The Effects of Trade Promotion on Canadian Agricultural Exports

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Canadian agricultural trade promotion expenditures have dramatically increased from C$.4 million in 1969/70 to C$26.5 million in 1981/82. To evaluate the effect of these expenditures on agricultural exports an econometric analysis is presented in this study. The extended distributed lag model for export demand is developed and estimated using an iterative autoregressive least squares with instrumental variable (IALSI) method of estimation. The results reveal that the trade promotion programs (aggregate expenditure levels) have had a statistically significant effect on agricultural exports. The analysis of dynamic multipliers indicates that the effect of trade promotion expenditure on export levels is likely to decline gradually and last for about a five-year period. Also, the real export demand for aggregate agricultural products is found close to unitary elastic with respect to the real export price variable.

Agricultural products represent more than ten percent of Canada's total exports and make a significant contribution to national income and employment. In particular, exports of agricultural products have been an increasingly important source of farm income in Canada. In 1983 these exports amounted to 54 percent of total gross farm income (excluding direct government payments) as compared to 39 percent in 1971 (Statistics Canada, 1983).

As might be expected, the absolute value of agricultural exports has grown rapidly over the past several years. As shown in Table 1, the nominal export sales of all agricultural products from Canada have increased from US$1.8 billion in 1971 to US$8.2 billion in 1983—an increase of 350 percent during this period. The consumer price index on the other hand, rose by only 186 percent during the same 13 year period. However, when we examine the export performance in the international context, we find that Canada's major competitors in the world market have fared much better. During the 1970-83 period, U.S. sales have increased from US$7.4 billion to US$37.5 billion—an increase of 409 percent. The E.E.C. has increased its export sales (internal and external) from US$13.0 billion in 1970 to US$64.9 billion in 1983—an increase of 400 percent. As shown in Figure 1, the upward trends are clearly evident for all 3 exporters with the exception of the last few years. The U.S. and E.E.C. have thus experienced an expansion of their shares in the world export market while there is a downward trend evident in Canada's export share during the 1970s (see Figure 2), and also over the longer term (Storey et al.).

During the last decade the major exporters of agricultural products have intensified their efforts to maintain and/or increase their shares of the world market. Each country is following a more "business-like approach" in selling their commodities to the rest of the world (Devgon, 1977, and De Vries 1979). Canada has implemented several programs and policies which are intended to achieve such a goal (External Affairs, 1983, and U.S.D.A., 1975). The efforts, loosely termed as trade promotion or export promotion, involve expenditures of several millions of dollars each year. A recent Economic Council of Canada study (Raynauld etal., p. 65) indicates that the total cost of the Export Development Corporation (EDC) intervention (export promotion) in 1980 dollars was between C$1.0 and C$2.2 billion (depending on the opportunity cost used between 4 and 10 percent) for all commodities. The net effect of these expenditures on export sales has not yet been established.

According to Krueger (1983) export promo-

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Table 1. Nominal World Agricultural Exports and the Relative Shares of Canada, U.S., and E.E.C.[a]

	Canada		U.S.		E.E.C. (9)[b]		World
Year	mill. US$	%	mill. US$	%	mill. US$	%	mill. US$
1970	1,830	3.55	7,382	14.32	13,000	25.22	51,556
1971	2,180	3.94	7,873	14.24	15,245	27.57	55,297
1972	2,433	3.70	9,737	14.79	18,759	28.49	65,841
1973	3,282	3.44	18,146	19.01	26,144	27.39	95,442
1974	4,163	3.53	22,550	19.11	31,095	26.35	118,018
1975	4,203	3.43	22,459	18.33	35,546	29.02	122,504
1976	4,358	3.28	23,690	17.82	37,278	28.04	132,922
1977	4,389	2.87	24,776	16.21	43,142	28.23	152,814
1978	4,557	2.64	30,572	17.72	53,033	30.75	172,491
1979	5,565	2.73	36,206	17.74	64,739	31.72	204,088
1980	7,115	3.06	42,883	18.41	73,609	31.61	232,899
1981	7,842	3.37	45,048	19.37	72,143	31.03	232,527
1982	8,066	3.80	38,238	18.02	67,441	31.79	212,146
1983	8,229	3.97	37,537	18.09	64,878	31.26	207,537
1979-83 Average	7,364	3.38	39,982	18.33	68,562	31.48	217,840

