale indicates a broader divergence of ratings among members of the delphi teams.]

### **Overall Score**

The last column of Exhibit 4.1 indicates our overall score for each policy sub-category based on the five elements of analysis above.

## **4.2 Overall Ratings**

### **Programs that are Most Positive for Competitiveness**

The policy sub-categories determined to be most positive for improving competitiveness all met the total competitiveness criteria and were ranked in the better half of policy categories by the delphi team, with the exception of technical regulations. Based on our previous experience in research on the competitiveness impacts of technical regulations we have assigned certain technical regulation and market failure programs an overall score of most positive. The research and development and domestic demand enhancing policy categories undoubtedly encompass the policy instruments that are most beneficial to improving competitiveness. Instruments within these policy categories that enhance sustainable demand conditions are the most beneficial to competitiveness.

### **Programs that are Positive for Competitiveness**

The instruments within selected sub-categories determined to be positive for improving competitiveness had a "positive" or "empirically determined" score on the total competitiveness criteria and all ranked

### [Revised Exhibit 4.1 Summary of Analysis]

Policy Category	Country Type	Economic		Sustainability		Competitiveness		Business Systems Ranking	Overall Score
		Producer Welfare/ Profit	Market Type	Internal/ Economic	External/ Political	Economic	Total		
R&D: Product Innovation	B	+	?	+	+	+	+	1	2
R&D Process Innovation	B	?	+	+	?	+	?	1	2
Demand Enhancers - Domestic	B	+	?	+	+	+	+	2	2
Inventory Management (Overall)	B	?	0	+	+	?	?	3	1
BT - Domestic- Positive	B	?	+	+	?	+	+	4	1
BT - Domestic - Negative	B	?	-	-	?	-	?	4	1
BT - International - Postive	B	+	+	+	?	+	?	4	1
BT - International - Negative	B	-	-	+	+	-	?	5	-1
Export Assistance	B	+	+	-	-	-	?	6	1
MF - Production Externality - Postive	B	?	+	+	?	+	-	6	1
MF - Production Externality - Negative	B	?	-	+	?	-	-	6	2
MF - Consumption Externality - Postive	B	+	?	+	+	+	?	6	1
MF - Consumption Externality - Negative	B	-	?	+	?	-	?	6	1
MF - Structural Deficiency Program	B	+	-	+	?	-	+	6	1
Direct Input Subsidies	B	?	+	-	+	+	?	7	-1
TR - (MF - Production Externality - Postive)	B	?	+	+	-	-	?	8	0
TR - (MF - Production Externality - Negative)	B	?	-	+	?	+	-	8	0
TR - (MF - Consumption Externality - Postive)	B	?	?	+	?	-	?	8	2
TR - (MF - Consumption Externality - Negative)	B	?	?	+	+	+	?	8	0
TR - (BT - Domestic - Positive)	B	+	+	+	?	-	+	8	0
TR - (BT - Domestic - Negative)	B	-	-	-	?	-	?	8	0
TR - (BT - International - Positive)	B	+	+	+	?	+	?	8	0
TR - (BT - International - Negative)	B	+	-	+	+	-	?	8	0
Direct Ouput Subsidy - Standard	B	+	+	-	-	-	?	9	-1
Direct Output Subsidy - Stabilization	B	?	+	+	-	+	-	9	0
Border Price Controls	I	+	+	?	-	?	-	10	-1
Fees and Levies	B	?	-	-	+	-	-	11	-2
Quantitative Border Restrictions	I	+	+	?	-	?	-	12	-2
Domestic Supply Control	I	?	?	-	-	-	-	13	-2

**Profit Category**

MF - Market Failure  
 BT - Business Transactions  
 TR - Technical Regulations

**Country Type**

B = applicable to exporters and importers  
 I = applicable to importers  
 X = applicable to exporters

**Overall Score**

2 = most positive  
 1 = positive  
 0 = neutral  
 -1 = negative  
 -2 = most negative