Source: Food and Agricultural Organization (FAO), Trade Year Book, several years.
[a] Agricultural products include: live animals, meats (fresh, chilled or frozen); milk and milk products; all grains, flours, vegetables and fruits (fresh, dried and chilled); oilseeds, oils and cakes; tobacco, grape wine and malt beer. Excluded are the fish and marine products; hides; and forest products. For details see the source.
[b] This includes the internal and external exports of E.E.C. (9 countries). For comparison Denmark, Ireland and UK are included from 1970 even though they joined E.E.C. in January 1973.

tion as a trade development strategy contributes more to economic growth than does import substitution. Canada has increasingly emphasized export promotion, especially in the recent past. For example, export promotion expenditure for agricultural products has increased in nominal terms from less than half a million dollars in 1969/70 to over C$26 million in 1981/82 (Table 2). It would be very useful to know, from the policy point of view,

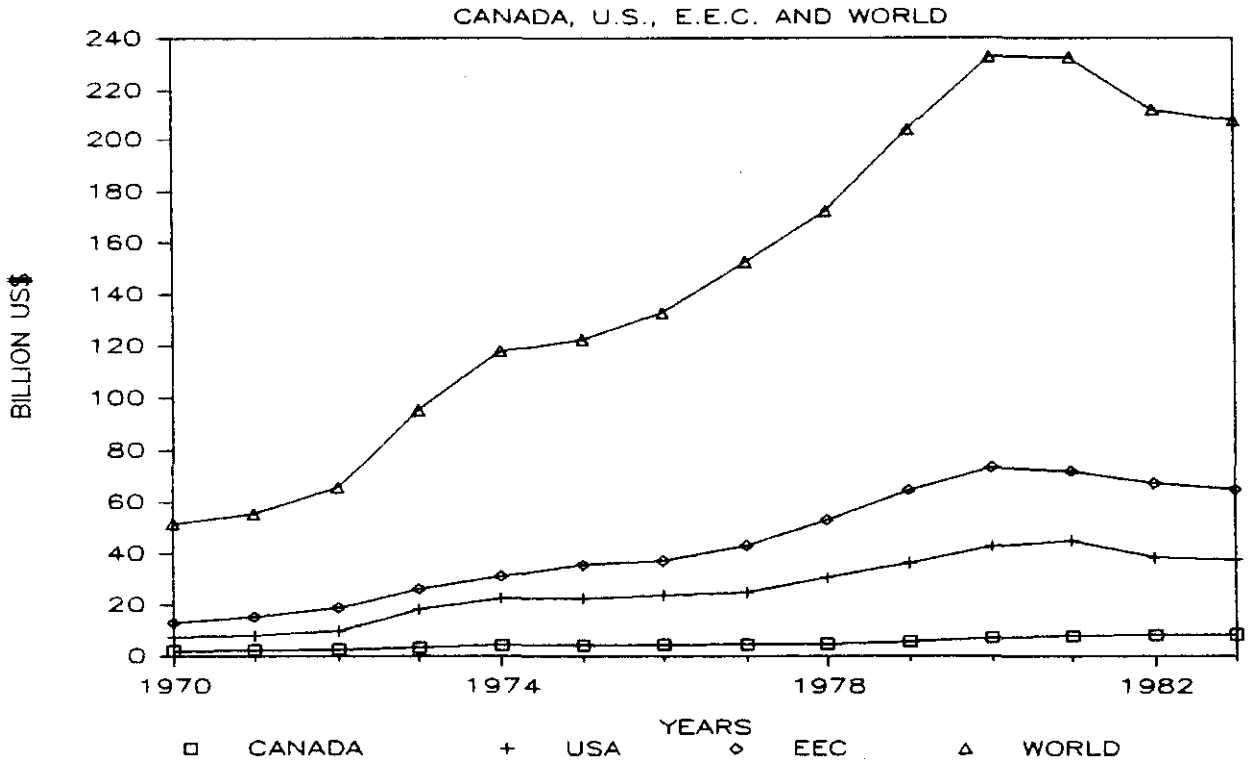

Figure 1. Nominal agricultural exports

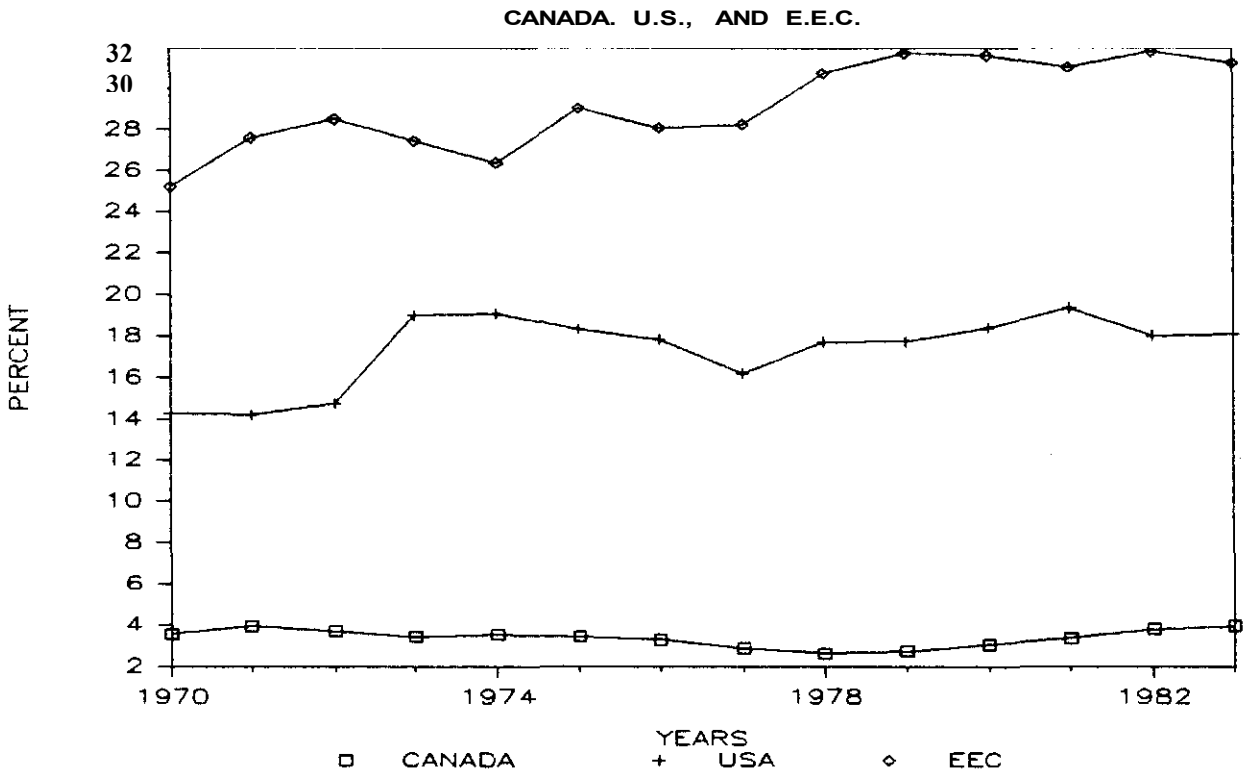

Figure 2. Agricultural export market share

the economic impact of trade promotion programs on export levels. The objectives of this study, therefore, are: 1) to briefly outline the nature of Canadian export support programs and, 2) to develop an econometric methodology to estimate the effects of trade promotion expenditure for agricultural products on the aggregate export level of these products.