Exhibit 4.2A  
 Delphi Team's Rating of Policy Categories  
 Overall

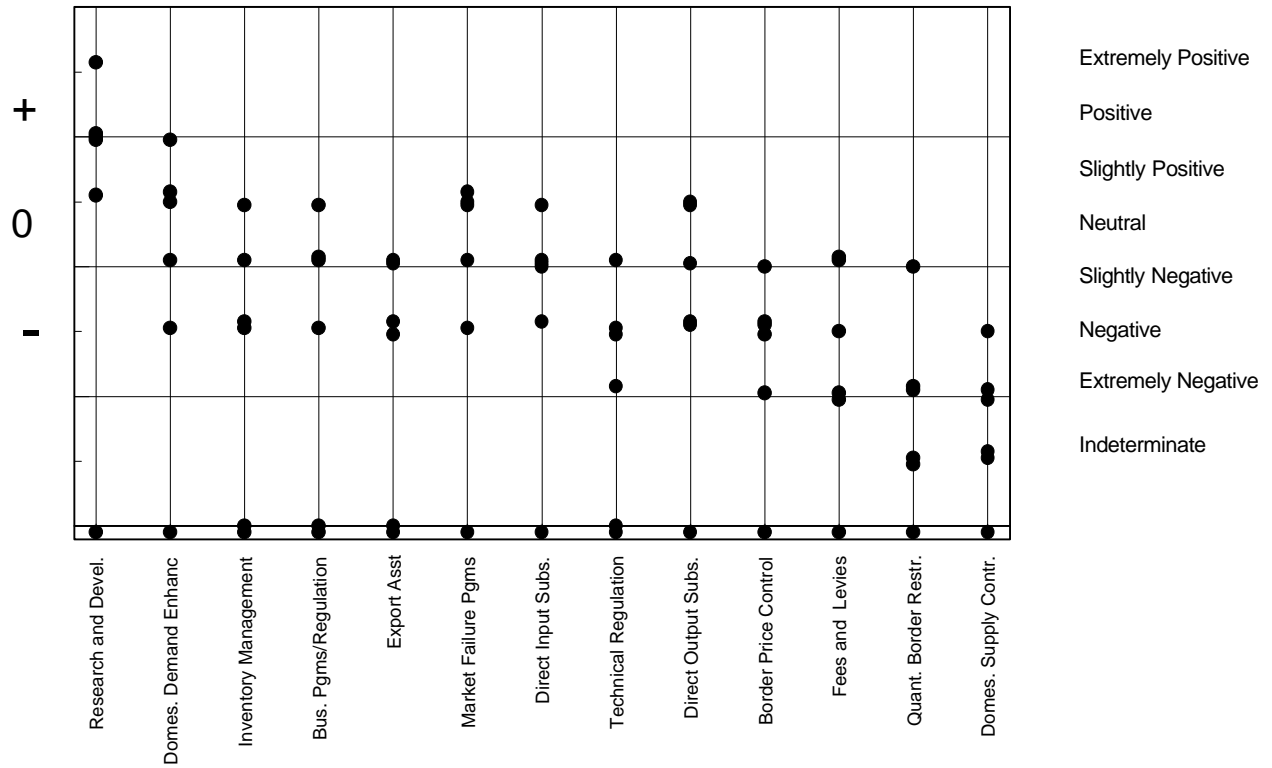


Exhibit 4.2B  
 Delphi Team's Rating of Policy Categories  
 Factor Conditions

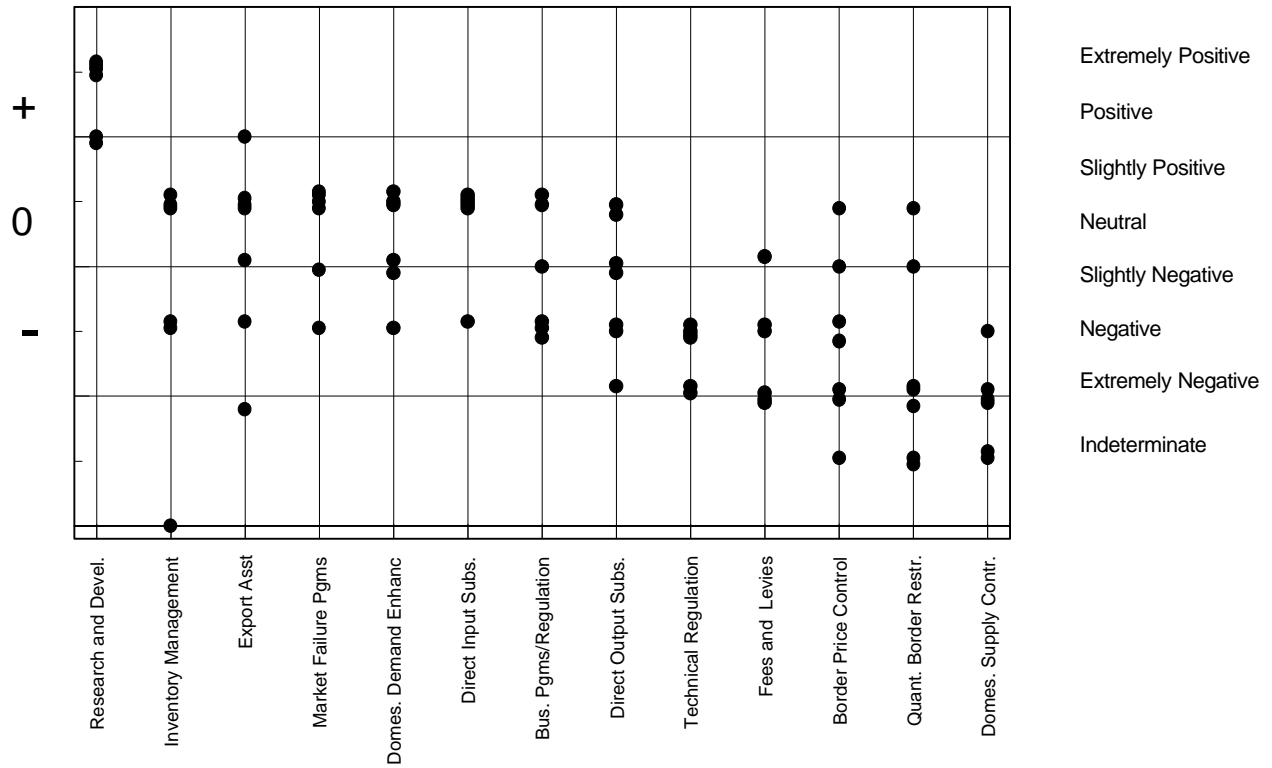


Exhibit 4.2C  
 Delphi Team's Rating of Policy Categories  
 Demand Conditions

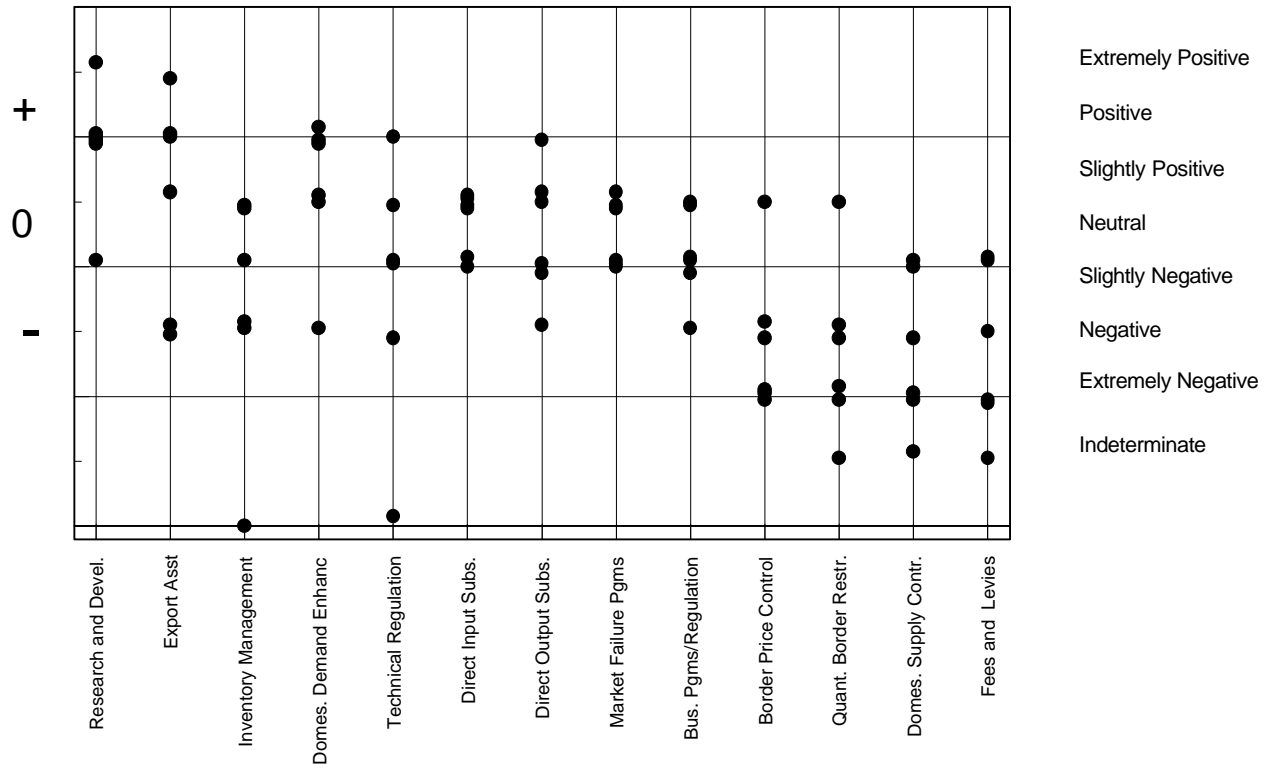


Exhibit 4.2D  
 Delphi Team's Rating of Policy Categories  
 Relationships and Support

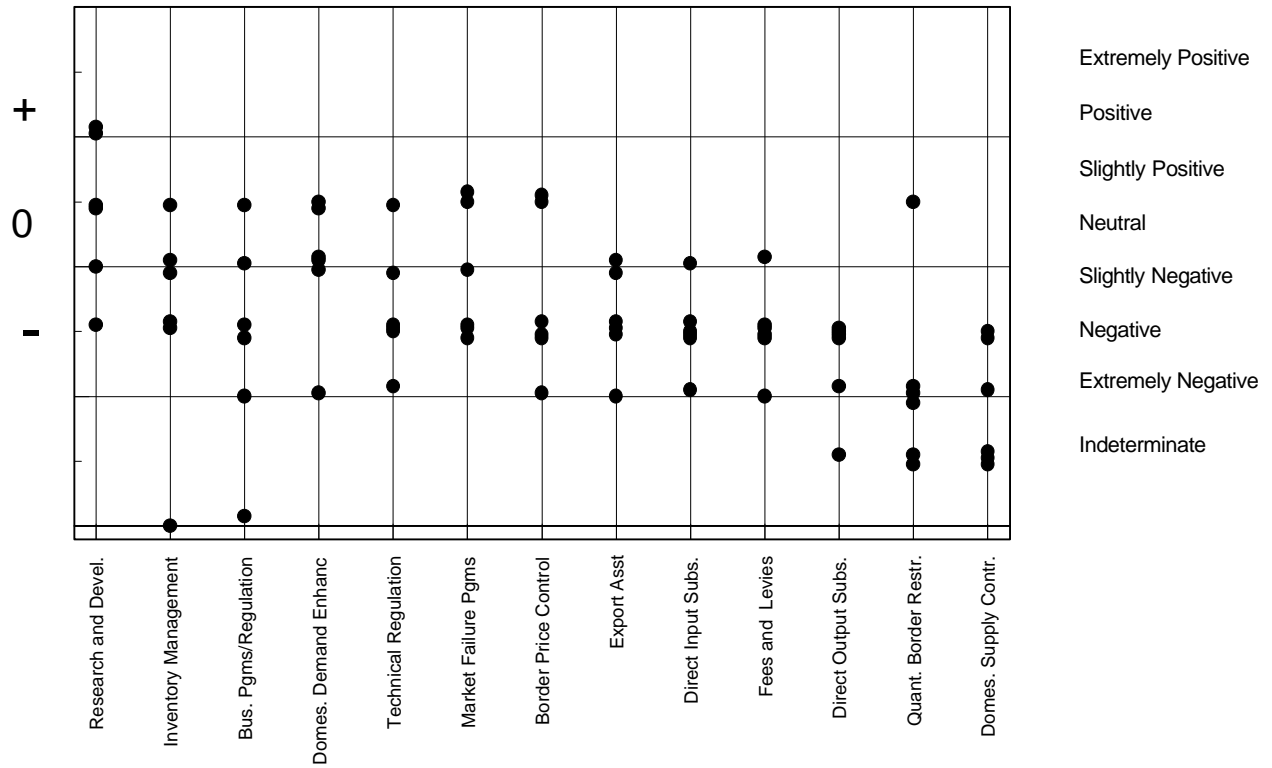


Exhibit 4.2E  
 Delphi Team's Rating of Policy Categories  
 Structure and Rivalry

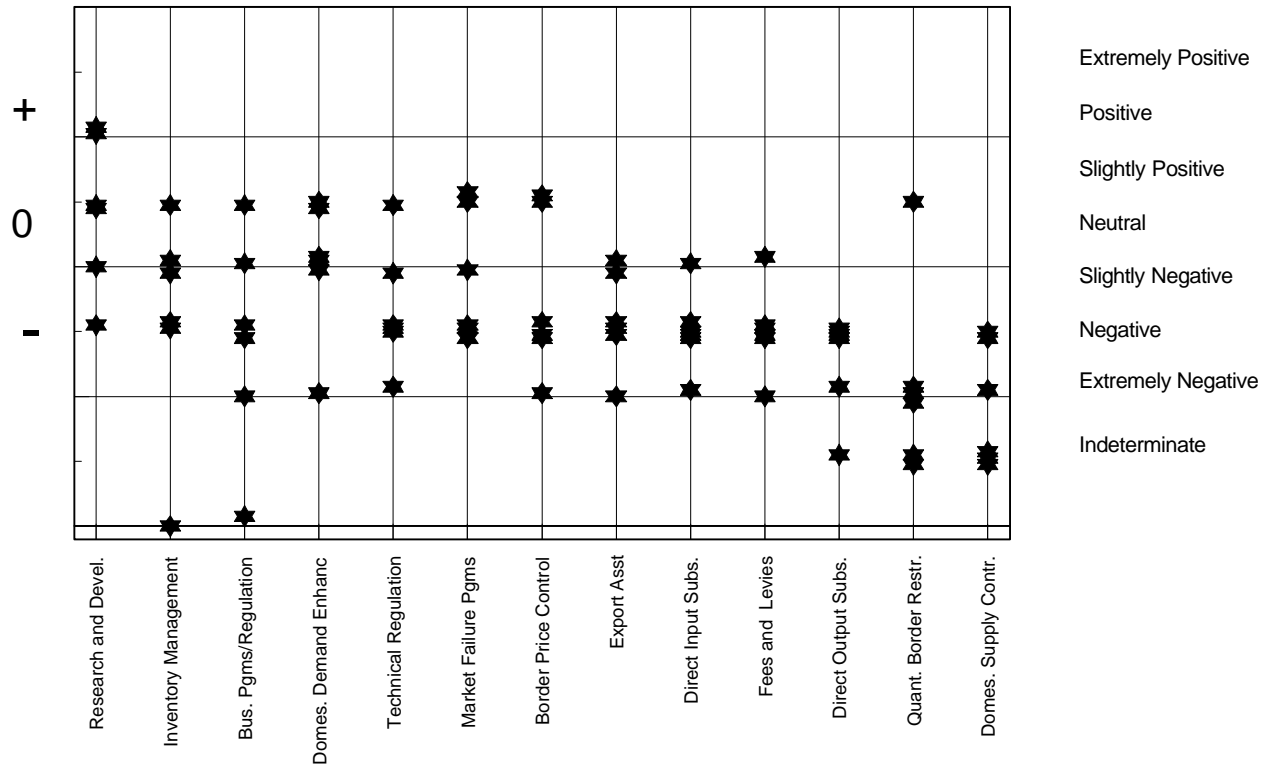
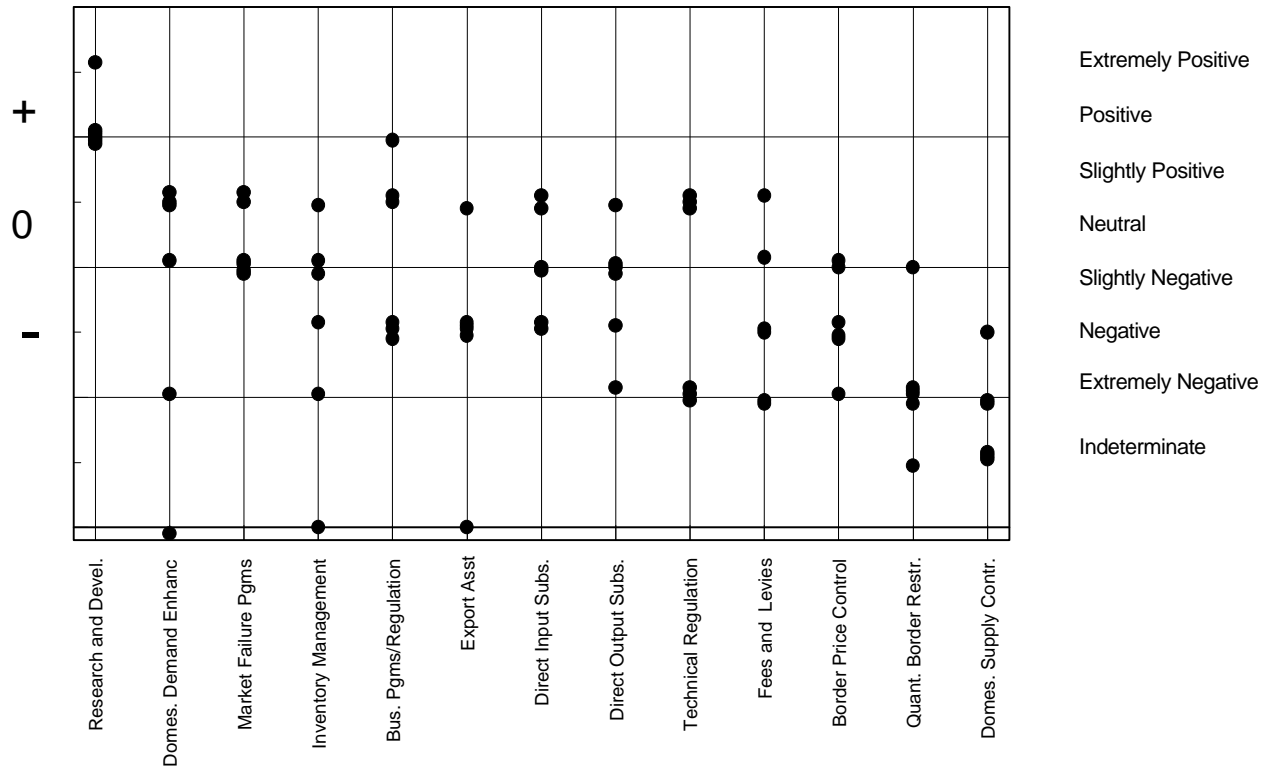


Exhibit 4.2F  
 Delphi Team's Rating of Policy Categories  
 Firm Strategy



within the top 40 percent of delphi team rankings. All programs dealing with domestic and international business transactions, inventory management schemes and most market failure programs are beneficial to competitiveness. These three policy categories share some common features. First, they each contain numerous instruments which need to be considered on a case by case basis to completely assess competitiveness impacts. Second, they each address imperfections in the market system: business transaction programs typically affect transaction costs, market failure programs are obviously designed to deal with various failures in markets, while inventory management programs are frequently motivated (or at least defended) on the basis of imperfect knowledge about future states of the world and/or price variability.

### **Programs that are Neutral to Competitiveness**

Policy sub-categories that had a "positive" or "empirically determined" score on the total competitiveness criteria and ranked just below the top half of the delphi team rankings were determined to be neutral to competitiveness. Both of these policy categories, technical regulations and domestic output subsidies, comprise multiple policy instruments.

Due to the great diversity of policy instruments that can be formulated and the even greater diversity in which these can be implemented or applied, technical regulations were judged on an overall basis to be neutral to competitiveness. This general conclusion is supported by other research (van Duren, 1992; Martin, van Duren, Hall, McEwen et al, forthcoming). However, it is important to note that any one type of technical regulation can have the entire range of impacts that results from the policy categories examined in this study.

Domestic output subsidies is a policy category shown as neutral to competitiveness although it can be designed and implemented in numerous ways, with a variety of competitiveness impacts. Also, empirical research on the price, economic welfare and trade flow impacts of the types of instruments used within this category in Canada indicates that these programs are generally neutral. However, theoretical analysis does indicate that these programs can be detrimental to competitiveness.

### **Programs that are Negative for Competitiveness**

Several policy categories are negative to competitiveness, even though they produce short-term beneficial effects for the firms that are targeted to receive their benefits. These programs have an "empirically determined" or "negative" score on the total competitiveness criteria and show the most variation of any "overall score" group for the delphi team rankings. Export assistance, direct input subsidies and border price controls are all generally aimed at benefitting certain groups of producers, and the economic analysis confirms that generally they do so. Firms that are intended to benefit from these programs also gain considerable opportunity to take strategic advantage of such programs - a point which has been ignored by much of the economic analysis conducted on such policy instruments until now.

### **Programs that are Most Negative for Competitiveness**

The policy categories determined to be most negative to improving competitiveness had a "negative" or "empirically determined" score on the total competitiveness criteria and all ranked within the bottom 25 percent of the delphi team's rankings. Fees and levies that are not designed to address market failures, quantitative border restrictions and domestic supply controls were determined to be most detrimental to competitiveness. The types of fees and levies included in this policy category are designed to raise revenue and do so through taxing "goods" created by the economy, that is goods and services that are wanted by society. Quantitative border restrictions and domestic supply controls, which are frequently used in tandem, are particularly detrimental to competitiveness because of the difficulty that buyers and sellers have in interpreting

their impacts and the risk they create to information signals and overall stability of the business environment.





Exhibit 4.3 presents our final summary rating of the thirteen policy categories in terms of their impact on competitiveness.

## 5.0 Case Studies of Policy Sets

[The following case studies apply average overall competitiveness ratings in determining the impacts of policy sets on the chicken and hog industries in Canada and the U.S. Section 4.2 **noted** that policies/programs within a category can have substantially different impacts on the determinants of competitiveness and overall competitiveness as depicted in Exhibit 4.2. Therefore, **caution** is advised in using the impact analysis presented below for purposes beyond illustrating the framework developed in this study.

A more ambitious, but significantly more costly, approach would be to examine policies/programs to determine their individual influences on competitiveness, than assessing their combined effect as a set.]

### 5.1 The Case for Chicken

#### 5.1.1 Canadian Chicken Policy

A comprehensive list of the individual policy instruments affecting the Canadian chicken industry is presented in Appendix A. The instruments are classified according to the thirteen policy categories. The list includes instruments that directly affect the industry and those that indirectly affect the industry through their effect on inputs (primarily feed) to chicken production. The list is based on the 1989 Net Benefits Results and includes federal, shared federal-provincial and provincial policy instruments.

Where data are available the financial net benefits to the Canadian chicken industry for each policy instrument have been included. In cases where the net benefits could be attributed to instruments in two separate policy categories, we have made an appropriate allocation of the benefits between the instruments. For example in chicken, net benefits are provided for the supply management program in total, but we allocated these benefits between the domestic supply control and the quantitative border restrictions components of the program.

The categories for which policy instruments exist that directly or indirectly affect the Canadian chicken industry and the value of their benefits both in total and per unit of output (i.e. per \$100 of value of production) are:

	<b><u>Total Benefits</u></b>	<b><u>Unit Benefits</u></b>	<b><u>Relative Emphasis</u></b>
Research and Development Investment	\$ 23,200,000	\$ 2.52	4.9%
Business Programs and Regulations	1,300,000	0.14	.3%
Technical Regulations	14,600,000	1.59	3.0%
Direct Input Subsidies	10,800,000	1.21	2.3%
Border Price Controls	(10,900,000)	(1.19)	(2.3%)
Fees and Levies	(9,200,000)	(1.00)	(1.9%)
Domestic Supply Control	221,800,000	24.09	46.9%
Quantitative Border Restrictions	221,800,000	24.09	46.9%

Total	<u>\$473,400,000</u>	<u>\$51.44</u>	<u>100.0%</u>
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### 5.1.2 U.S. Chicken Policy

A list of the individual policy instruments affecting the United States chicken industry is presented in Appendix B. The instruments are classified according to the thirteen policy categories. The list includes instruments that directly affect the industry and those that indirectly affect the industry through their effect on inputs (primarily feed) to chicken production. The list is based on the Hill and Knowlton Study of U.S. Agricultural Subsidies 1990 and includes federal, and state programs for California and Texas (which together represent ten percent of U.S. chicken production). A cursory investigation into programs available in the southeastern U.S. states where chicken production is also predominant, did not identify any significantly different policies or programs from those already documented.

Where data are available, producer subsidy equivalents to the U.S. chicken industry for each policy instrument have been included. We have also calculated a producer subsidy equivalent component for domestic demand enhancing programs used in the United States which are usually not part of PSE estimates. These programs fall under the U.S.D.A. Food and Nutrition Service (FNS) and refer to such programs as Food Stamps, Women, Infants and Children Food Program, Temporary Emergency Food Assistance, and Food Commodities for Soup Kitchens. [Price Waterhouse calculated the FNS programs PSE at \$1.1 billion. This calculation did not reflect that FNS programs are delivered at the consumer level, while PSE are measured at the producer level. The farm value of chicken accounts for approximately one third the retail value of processed retail product. The Domestic Demand Enhancing Programs figures in the following table have therefore been set to one third of their budgetary level.]

The categories for which policy instruments exist that directly or indirectly affect the United States chicken industry and the value of their benefits both in total and per unit of output (i.e. per U.S. \$100 of value of production) are:

	<u>Total Benefits</u>	<u>Unit Benefits</u>	<u>Relative Emphases</u>
Research and Development Investment	U.S.\$77,000,000	U.S.\$0.86	5.0%
Domestic Demand Enhancing Programs	370,000,000	4.00	23.1%
Technical Regulations	661,000,000	7.42	42.8%
Direct Input Subsidies	446,000,000	5.00	29.0%
Export Assistance	5,000,000	0.05	0.3%
Total	<u>U.S.\$1,559,000,000</u>	<u>U.S.\$17.33</u>	<u>100.0%</u>

### 5.1.3 Analysis of Competitiveness Impacts

Exhibit 5.1 provides a graphic comparison of the relative impact on competitiveness of Canadian and U.S. chicken policies. The thirteen policy categories are listed.

Revised Exhibit 5.1

The horizontal axis provides an index to indicate the relative emphasis of each policy category by each country. The index reflects both the overall magnitude of intervention (i.e. Canada's unit net benefits of \$51.44 compared to U.S. unit net benefits of U.S. \$17.33) as well as the relative use of each policy category within each country (i.e. Canada's direct input subsidies represent \$1.59 of total policy intervention compared to domestic supply control which represents \$24.09).

Canada's policy set is shown by the circles. The U.S. policy set is shown by the diamonds. The sum of the circles is about three times the sum of the diamonds since the total value of Canadian programs is about three times that of the U.S. programs.

The exhibit indicates a much greater use of low rated policy categories by Canada. By comparison the United States makes much greater use of one of the most positive rated categories and also of one neutral policy category.