Export Promotion Efforts

Canada's past promotional efforts in the export market can be classified into four categories.

/. *Market Development Promotion:* This program is designed to facilitate exports of Canadian products, especially in new markets. This includes activities such as trade missions (incoming and outgoing), exhibitions, and trade fairs. The official program is called the Promotional Projects Program (PPP). The current dollar expenditure towards agricultural products increased dramatically from C$.22 million in 1970/71 to C$1.33 million in 1982/83 (Table 2). In 1981 constant dollars this represents an increase from C$.54 to C$1.18 million.

//. *Export Finance and Risk Sharing:* This category includes federal government programs that assist private companies, associations and market organizations to participate in the international market and promote their products through grants, contributions and other forms of financial assistance. The Program for Export Market Development (PEMD) represents a major effort to assist Canadian businesses to compete in new and unfamiliar world markets. Since its inception in 1972/73, this program has grown from C$89 thousand to over C$2 million in 1982/83. Other programs in this category include EDC activities which offer insurance to cover losses due to nonpayment by foreign buyers, etc.

///. *Financial Assistance to Developing Countries:* By far the largest expenditure comes under this category which includes payments to subsidize the difference between fixed interest rates negotiated with the buyer and current market rates applicable to outstanding debts on grain sales made on ten year credit terms. Included in this category are also occasional expenses incurred in other countries (e.g., Brazil and Lebanon) to facilitate Canadian export sales.

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IV. Food-Aid Programs: Food-aid may have a significant impact on export sales of the donor countries. Some argue that food-aid creates a good will in the recipient countries, hence in the long run some of these countries could become commercial buyers. Past experience shows that countries such as Mexico, South Korea, Taiwan and India have graduated from the American Food-Aid program and have become commercial buyers. However, generally food-aid is extended on humanitarian grounds and is not considered as a part of commercial trade promotion expenditure. Because of this official treatment of food-aid and the uncertainty in terms of the timing and the magnitude of its effect on the future export sales of Canada, in this study, it is not classified as part of the total trade promotion expenditure.

Methodology

Most of these trade promotion programs are likely to have long term effects on realized export levels. Recognizing the obvious potential differences in the efficiency of the funds spent on each program, owing to the differences in their goals, conditions, mechanism, and effectiveness, it would be ideal to establish the economic impact of each program separately. However, to perform such an analysis quantitatively one would require a fairly long data series. Due to the short history of most of the promotion programs and relatively low levels of expenditure on categories 1 and 2 it was decided, for the purpose of this study, to consider the agricultural trade promotion only at the aggregate level. Perhaps, from society's point of view, the aggregate level itself may be more important in deciding the net benefits of such investments than the promotional expenditures at the program levels.

A Conceptual Model

A comprehensive textbook treatment of an equilibrium trade model involves a system of supply and demand equations for the exporting and importing countries including an excess supply and excess demand functions (Kindleberger, p. 162-4). Some variation of this is modeled by MacLaren (1977) for Canadian wheat exnort in the international market. However, such a formulation becomes extremely complicated when *several* exporting and importing countries are involved in the trade *of numerous* agricultural products. Simplification of this system which includes a careful identification of a number of possible determinants of export demand has been suggested and used by many researchers. One such model, called a "direct model," applied for wheat import demand of a given country has been used by Reekie (1967), Capel and Rigaux (1974) and others. In this study, the explanatory variables of the direct model are modified to suit the aggregate nature of Canadian agricultural exports.

According to economic theory the most important variable is the price of the product. Per capita income in the importing countries is a common demand shifter. It is hypothesized that it has a positive effect on the Canadian agricultural exports. Another factor which is likely to have a positive effect on the export levels is the Canadian "export promotion effort." Its effect is similar to that of advertising on the product demand. Many empirical studies in business and economics (Hochmann, Regev and Ward; Thompson and Eiler; Bass; Dorfman and Steiner) have demonstrated a relationship between the product sales (demand) and the current or lag advertising (promotion) expenditures. Part of the export promotion effect on the export levels is realized during the same period as the promotion expenditure and the residual effect is realized over several following years. To capture this effect a distributed lag model is used. Export promotion by other competing countries is also likely to affect Canada's export sales performance in a similar distributed lag fashion.