## **5.2 The Case for Hog/Pork**

### **5.2.1 Canadian Hog/Pork Policy**

A comprehensive list of the individual policy instruments affecting the Canadian hog/pork industry is presented in Appendix C. The instruments are classified according to the thirteen policy categories. The list includes instruments that directly affect the industry and those that indirectly affect the industry through their affect on inputs (primarily feed) to hog production. The list is based on the 1989 Net Benefits Results and includes federal, shared federal-provincial and provincial policy instruments.

Where data are available the financial net benefits to the Canadian hog/pork industry for each policy instrument have been included. In cases were the net benefits could be attributed to instruments in two separate policy categories, we have made an appropriate allocation of the benefits between the instruments.

The categories for which policy instruments exist that directly or indirectly affect the Canadian hog/pork industry and the value of their benefits both in total and per unit of output (i.e. per \$100 of value of production) are:

	<u>Total Benefits</u>	<u>Unit Benefits</u>	<u>Relative Emphasis</u>
Research and Development Investment	\$50,600,000	\$2.84	35.5%
Domestic Demand Enhancing Programs	70,000	0.00	0.05%
Business Programs and Regulations	4,000,000	0.23	2.8%
Technical Regulations	32,700,000	1.83	22.9%
Direct Output Subsidies	85,600,000	4.81	60.0%
Direct Input Subsidies	8,400,000	0.47	5.9%
Border Price Controls	(38,700,000)	(2.17)	(27.1%)
Total	<u>\$142,700,000</u>	<u>\$8.01</u>	<u>100.0%</u>

### 5.2.2 U.S. Hog/Pork Policy

A list of the individual policy instruments affecting the United States hog/pork industry is presented in Appendix D. The instruments are classified according to the thirteen policy categories. The list includes instruments that directly affect the industry and those that indirectly affect the industry through their affect on inputs (primarily feed) to hog/pork production. The list is based on the Hill and Knowlton Study of U.S. Agricultural Subsidies 1990 and includes federal, and state programs for California and Texas (which together represent ten percent of U.S. hog/pork production).

Where data are available, producer subsidy equivalents to the U.S. hog/pork industry for each policy instrument have been included. We have also calculated a producer subsidy equivalent component for domestic demand enhancing programs used in the United States, which are usually not part of PSE estimates. These programs fall under the U.S.D.A. Food and Nutrition Service (FNS) and refer to such programs as Food Stamps, Women, Infants and Children Food Program, Temporary Emergency Food Assistance, and Food Commodities for Soup Kitchens. [Price Waterhouse calculated the FNS programs PSE at \$1.2 billion. This calculation did not reflect that FNS programs are delivered at the consumer level, while PSE are measured at the producer level. The farm value of hogs accounts for approximately one third the retail value of processed retail product. The Domestic Demand Enhancing Programs figures in the following table have therefore been set to one third of their budgetary level.]



The categories for which policy instruments exist that directly or indirectly affect the United States hog/pork industry and the value of their benefits both in total and per unit of output (i.e. per U.S. \$100 of value of production) are:

	<u>Total Benefits</u>	<u>Unit Benefits</u>	<u>Relative Emphasis</u>
Research and Development Investment	U.S.\$80,000,000	U.S. \$0.86	5.8%
Domestic Demand Enhancing Programs	380,000,000	4.00	26.9%
Market Failure Programs	16,000,000	0.17	1.1%
Technical Regulations	8,000,000	0.09	0.6%
Direct Input Subsidies	903,000,000	9.71	65.3%
Export Assistance	5,000,000	0.05	0.3%
Total	<u>U.S.\$1,392,000,000</u> <u>0</u>	<u>U.S.\$14.88</u>	<u>100.0%</u>

### 5.2.3 Analysis of Competitiveness Impacts

Exhibit 5.2 provides a graphic comparison of the relative impact on competitiveness of Canadian and U.S. hog/pork policies. The thirteen policy categories are listed on the bottom axis, from left to right in order of their overall impact on competitiveness. The squares indicate each category's relative rating. For example, research and development rates as most positive and quantitative border restrictions as most negative.

Exhibit 5.2

The right hand side provides an index to indicate the relative emphasis of each policy category by each country. The index reflects both the magnitude of intervention of each policy category within each country (i.e. Canada's direct input subsidies represent \$0.47 of total policy intervention compared to direct output subsidies which represents \$4.81 per \$100 of production).

Canada's policy set is shown by circles. The U.S. policy set is shown by diamonds. The sum of the diamonds is about twice times the sum of the circles since the total value of U.S. programs is about two times greater than the total value of Canadian programs.

The exhibit indicates fairly similar policy use except for three categories. Domestic demand enhancing programs (rated most positive) are used much more extensively by the U.S. as are direct input subsidies (rated negative). Canada makes greater use of direct output subsidies which are rated neutral toward competitiveness.

## 6.0 Summary Comments

[This study developed a framework for assessing effects on the competitiveness of the agri-food sector of policy sets in different countries. The study also included application of the framework to a number of policy categories and illustrated how the framework might be used in analyzing different sets of policies. The framework was based on a synthesis of economic theory, capturing the relationships between economic agents, and a business systems approach, focusing on the behaviour of individual economic agents.

The study accomplished its overall objective of developing a framework to assess effects of policy on the competitiveness of the agri-food industry in two countries.

Application of the framework was not fully successful. Complete agreement was not reached by members of the delphi teams on how individual policy categories influenced competitiveness. This occurred perhaps more as a result of the aggregation of hundreds of government policy instruments into thirteen policy categories, rather than from a weakness in the framework itself. As policies in the same category could have differing influences on competitiveness (Exhibit 4.1), differing conclusions could be reached about how each policy category affects competitiveness (Exhibit 4.2).

The case studies, analyzing the policy sets influencing hogs and chicken industries in Canada and the U.S., were based on the analysis of the thirteen policy categories. Because of the high degree of aggregation in the policy categories, the case studies should be viewed as illustrations of how the framework can be applied rather than as definitive analyses. In retrospect, a more fruitful approach could have been to analyze each policy influencing each sector using the framework rather than using the results generated from the aggregated policy types.

Two workshops were organized subsequent to this study to further test the applicability of the framework. The majority of workshop participants felt that the framework could be a worthwhile analytical approach. Appendix E is a synopsis of the objectives and the key messages of the workshops.

Further work may be needed on a number of fronts. In particular, policy categories might be defined differently so that the effects of a policy category on competitiveness were unambiguous. The worksheets used for the analysis might be revamped to give more prominence to the applied dimensions of the work and less to theory. The framework needs to recognize that different subsectors may be affected differently by a set of policies.

Overall, the assessment of effects on competitiveness of government interventions in the agri-food sector in different countries in line with the approach developed here shows some potential. The potential derives partly from the combination of the economic theory and the business systems approaches and partly from studying the effects of the comprehensive set of agri-food policies at work in each country. Further applications of the framework might usefully seek to retain these particular features in the analysis.]

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# **Appendix A**

**Canadian Chicken Industry**

**Policies and Programs**

## Category 1 - Direct Input Subsidies

### Federal

#### Agricultural Stabilization Act (ASA)

ASA supports and stabilizes the prices of grains not covered by the Canadian Wheat Board. Farm fed grains were not covered under this program and thus producers who grew their own feed lost eligibility for stabilization benefits which raised the cost of feeding livestock.

#### Farm Credit Corporation (FCC)

This Corporation provides long-term mortgage credit to assist with purchasing, developing and maintaining viable farm businesses. There are two types of loans. Standard farm loans require the applicant be principally occupied in farming after the loan is made. Loans to beginning farmers allow the applicant to retain off-farm employment while developing an economic farm business, providing farming becomes the principal occupation within five years. The maximum loan for one qualifying individual is \$350,000, and \$600,000 for two or more qualifying applicants. **(Direct)**

#### Feed Freight Assistance (FFA) Program

This program helps livestock feeders in feed-deficit areas of the country. The program partly offsets the cost of transporting Canadian feed grain from areas with a surplus to those with a deficit. Payment is also made on local grain sold commercially in the feed-deficit areas. **(Direct)**

#### Western Grain Transportation Act

This Act provides a federal subsidy of up to \$700 million a year for the transportation of Prairie grain. The Act established the Grain Transportation Agency which works with the grain industry in developing a more efficient handling and transportation system. The government and shippers share the rates for moving grain. The National Transportation Agency of Canada sets the rates and administers subsidy payments to the railway companies. **(Indirect)**

#### Special Farm Income Tax Provisions

The Income Tax Act offers farmers the ability to use cash accounting in place of accrual accounting to defer tax or income into future years. The Act also has provisions for accelerated capital cost allowances on farm equipment.

#### Shipping Act

The Canada Shipping Act prohibits non Canadian ships from carrying cargo between Canadian ports if a Canadian vessel is available. This raises the cost of shipping grain to areas of domestic deficit and thus increases feed costs for livestock and poultry producers.

### Federal-Provincial

#### Economic and Regional Development Agreements (ERDA) (PEI)

ERDA provides assistance to producers for capital and operating grant expenditures.

### Provincial

**Farm Property Tax Adjustment** (All except NS, NFLD)

Rebates or adjustments of farm property taxes are provided to reduce producer expenditures on this item.

**Loan Subsidization and Rebate Programs** (All except NFLD, SASK, BC)

These programs provide loans, interest rate reductions and rebates to producers for debt incurred for their farming operations.

**Gasoline and Fuel Tax Rebates and Exemptions** (All except NFLD, PEI, NS, BC)

Farmers receive exemption or rebates on sales and excise taxes on gasoline and fuel used in farming operations. **(Direct)**

**Capital Grants Program:** (NS, ONT, SASK, ALTA)

This program encourages the adoption of new technology which will enhance the productive capacity and efficiency of the farm unit. Farmers with a gross income of \$10,000 per year from agricultural product sales or who obtain more than 50% of their gross income from farming can receive grants.

**Crow Benefit Offset Program** (ALTA)

This program offsets the distortion in Alberta feed grain prices which results from the current method of payment of the Federal Crow Benefit directly to the railways. All livestock producers are eligible and can apply for both the farm-fed and purchased feed grain options. The program currently pays \$10 per tonne of feed grain fed. **(Direct)**

**Animal Health Improvement** (NB)

This program covers the cost of curative and preventive care administered to farm animals. The government pays for approximately 50% of veterinary doctors' fees, including a contribution proportional to the distance travelled by the doctor on each visit, directly to the doctor. As a result, all Québec producers pay the same amount for each medical visit. Furthermore, the program ensures that veterinary services are available in peripheral regions with a low animal population density.

**Grain Stabilization Program** (ONT)

The Farm Income Stabilization Commission of Ontario developed a three-year voluntary grain program to cover the three crop years 1988, 1989 and 1990. Participating growers in any year of depressed market prices might receive a supplementary payment from the stabilization fund. The maximum Ontario support payment in any year would be the difference between 90% (Federal) and 95% (Ontario) of the five-year average market price or market price and 95%, whichever was less. Eligible crops were: grain corn, seed corn, popping corn, soybeans, spring wheat, barley, oats, and winter wheat. **(Indirect)**

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## **Category 3 - Domestic Supply Control**

### **Federal**

#### **Farm Product Marketing Agency, Agricultural Products Marketing Act (APMA)**

The objective of this Act is to improve the orderly marketing of agricultural products governed by provincial commodity marketing boards. It extends federal powers over interprovincial and export trade, and over levy collection on such trade, to these provincial commodity marketing boards.

The Canadian Chicken Marketing Agency (CCMA) is the national agency coordinating the supply management functions in conjunction with the provincial boards. The three pillars on which supply management is based are:

- marketing quotas for all producers;
- cost of production pricing; and
- import controls (quotas) to maintain market prices.

The Agency coordinates and allocates production quota as well as coordinating promotional programs. The federal government administers the import quotas.

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## **Category 4 - Border Price Controls**

### **Federal**

#### **Canadian Customs Act - Tariffs**

The Canadian Customs Act establishes tariffs on all imports into Canada. These tariffs provide varying degrees of protection for both raw and processed products. Tariffs also can supplement protection provided by import quotas or permit requirements.

While the Canada-U.S. Trade Agreement does not affect the essential mechanisms of supply management, it does bring longer term tariff reductions on processed chicken products. The pre Free Trade Agreement tariff rates on most processed chicken products was 17.5%. This will be reduced to zero over the first ten years of the Free Trade Agreement.

#### **Special Import Measures Act**

The Special Import Measures Act provides for contingency protection for Canadian producers. This can take such forms as anti-dumping actions or countervailing duties on products which are deemed to be unfairly brought into the Canadian market. The corn countervail is an example of a measure under this Act. Canadian corn growers were found to be injured by unfairly subsidized American imports. A countervailing duty was imposed to offset the amount of the injurious subsidy, raising the cost of feed corn for Canadian livestock and poultry producers.

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## Category 5 - Quantitative Border Restrictions

### Federal

#### Export and Import Permits Act

The Export and Import Permits Act requires that certain commodities, notably but not exclusively supply-managed commodities, have a permit before it is traded. These permits are administered by the Export and Import Permits Bureau of External Affairs. The Canadian Wheat Board administers the export and import permits for grains under its jurisdiction.

The Canada-U.S. Trade Agreement had provisions for increasing Canadian global import quotas from 6.3% of domestic production to 7.5%. The following are the types of permits:

- **Standard**

Standard permits are issued on global quotas established at the beginning of the year.

- **Supplemental**

Supplemental permits are established should a specific need be shown.

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## Category 9 - Fees and Levies

### Federal

#### Cost Recovery Measures

- **Inspection**

Canada's inspection system has cost recovery for any inspections outside of normal working hours. Overtime, holidays, and special call inspections are billed to the processor.

#### Producer Levies

Producers pay the cost of administering the provincial boards and the national agency as well as marketing programs through levies on production. These levies offset the benefits accruing to the supply management system.

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## Category 10 - Research and Development

### Federal

#### Agriculture Canada Scientific Research and Development Programs

These research programs improve the long-term marketability of Canadian agricultural products by reducing the cost of production and adding to the value and diversity of agricultural products. Other research focuses on the sustainability of the resource base, environmental quality, on product quality and safety, biotechnology, integrated pest management, crop and animal breeding, soil and water conservation, and food processing. **(Direct)**

## Federal-Provincial

### Industry, Science and Technology Canada (ISTC) (PEI)

ISTC provides assistance to the processing industry under industrial development agreements.

## Provincial

### Research and Extension Programs (All)

Expenditures for the purpose of agricultural research, by the department, or as a grant to outside agencies are included. This program includes expenditures by the Department for the purpose of educating producers, and making them aware of advances in the science of farming. **(Direct)**

### Agricultural Grants to Municipalities (QUE, SASK, ALTA)

Assistance is available for municipal programs which provide capital and operating funds for projects which benefit agriculture.

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## Category 12 - Technical Regulations

### Federal

#### Food Production, Inspection and Regulation Programs

These programs protect marketability of agricultural, food and forest products. The federal government sets and enforces standards to safeguard human, animal and plant health and to facilitate national and international trade, while recognizing that industry is ultimately responsible for the health, safety and quality of products. **(Direct)** Some of the programs include:

- **Health of Animals Regulations**

The regulations deal with the prevention and control of certain animal diseases which are either of economic significance to the animal industry or which may be transmitted to humans. In addition they provide for the humane handling of animals during transportation and regulate the importation and domestic manufacture of animal biologicals, such as vaccines, used to treat, diagnose and prevent diseases in livestock, poultry, pets, fish and wildlife. Although the Act provides for regulations respecting the control of animals contaminated with toxic substances, no such regulations exist.

- **Meat Inspection Regulations**

The objective of these regulations is to provide a legal basis for the production of safe and aesthetically acceptable meat products labelled to avoid fraud for domestic and export markets.

- **Processed Poultry Regulations**

The objective of these regulations is to verify the processing, maintenance and operational compliance of provincial meat inspected poultry stations grading poultry, and to verify that graded poultry imported, exported and marketed domestically from federally and provincially registered

establishments is safe, wholesome and graded for economically significant factors and is packaged and labelled to avoid fraud.

## **Provincial**

### **Inspection Programs (All)**

This program includes all expenditures for the purpose of inspection of chicken including meat hygiene and brand inspection.

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## **Category 13 - Business Transaction Programs and Regulations**

### **Federal**

#### **Farm Debt Review Act**

This legislation ensures that farmers in financial difficulty or facing foreclosure have access to an impartial third-party review of individual circumstances and possible financing/refinancing options. The review seeks a voluntary and mutually satisfactory agreement between farmer and creditor(s).  
**(Direct)**

# **Appendix B**

**United States Chicken Industry**

**Policies and Programs**

## Category 1 - Direct Input Subsidies

### Federal

#### Credit Programs

Through the Farmers Home Administration (FmHA) loans and grants are made available for various purposes including: seasonal housing for farm labours, national disaster relief, operating expenses and farm purchase. In some cases producers are only eligible if they are unable to obtain sufficient credit elsewhere.

#### Federal Income Tax Measures

Under federal tax laws farmers are granted special provisions which defer or reduce income taxes payable. They include: (1) options for cash versus accrual accounting, (2) expensing of certain capital outlays that normally are written off using regular depreciation rules, (3) expensing of multi-period livestock and crop production costs, (4) special treatment of forgiven debt, and (5) deferral of payment of employees taxes withheld by farm employer.

#### Deficiency Payments (8% of value of crops)

payments up to 8% made to farmers who agree to reduce plantings in accordance with existing farm program requirements. To qualify for payment, a farmer must have an eligible acreage base for the commodity on which the payment will be made. **(Indirect)**

#### Commodity Loans

Non-recourse commodity loans are available to farmers under the Farm Bill using their crops as collateral to provide income support and market stabilization by revenue enhancement and improved cash flow. The loan amount equals the value of pledged commodities, which are priced at a loan rate established by the 5-yr Farm Bill. The 1985 Farm Bill established a rate of 85% of the simple average of the prevailing market prices during the preceding 5 years, subtracting the high and low prices. A reduced loan rate of up to 20% (the Findley rate) may be announced by the Secretary. **(Indirect)**

#### Pest and Disease Control

Producers receive input assistance for the control of pests and diseases. This also includes some of the activities of the Animal and Plant Inspection Service.

#### Gasoline Tax Credit for Farm Vehicles

Agricultural producers receive a tax credit for taxes paid on gasoline used in their farming operations.

### State

#### Special Income Tax Provisions I (California, Texas)

This program allows tax payers engaged in farming business to carry-forward any net operating losses on a more generous basis than non-farm business.

#### Special Income Tax Provisions II (California)

California provides special income tax provisions that are applicable to farm producers including: (1) exception from gross income of interest received from investment in economically depressed areas, and (2) accelerated depreciation for certain investments.

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## **Category 2 - Direct Output Subsidies**

### **Federal**

#### **Special Self-Employment Tax Option for Farmers**

A self-employed farmer may elect to pay into the U.S. Social Security System, as though his net income was equal to two-thirds of his gross receipts from farming, on the basis of gross farm income rather than net income. This option makes the farmer eligible for greater benefits at retirement or in the event of a disability. **(Direct)**

#### **USDA Export Enhancement Program**

Private exporters receive a bonus if they export specified commodities to specified countries. The official criteria for granting an EEP are: must counter competitors unfair trade practices, must possess potential to develop, expand, or maintain markets for US commodities, doesn't have more than minimal impact on non-subsidizing competitors, and maintained at minimum level necessary to achieve expected benefits of export expansion and trade policy reform. [While chicken exports receive some EEP funding, the indirect impact of EEP on increasing domestic grain prices negatively impacts on chicken profitability.] **(Indirect)**

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## **Category 4 - Border Price Controls**

### **Federal**

#### **Tariffs**

The U.S. maintains a system of tariffs for all imports into the country. The tariffs provide varying degrees of protection for both raw and processed products. The U.S. is a net exporter of chicken and thus the tariff levels do not appear to be a significant factor. The Canada - U.S. Free Trade Agreement provides for the elimination of tariffs on agri-food products over the first ten years of the agreement.

The U.S. has also implemented strong contingency protection legislation. This has been frequently used to bring in countervailing duties and anti-dumping duties on agricultural commodities.

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## **Category 6 - Domestic Demand Enhancing Programs**

### **Federal**

#### **USDA Food and Nutrition Service**

Funds are available for the following program: Food Distribution, Food Stamps, School Meal Programs, Special Supplemental Program for Women, Infants, and Children, Child and Adult Care Food Program, Summer Food Service Program for Children, Temporary Emergency Food

Assistance, Nutrition Program for the Elderly, and Food Commodities for Soup Kitchens. Food is provided through commodity donations, cash grants, and food stamps. Donated commodities are acquired through a price support program or through federal procurement by the USDA. **(Direct)**

## State

### Exemption from Sales Tax of Food Products (California, Texas)

This program generally exempts from taxation the transfer of food products for home consumption. **(Direct)**

### Agriculture Agricultural Market Development (Texas)

The Texas Department of Agriculture Market Development branch assists producers and processors by providing information and administering programs of Agricultural Development and Product Promotion, Export Market Development and Livestock Exporting Facilities, Market News, Statistical Reporting and Agricultural Diversification.