In addition to the above mentioned variables a stochastic variable is specified to indicate the random and unforeseen effects of factors such as weather in the importing countries, international events affecting Canada's export levels, etc. The competing countries' prices are not included. The export prices tend to be closely related as the grain export market is very price competitive. For example, barring the quality differences, Canadian and U.S. wheat prices over the last 30 year period have been almost identical (World Bank, p. 64-5). Empirically inclusion of these variables simultaneously would also create estimation problems of multicollinearity

Incorporating the above mentioned factors a

general form of an extended distributed lag model to explain the variability in the export demand for agricultural products is presented as follows.

$$(1)\quad X_t = f(P_t, \mathbf{Y}_t M_t, M_{t-i}, \ldots, M_{t-n}, C_t, C_{t-i}, \ldots, C_{t-n}, W_t)$$

where X = real agricultural exports, P = real price index of agricultural commodities, Y — real per capita income of major importing countries, M = real dollar expenditure on agricultural trade promotion, C — trade promotion of the competing countries, W = weather condition in importing countries. Also f denotes a general functional form; t denotes the current year and t — i the ith lag year.

By way of the following model it is hypothesized that the relative changes in the above variables cause the relative changes in the export levels.

$$(2)\quad X_t = \alpha P_t^{\beta_p} Y_t^{\beta_y} M_t^{\beta_0} M_{t-1}^{\beta_1} \ldots M_{t-n}^{\beta_n} C_t^{\gamma_0} C_{t-1}^{\gamma_1} \ldots C_{t-n}^{\gamma_n} e^{W_t}$$

where a, /3s and ys are parameters to be estimated. This nonlinear form allows a possibility of declining marginal effect of promotion expenditure. However, for not knowing the best possible form apriori, other forms such as the linear one will also be examined. Taking logarithms of both sides of this equation we get a log-linear form such as—

$$(3)\quad \ln X_t = \ln \alpha + \beta_p \ln P_t + \beta_y \ln Y_t + \beta_0 \ln M_t + \beta_1 \ln M_{t-1} + \ldots + \beta_n \ln M_{t-n} + \gamma_0 \ln C_t + \gamma_1 \ln C_{t-1} + \ldots + \gamma_n \ln C_{t-n} + W_t$$

This econometric model in its present form is almost non-estimable as it includes too many parameters, especially when n is very large. Therefore, an assumption is made that the parameter associated with the promotion variables (M and C) decline geometrically (both with the same rate) as we go back in time (i.e, as the lag increases). For the kth lag year the following relationship holds.

$$(4)\quad \beta_k = \beta_0 \lambda^k \text{ and } \gamma_k = \gamma_0 \lambda^k \text{ with } 0 < \lambda < 1, k = 1, 2, \ldots, n$$

where A. is called a decay parameter. Based on this assumption the Koyck's transformation procedure can be applied. This procedure involves substituting the above relationship in equation 3, lagging that equation by one year, multiplying both sides by X, and finally subtracting it from the current period equation (for explanation of a similar procedure see Theil, p. 259-268). This procedure eliminates all of the lag values except the very last one. When n = °°, the last term also reduces to zero, and the final equation is estimable. It takes the following form.

$$(5)\quad \ln X_t = (1 - \lambda)\ln \alpha + \beta_p(\ln P_t - \lambda \ln P_{t-1}) + \beta_y(\ln Y_t - \lambda \ln Y_{t-1}) + \beta_0 \ln M_t + \gamma_0 \ln C_t + \lambda \ln X_{t-1} + U_t$$

where the error term is

$$(6)\quad U_t = W_t - \lambda W_{t-1}$$

Estimation Problems and Procedures

The model presented as equation 5 can be used to estimate parameters X, a all /3s and ys. However, an application of the ordinary least squares (OLS) method does not provide us with unbiased and the most efficient estimates of the above parameters as this model has four major estimation problems. These problems along with the steps taken to overcome them are explained below.