## Category 8 - Export Assistance

### Federal

#### USDA Export Assistance

Assistance through program agreements that provide for partial reimbursement of eligible promotional expenses in activity plans approved by the FAS. Government funds may be used only in direct support of activities conducted outside the U.S. The generic promotional program and the brand-identified promotional program are available to agricultural commodities or the product thereof whose export markets are judged to have been harmed by a subsidy, import quota, or other unfair foreign trade practice. **(Direct/Indirect)**

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## Category 9 - Fees and Levies

### Federal

#### Cost Recovery Measures

- **Grading**

The American grading system operates on a cost recover basis. The processor is charged an hourly rate based on slaughter volumes and other criteria.

- **Inspection**

The American inspection system operates on cost recovery for overtime hours. Inspectors required longer than normal working hours or on holidays are charged to the processor.

There is also a charge for inspection of imported meat products which is paid to an independent broker.

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## Category 10 - Research and Development

### Federal

#### Cooperative Extension Service

Payments are made to land-grant institutions which provide educational and technical assistance to farmers and others in nine National Priority Initiatives: Competitiveness and Profitability of American Agriculture, Alternative Agricultural Opportunities, Water Quality, Conservation and Management of National Resources, Revitalizing Rural America, Improving Nutrition, Diet and Health, Family and Economic Well-Being, Building Human Capital, and Youth at Risk. **(Direct)**

#### State Agricultural Experiment Stations (SAES)

These stations are partially funded by the federal government to carry out research in food and agricultural sciences. The principal federal funding programs for SAES are: Hatch Act Payments, Special Research Grants, Competitive Research Grants, and Animal Health and Disease Research. **(Direct)**

#### Grant Programs for Agricultural Research to 1890 Land-Grant Colleges and Tuskegee University

Funds appropriated are used for expenses of conducting research, printing, disseminating the results of such research, contributing to the retirement of employees, administrative planning and direction, and purchase or rental of land and construction, acquisition, alteration, or repair of buildings necessary for conducting research. **(Direct)**

#### Research Payments to Miscellaneous Educational and Noneducational Institutions

This program provides grants to carry out research to facilitate or expand promising breakthroughs in areas of the food and agricultural sciences or importance to the nation and to facilitate or expand on-going Federal food and agricultural research programs. **(Direct)**

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## Category 12 - Technical Regulations

### Federal

#### Plant and Animal Disease, Pest Control and Animal Care

Financing is provided to conduct surveys, demonstrations, inspections to detect and appraise infestations, eradication and control activities, and carry out regulatory actions to prevent interstate spread of infestations and disease. The objective is to protect U.S. agriculture from economically injurious plant and animal diseases and pests, ensure the safety and potency of veterinary biologics, and ensure the humane treatment of animals. Costs are usually shared between USDA and grant recipients. **(Direct)**

#### Inspection Grading and Standardization (Agricultural Fair Practices Act)

This program develops and applies standards of quality and condition for agricultural commodities produced and sold in the U.S. and provides for participation in the development of international agricultural standards. It covers the following commodities: poultry products, meat, shell eggs, egg products, processed fruit and vegetables, fresh fruit and vegetables, livestock, milk and dairy products. **(Direct)**

## State

### **Animal Health Programs** (California, Texas)

The state programs help keep livestock and poultry free of disease and works to safeguard public health by seeing that only wholesome animal food products are sold. The goal is to eradicate and control livestock and poultry diseases. **(Direct)**

### **State Inspection Services** (California, Texas)

The Division of Inspection Services provides consumer protection, grading and regulation of a wide variety of agricultural commodities, including chicken and chicken products. **(Direct)**

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## **Category 13 - Business Transactions Programs and Regulations**

### **Federal**

#### **Antitrust Exemption for Agricultural Cooperatives**

This program provides an exemption of antitrust laws for agricultural cooperatives. It was instituted as a result of a perceived imbalance in market power between agricultural producers and their customers in favour of the purchasers of farm products. Producers of agricultural products are authorized to act together in associations, corporations, or otherwise, to: collectively process, prepare for market, handle, and market their products in interstate and foreign commerce, and have marketing agencies in common. **(Direct)**

#### **Farm Labor and Wages and Hours Laws**

Farm workers are covered by the federal over-time provisions only if their work involves products that will leave the state. This program also exempts small farms, employers of hand-harvest workers, and employers of workers in range production of livestock from paying workers the minimum wage rates. **(Direct)**

# **Appendix C**

**Canadian Hog Industry**

**Policies and Programs**

## **Category 1 - Direct Input Subsidies**

### **Federal**

#### **Farm Credit Corporation (FCC)**

This Corporation provides long-term mortgage credit to assist with purchasing, developing and maintaining viable farm businesses. There are two types of loans. Standard farm loans require the applicant be principally occupied in farming after the loan is made. Loans to beginning farmers allow the applicant to retain off-farm employment while developing an economic farm business, providing farming becomes the principal occupation within five years. The maximum loan for one qualifying individual is \$350,000, and \$600,000 for two or more qualifying applicants. **(Direct)**

#### **Feed Freight Assistance (FFA) Program**

This program helps livestock feeders in feed-deficit areas of the country. The program partly offsets the cost of transporting Canadian feed grain from areas with a surplus to those with a deficit. Payment is also made on local grain sold commercially in the feed-deficit areas. **(Direct)**

#### **Western Grain Transportation Act (WGTA)**

This Act provides a federal subsidy of up to \$700 million a year for the transportation of Prairie grain. The Act established the Grain Transportation Agency which works with the grain industry in developing a more efficient handling and transportation system. The government and shippers share the rates for moving grain. The National Transportation Agency of Canada sets the rates and administers subsidy payments to the railway companies. **(Indirect)**

#### **Western Grain Stabilization Act (WGSA)**

This program protects grain producers in the Canadian Wheat Board area by levelling out sharp drops in cash flow due to price fluctuations, reduced sales or increases in production costs. Participants receive stabilization payments when net cash flow from prairie grain production in a crop year is less than the previous five-year average net cash flow.

#### **Special Farm Income Tax Provisions**

The Income Tax Act offers farmers the ability to use cash accounting in place of accrual accounting to defer tax or income into future years. The Act also has provisions for accelerated capital cost allowances on farm equipment.

## **Shipping Act**

The Canada Shipping Act prohibits non Canadian ships from carrying cargo between Canadian ports if a Canadian vessel is available. This raises the cost of shipping grain to areas of domestic deficit and thus increases feed costs for livestock and poultry producers.

## **Federal-Provincial**

### **Economic and Regional Development Agreements (ERDA) (NFLD, PEI, NS, NB)**

ERDA provides assistance to producers for capital and operating grant expenditures.

## **Provincial**

### **Farm Property Tax Adjustment (All except NS)**

Rebates or adjustments of farm property taxes are provided to reduce producer expenditures on this item.

### **Gasoline and Fuel Tax Rebates and Exemptions (All except PEI, ONT, BC)**

Farmers receive exemption or rebates on sales and excise taxes on gasoline and fuel used in farming operations.

### **Loan Subsidization and Rebate Programs (All except NFLD, BC)**

These programs provide loans, interest rate reductions and rebates to producers for debt incurred for their farming operations.

### **Capital Grants Program: On Farm (NS, QUE)**

This program encourages the adoption of new technology which will enhance the productive capacity and efficiency of the farm unit. Farmers with a gross income of \$10,000 per year from agricultural product sales or who obtain more than 50% of their gross income from farming can receive grants. **(Direct)**

### **Live Market Hog Transportation (NS, PEI, NB)**

Producers receive assistance for hogs transported from farm to processing facilities. **(Direct)**

## **Feed Freight Adjustment Program**

These programs provide direct payments to producers to offset the high cost of feed resulting from transportation costs including the distortions created by the method of payment of the Crow benefit in Western Canada.

### **Assistance to Processors (NS, PEI, NB)**

This program aids and encourages the establishment or development of processing industries. Those processors that are planning to establish a new plant or expand and/or modernize an existing facility, or need working capital, can receive financial assistance.

### **Livestock Cash Advance Program (SASK)**

This program was introduced in response to drought and high-feed prices and provides livestock producers with operating assistance through repayable cash advances. Producers may obtain cash advances on 70% of the livestock herd. Advances are based on \$25 per head for hogs. Maximum advance of \$100,000 is available per eligible individual, shareholder, member or partner.

**(Direct)**

### **Livestock and Facilities Tax Credit Program (SASK)**

A tax credit is available for eligible livestock facilities or improvements to such facilities if the facilities are used in the business of growing, using, finishing or producing agricultural commodities. Tax credits are also available for livestock investments that assist in further promoting or developing agriculture and agricultural products or commodities.

### **Operating and Capital Grant Programs: Off Farm (PEI, SASK)**

Assistance is available for programs which provide capital and operating funds for projects which benefit agriculture, but are not directly, or solely, for the benefit of the producers. It includes grants to Municipalities. **(Indirect)**

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## **Category 2 - Direct Output Subsidies**

### **Federal**

#### **Agriculture Stabilization Act (ASA)**

This Act supports and stabilizes the prices of agricultural commodities - cattle, hogs, lambs, wool, industrial milk and cream, corn and soybeans. It also supports, at a statutory minimum level, oats, barley, winter wheat and spring wheat not marketed by the Canadian Wheat Board. Payments are made when prices are low or costs are high compared with previous years. National tripartite stabilization programs have been introduced for some commodities.

## **Federal-Provincial**

### **National Tripartite Stabilization Program (NTSP)** (all except NFLD, PEI, NB)

NTSP provides subsidized insurance to producers of eligible commodities to cover reductions in gross margins of production below a historic average. Producers receive a payment when the current period's margin falls below the historic (i.e. five years) margin multiplied by the support level (i.e. 95%). Margins are based on specific variable costs only. The program is intended to operate on an actuarially sound basis. Producers pay 1/3 of the premium costs with federal and provincial governments splitting the remaining 2/3 and the costs of administration. Some commodities which have NTSP support are: cow/calf; feeder cattle; finished cattle; hogs; honey; white/coloured beans; apples; onions; sugar beets; and lambs. **(Direct)**

## **Provincial**

### **Interim Hog Stabilization** (NS, PEI)

This program assures eligible producers fair returns for their labour and investment by providing them with income protection when market prices fall below calculated support prices for a prescribed period.

### **Ontario Grain Stabilization Program** (ONT)

Farm Income Stabilization Commission of Ontario developed a three-year voluntary grain program to cover the three crop years 1988, 1989 and 1990. Participating growers in any year of depressed market prices might receive a supplementary payment from the stabilization fund. The maximum Ontario support payment in any year would be the difference between 90% (Federal) and 95% (Ontario) of the five-year average market price or market price and 95%, whichever was less. Eligible crops were: grain corn, seed corn, popping corn, soybeans, spring wheat, barley, oats, and winter wheat. **(Indirect)**

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## **Category 4 - Border Price Controls**

### **Federal**

#### **Canadian Customs Act - Tariffs**

The Canadian Customs Act establishes tariffs on all imports into Canada. These tariffs provide varying degrees of protection for both raw and processed products. Tariffs also can supplement protection provided by import quotas or permit requirements.

While tariffs were generally low for hogs and most pork products, the Canada-U.S. Trade Agreement provided for the elimination of these tariffs over the first ten years of the agreement.

#### **Special Import Measures Act**

The Special Import Measures Act provides for contingency protection for Canadian producers. This can take such forms as anti-dumping actions or countervailing duties on products which are deemed to be unfairly brought into the Canadian market. The corn countervail and apple anti-dumping duties are examples of measures under this Act:

- **Corn Countervail**

Canadian corn growers were found to be injured by unfairly subsidized American imports. A countervailing duty was imposed to offset the amount of the injurious subsidy, raising the cost of feed corn for Canadian livestock and poultry producers.

**Provincial**

No policies or programs identified.

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**Category 5 - Quantitative Border Restrictions****Federal****Export and Import Permits Act**

The Export and Import Permits Act requires that certain commodities, notably but not exclusively supply-managed commodities, have a permit before it is traded. These permits are administered by the Export and Import Permits Bureau of External Affairs. The Canadian Wheat Board administers the export and import permits for grains under its jurisdiction.

The following are the types of permits:

- **Standard**

Standard permits are issued on global quotas established at the beginning of the year.

- **Supplemental**

Supplemental permits are established should a specific need be shown.

**Federal-Provincial**

No policies or programs identified.

**Provincial**

No policies or programs identified.

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## Category 6 - Domestic Demand Enhancing Programs

### Federal-Provincial

#### Canadian Agriculture Market Development Initiative (CAMDI) (QUE)

CAMDI provides assistance for identifying, developing and strengthening new and/or expanded markets for agricultural products, provincially, nationally and internationally.

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## Category 9 - Fees and Levies

### Federal

#### Cost Recovery Measures

- **Grading and Inspection**

Canada's inspection and grading system has cost recovery for any work outside normal operating hours. Overtime, holidays and special call inspections are billed to the processor.

### Federal-Provincial

No policies or programs identified.

### Provincial

No policies or programs identified.

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## Category 10 - Research and Development

### Federal

#### Agriculture Canada Scientific Research and Development Programs

These research programs improve the long-term marketability of Canadian agricultural products by reducing the cost of production and adding to the value and diversity of agricultural products. Other research focuses on the sustainability of the resource base, environmental quality, on product quality and safety, biotechnology, integrated pest management, crop and animal breeding, soil and water conservation, and food processing. **(Direct)**

- **Record of Performance**

This program is designed to improve the productivity, efficiency and quality of livestock through uniform national testing of economically important and heritable traits and genetic evaluations. Records are kept by producers, including information on production traits (growth, fat levels, milk quantity) and management practices. Each year the certified

records are summarized and producers make selections of herd replacements based on superior production animals. **(Direct)**

## **Federal-Provincial**

### **Atlantic Canada Opportunity Agency (ACOA) (NFLD, NB)**

ACOA was created to implement some of the Economic Regional Development Subsidiary Agreements in Atlantic Canada. ACOA promotes the development of entrepreneurship and the establishment of new businesses and help small and medium-sized businesses become more competitive by providing financial assistance.

### **Industry, Science and Technology Canada (ISTC) (PEI, NB)**

ISTC provides assistance to the processing industry under industrial development agreements.

## **Provincial**

### **Research and Extension Programs (All provinces)**

Expenditures for the purpose of agricultural research, by the department or as a grant to outside agencies are included. This program includes expenditures by the department for the purpose of educating producers and making them aware of advances in the science of farming. **(Direct)**

### **Industry Improvement Programs (NS, PEI, ONT)**

These programs are designed to increase the productivity of swine farms through the use of superior genetics, and performance testing.

### **Animal Health Program: Diagnostic and Clinical Services (PEI)**

This program is designed to minimize losses and to increase the productivity and net incomes of P.E.I. livestock owners through early identification, application of appropriate controls, quick response, and treatment of diseases and other health emergencies of farm animals. The Department of Agriculture will contract with the necessary institutions to supply a complete range of diagnostic services. As well, the Department of Agriculture pays all travel costs for health professionals and cost share the hourly rate or professional fee for those providing the clinical services to livestock. **(Direct)**

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## **Category 12 - Technical Regulations**

### **Federal**

#### **Food Production, Inspection and Regulation Programs**

These programs protect marketability of agricultural, food and forest products. The federal government sets and enforces standards to safeguard human, animal and plant health and to facilitate national and international trade, while recognizing that industry is ultimately responsible for the health, safety and quality of products. **(Direct)** Some of the programs include:

- **Health of Animals Regulations**

The regulations deal with the prevention and control of certain animal diseases which are either of economic significance to the animal industry or which may be transmitted to humans. In addition they provide for the humane handling of animals during transportation and regulate the importation and domestic manufacture of animal biologicals, such as vaccines, used to treat, diagnose and prevent diseases in livestock, poultry, pets, fish and wildlife. Although the Act provides for regulations respecting the control of animals contaminated with toxic substances, no such regulations exist.

- **Meat Inspection Regulations**

The objective of these regulations is to provide a legal basis for the production of safe and aesthetically acceptable meat products labelled to avoid fraud for domestic and export markets.

- **Livestock Carcass Grading Regulations**

The objective of these regulations is to establish obvious and objective standards of meat quality and retail yield in order to facilitate the marketing of meat from producer to consumer.

**Federal-Provincial**

No policies or programs identified.

**Provincial****Inspection Programs** (All provinces)

This program includes all expenditures for the purpose of inspection of pork including meat hygiene and brand inspection.

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**Category 13 - Business Transaction Programs and Regulations****Federal****Farm Debt Review Act**

This legislation ensures that farmers in financial difficulty or facing foreclosure have access to an impartial third-party review of individual circumstances and possible financing/refinancing options. The review seeks a voluntary and mutually satisfactory agreement between farmer and creditor(s).  
**(Direct)**

**Federal-Provincial**

No policies or programs identified.

**Provincial**

No policies or programs identified.

# **Appendix D**

**United States Hog Industry**

**Policies and Programs**

## Category 1 - Direct Input Subsidies

### Federal

#### Credit Programs

Through the Farmers Home Administration (FmHA) loans and grants are made available for various purposes including: seasonal housing for farm labours, national disaster relief, operating expenses and farm purchase. In some cases producers are only eligible if they are unable to obtain sufficient credit elsewhere.

#### Deficiency Payments (minor effect)

Direct payments made to farmers who agree to reduce plantings in accordance with existing farm program requirements. To qualify for payment, a farmer must have an eligible acreage base for the commodity on which the payment will be made. **(Indirect)**

#### Commodity Loans (minor effect)

Non-recourse commodity loans are available to farmers under the Farm Bill using their crops as collateral to provide income support and market stabilization by revenue enhancement and improved cash flow. The loan amount equals the value of pledged commodities, which are priced at a loan rate established by the 5-yr Farm Bill. The 1985 Farm Bill established a rate of 85% of the simple average of the prevailing market prices during the preceding 5 years, subtracting the high and low prices. A reduced loan rate of up to 20% (the Findley rate) may be announced by the Secretary. **(Indirect)**

#### Pest and Disease Control

Producers receive input assistance for the control of pests and diseases. This also includes some of the activities of the Animal and Plant Inspection Service.

#### Federal Income Tax Measures

Under federal tax laws farmers are granted special provisions which defer or reduce income taxes payable. They include: (1) options for cash versus accrual accounting, (2) expensing of certain capital outlays that normally are written off using regular depreciation rules, (3) expensing of multi-period livestock and crop production costs, (4) special treatment of forgiven debt, and (5) deferral of payment of employees taxes withheld by farm employer.

### State

#### The Agricultural Loan Assistance Program (Iowa)

The Iowa Agricultural Loan Assistance Program (IALAP) was created in 1986 for the purpose of assisting financially troubled farmers in obtaining adequate operating funds at affordable interest rates. The program involved reducing interest rates to eligible farm borrowers by "buying down" their interest rates. To be eligible for the program, a farmer must have had a negative cash flow for the 1986-87 production year. **(Direct)**

### Operating Loan Guarantee Program (Iowa)

The Operating Loan Guarantee Program is designed to provide guarantees to lender for operating loans made to qualified beginning farmers in the state of Iowa. The program provides a 75% guarantee for private lenders who make conventional operating loans to beginning farmers under the terms of the program. **(Direct)**

### Special Assessment for Agricultural Land for Property Tax Purposes (Iowa)

Iowa law requires that real estate is to be assessed at the property's fair market value. However, agricultural real estate is to be assessed according to its productivity. Net income over five recent years is capitalized at 7% to obtain the value of the land in agricultural use. A credit is also given for a portion of school district property taxes. **(Direct/Indirect)**

### Special Valuation of Machinery and Computers for Property Tax Purposes (1990) (Iowa)

All machinery used in manufacturing and computers are eligible for special treatment under the Iowa property tax. Property tax liability is assessed on the basis of thirty percent of acquisition cost instead of full market value. **(Direct)**

### Exemption from Sales Tax of Sale or Rental of Certain Machinery (Iowa)

The transfer of certain machinery and equipment used in farm and industrial activities are exempt from the sales tax. **(Direct)**

### Dept. of Economic Development, Value Added Ag. Products and Processes Assistance Program (Iowa)

This program provides funding to encourage the use of new or innovative agricultural products, practices, and processes. **(Direct)**

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## Category 2 - Direct Output Subsidies

### Federal

#### Deferral of Federal Income Tax Payments for Farmers

In general, payments toward U.S. income tax liability must be made during the year in which the liability is incurred. Employees' taxes are withheld, other taxes must be paid on a quarterly basis. Farm workers are not subject to withholding and self-employed farmers need not make quarterly tax payments. **(Direct)**

#### Special Self-Employment Tax Option for Farmers

A self-employed farmer may elect to pay into the U.S. Social Security System, as though his net income was equal to two-thirds of his gross receipts from farming, on the basis of gross farm income rather than net income. This option makes the farmer eligible for greater benefits at retirement or in the event of a disability. **(Direct)**

#### USDA Export Enhancement Program (minor effect)

Private exporters receive a bonus if they export specified commodities to specified countries. The official criteria for granting an EEP are: must counter competitors unfair trade practices, must possess potential to develop, expand, or maintain markets for US commodities, doesn't have more than minimal impact on non-subsidizing competitors, and maintained at minimum level necessary to achieve expected benefits of export expansion and trade policy reform. EEP payments are considered to raise the price of feed grains somewhat in the domestic market. **(Indirect)**

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## **Category 4 - Border Price Controls**

### **Federal**

#### **Tariffs**

The U.S. maintains a system of tariffs for all imports into the country. The tariffs provide varying degrees of protection for both raw and processed products. The U.S. is a net importer of hogs but tariff levels on live hogs have been lowered to zero. The Canada U.S. Free Trade Agreement provides for the elimination of tariffs on all agri-food products and Canada is the main source of U.S. hog and pork imports.



The U.S. has also implemented strong contingent protection legislation. This has been frequently used to bring actions against imported products. The countervailing duties on live hogs and pork have been brought under this legislation.

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## **Category 6 - Domestic Demand Enhancing Programs**

### **Federal**

#### **USDA Food and Nutrition Service**

Funds are available for the following program: Food Distribution, Food Stamps, School Meal Programs, Special Supplemental Program for Women, Infants, and Children, Child and Adult Care Food Program, Summer Food Service Program for Children, Temporary Emergency Food Assistance, Nutrition Program for the Elderly, and Food Commodities for Soup Kitchens. Food is provided through commodity donations, cash grants, and food stamps. Donated commodities are acquired through a price support program or through federal procurement by the USDA. **(Direct)**

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## **Category 8 - Export Assistance**

### **Federal**

#### **USDA Targeted Export Assistance**

Assistance through program agreements that provide for partial reimbursement of eligible promotional expenses in activity plans approved by the FAS. Government funds may be used only in direct support of activities conducted outside the U.S. The generic promotional program and the brand-identified promotional program are available to agricultural commodities or the product thereof whose export markets are judged to have been harmed by a subsidy, import quota, or other unfair foreign trade practice. **(Direct/Indirect)**

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## **Category 9 - Fees and Levies**

### **Federal**

#### **Cost Recovery**

- **Grading**

The American grading system operates on a cost recovery basis. The processor is charged an hourly rate based on slaughter volumes and other criteria.

- **Inspection**

The American inspection system operates on cost recovery for overtime hours. Inspectors required longer than normal working hours or on holidays are charged to the processor.

## Category 10 - Research and Development

### Federal

#### Cooperative Extension Service

Payments are made to land-grant institutions which provide educational and technical assistance to farmers and others in nine National Priority Initiatives: Competitiveness and Profitability of American Agriculture, Alternative Agricultural Opportunities, Water Quality, Conservation and Management of National Resources, Revitalizing Rural America, Improving Nutrition, Diet and Health, Family and Economic Well-Being, Building Human Capital, and Youth at Risk. **(Direct)**

#### State Agricultural Experiment Stations (SAES)

These stations are partially funded by the federal government to carry out research in food and agricultural sciences. The principal federal funding programs for SAES are: Hatch Act Payments, Special Research Grants, Competitive Research Grants, and Animal Health and Disease Research. **(Direct)**

#### Grant Programs for Agricultural Research to 1890 Land-Grant Colleges and Tuskegee University

Funds appropriated are used for expenses of conducting research, printing, disseminating the results of such research, contributing to the retirement of employees, administrative planning and direction, and purchase or rental of land and construction, acquisition, alteration, or repair of buildings necessary for conducting research. **(Direct)**

#### Research Payments to Miscellaneous Educational and Noneducational Institutions

This program provides grants to carry out research to facilitate or expand promising breakthroughs in areas of the food and agricultural sciences or importance to the nation and to facilitate or expand on-going federal food and agricultural research programs. **(Direct)**

### State

#### Dept. of Economic Development, Value Added Ag. Products and Processes Assistance Program (Iowa)

This program provides funding to encourage the use of new or innovative agricultural products, practices, and processes. **(Direct)**

#### Wallace Technology Foundation (Iowa)

The Wallace Technology Foundation is a newly formed state activity. One of its principal programs will be to encourage the transfer of technology from universities to business applications. Agriculture products and agriculture biotechnology are expected to be priority areas. **(Direct)**

#### Education and Research Development Admin. (Iowa)

Under this program, grants are made to institutions of higher learning to promote high technology. An equal amount of matching funds from business and universities is required. State legislation

requires that a portion of funding under this program be devoted to agricultural/biotechnology research. **(Direct)**

## **Category 11 - Market Failure Programs**

### **Federal**

#### **Emergency Livestock Assistance Program**

Protects and maintains income through the provision of feed assistance to eligible livestock producers in an area of natural disaster, and contiguous areas, where livestock emergency exists and is approved by the VP of the CCC. Applicants must have less than \$2.5 million annual gross revenue to be eligible for assistance. **(Direct)**

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## **Category 12 - Technical Regulations**

### **Federal**

#### **Plant and Animal Disease, Pest Control and Animal Care**

Financing is provided to conduct surveys, demonstrations, inspections to detect and appraise infestations, eradication and control activities, and carry out regulatory actions to prevent interstate spread of infestations and disease. The objective is to protect U.S. agriculture from economically injurious plant and animal diseases and pests, ensure the safety and potency of veterinary biologics, and ensure the humane treatment of animals. Costs are usually shared between USDA and grant recipients. **(Direct)**

#### **Inspection Grading and Standardization (Agricultural Fair Practices Act)**

This program develops and applies standards of quality and condition for agricultural commodities produced and sold in the U.S. and provides for participation in the development of international agricultural standards. It is available for the following commodities: poultry products, meat, shell eggs, egg products, processed fruit and vegetables, fresh fruit and vegetables, livestock, milk and dairy products. **(Direct)**

### **State**

#### **Dept. of Agriculture and Land Stewardship Regulatory Division (Iowa)**

This division is responsible for consumer protection. It administers inspection services and livestock disease control activities in the state. The state funds about 78% of this program, and the federal government about 17%. The inspections, which are the main function of this department, are mandatory for all growers and producers. This division is responsible for analyzing agricultural inputs for quality and safety, protecting the purity of the state's groundwater, and assuring the wholesomeness of the state's food products. **(Direct)**

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## **Category 13 - Business Transactions Programs and Regulations**

## Federal

### Capper-Volstead Antitrust Exemption for Agricultural Cooperatives

This program provides an exemption of antitrust laws for agricultural cooperatives. It was instituted as a result of a perceived imbalance in market power between agricultural producers and their customers in favour of the purchasers of farm products. Producers of agricultural products are authorized to act together in associations, corporations, or otherwise, to: collectively process, prepare for market, handle, and market their products in interstate and foreign commerce, and have marketing agencies in common. **(Direct)**

### Exemption of Farm Labor from the National Labor Relations Act

Under the National Labor Relations Act, which governs the collective bargaining process, the National Labor Relations Board (NLRB) is responsible for administering this process. by establishing rules under which union elections are held and overseeing the elections. Farm workers fund this program as a result of reduced protection to organize. **(Direct)**

### Farm Labor and Wages and Hours Laws

Farm workers are covered by the federal over-time provisions only if their work involves products that will leave the state. This program also exempts small farms, employers of hand-harvest workers, and employers of workers in range production of livestock from paying workers the minimum wage rates. **(Direct)**

# **Appendix E**

## **Competitiveness Framework Workshops**

## Introduction

This is a compilation of the comments made in two workshops held to assess and improve the analytical framework (Chapter 2, above) developed under contract by Price Waterhouse. More specifically, the goals of the workshop were to:

- Assess the framework for analyzing the impact on competitiveness of agri-food policies/programs.
- Further develop/improve the framework.
- Receive advice/opinions/perspectives/assistance/help with respect to using the framework.

## Framework Presentation and Initial Critique

The analytical framework was presented, in detail, to workshop participants. Participants were asked to critique the framework, highlighting strengths, weaknesses and questions. The following main points were raised.

### Strengths

In approach...

- draws on well established models
- subdivision of competitiveness determinants useful
- models a systematic flow of concepts
- takes multi-disciplinary approach
- logical structure from definitions to indicators

In coverage...

- economic and business theory identify all key parameters
- checklist to ensure all competitiveness issues covered
- allows for horizontal and vertical linkages to some extent
- good way to have broader understanding of traditional economic terminology
- can be applied at firm, sector or country level

In general...

- will be useful for policy assessment

### Weaknesses

In measures...

- too much market share, too little capability measures
- needs more on profitability indicators
- no benchmarks to measure against
- needs more detail on indicators
- terminology needs further clarification
- need to weigh various influences on determinants

## In coverage...

- may not accommodate all factors, e.g., countervail actions
- does not differentiate the public versus private perspective
- not clear how to apply it at various levels
- what level of analysis is being pursued, firm, society, cluster?
- how do multi-national firms fit into framework
- does not adequately address competitiveness at the national level across industries

## In general...

- framework tends to identify symptoms not causes
- does it lead to mercantilism strategies?
- need to simplify and clarify integration of business and economic approaches
- does the use of economic and business systems approach muddy both?
- not explicit in handling the time dimension, i.e., dynamics
- will data be available to do the analysis

## Comments on Applying the Framework

After using the framework to analyze a specific government program, each participant provided their comments and suggestions for improvements. These comments are summarized.

### General Comments

## On overall framework...

- great way to assure all bases covered
- good for economic and business theory to be forced together
- useful piece of work, more refinement required

## On refinement...

- valuable tool, but needs refinement
- needs refinement for usage on an ongoing basis

## On applicability

- concept appears more theoretical than realistic in nature
- enough theory! focus on application
- keep concept simple, to assure it can be operational
- difficult to feel widely enthusiastic about approach, however does seem to have potential
- does not seem as a promising analysis, why replace economic analysis?
- appears to be some basic flaws in the analysis from a public policy perspective
- should test on industry representatives

## Proposed Improvements

## On framework mechanics...

- show a clearer linkage between economic and business frameworks

#### On scope of inquiry...

- framework should narrow down to key competitiveness determinants of a sector then study impact of policy rather than looking at everything
- define industry or segment more narrowly
- extremely important to delimit/define the sector or industry of interest
- clarify level of analysis, firm, sector, economy and then develop tools for each

#### On definitions...

- need clearer definitions
- definition of competitiveness needs work, none of the three key words were fully accepted
- need to reorient definition of competitiveness to focus on capabilities

#### On measurable indicators...

- separate impacts from the normative term "competitiveness"
- work on the profitability and sustainability sections to find right indicators and questions to evaluate programs
- develop stronger linkages between indicators and determinants

#### On worksheets...

- worksheets need clearer questions, suggest a questionnaire format as opposed to just headings
- need more structure in economic model worksheets, how about set of leading questions?

#### On summing up results...

- relax need to sum up overall influence on competitiveness, leave at disaggregated level
- be careful to avoid setting weights between factors, these will change on a case by case basis
- perhaps should not aggregate up the assessments too much so that policy makers can assign own weights.