A. Stochastic regressor: A lagged dependent variable if present among the explanatory variables in a model derived from the Koyck's lag process violates the necessary assumption that all independent variables are a set of fixed values, i.e., they are uncorrelated with the error term. The OLS estimates of such a model are not only biased but also inconsistent (Johnston). The solution suggested in the literature (Johnston p. 319, and Fuller p. 429-447) to solve this problem is the use of an instrumental variable which is highly correlated with the lagged dependent variable but not correlated with the error term. In this study, a model is estimated with the current and lagged values of all explanatory variables to find the predicted values of the dependent variable. Then one year lag of this variable (estimated X_t-i) is used as an instrumental variable instead of the lagged dependent variable (X_t-i). This procedure reduces the problem of the stochastic regressor (SAS Institute Inc.).

B. Serially correlated error term: The error term of the final model poses a problem of first order serial correlation (shown in equation 6). The OLS estimators of this model are not efficient. Unfortunately, this cannot be tested as the Durbin-Watson d test and Durbin's h test are inappropriate because of the autore-

gressive nature of the model and small sample size, respectively (Johnson, p. 252 and 312). Hence the model is estimated by both the OLS and ALS (autoregressive least squares) methods and the results are compared.

C. Multiple presence of parameter X: As can be seen from equation 5, the same X parameter appears at four different places. The problem is that on the one hand we cannot construct the needed forms of the explanatory variables (price and income) and estimate the model unless the estimate of X is known and on the other hand the estimate of X is not known unless we estimate the model. To solve this problem an "interative" procedure is used. Necessary forms of variables P and Y (data series) from equation 5 are created by selecting a "guess" value of X and the model is estimated. Using the estimated value of the coefficient of the lagged dependent variable, variables P and Y are recreated and the model is estimated again. This procedure is repeated until the estimate of X converges on the unique value that is used in the construction of the explanatory variables P and Y.

D. Non-linear parameters: One of the solutions to this problem is the use of a non-linear algorithm. However, this procedure will not allow one to solve the other three problems (A, B and C). Therefore, a linear approximation of these parameters is assumed.

The overall procedure used above is called iterative autoregressive least squares with instrumental variable (IALSI). Theoretically, this method provides the best linear unbiased and consistent estimators of the model. The final model, however, is estimated by this and two other alternative methods—an iterative ordinary least squares (IOLS) and iterative autogressive least squares (IALS). The empirical results are then compared.

Empirical Estimation

To complete the empirical estimation the following specific economic variables are used. The dependent variable (X) is measured in real terms. The current dollar export sales (excluding bilateral, multilateral and other food-aid) are deflated by the weighted average export price index (1981 — 1.00) for food, feed, beverages and tobacco, published by Statistics Canada. Therefore, any variation in this variable is only due to the export volume changes. The above mentioned export price index deflated by the Canadian consumer price index (1981 = 1.00) is used as a proxy for the real price of agricultural products (P).

A weighted average of per capita income in nominal U.S. dollars, of Canada's major importers, namely, the U.S.S.R., Japan, U.S. and U.K. is constructed (China, though one of the major importers, is excluded for lack of income time series). The weights are the average shares of these countries in aggregate Canadian agricultural exports for 1970-72 and 1980-82 years (periods used by Agricultural Canada). This per capita income is then deflated by the U.S. consumer price index (1981 = 1.00) to find the real per capita income. As a proxy for the competing countries' trade promotion activities, the U.S. export market development expenditure, variable C, (USDA, 1984) deflated by the U.S. consumer price index (1981 = 1.00) is used. This variable includes the Cooperators Program and the Export Incentive Program. It does not include the interest subsidies on export sales as these data were not available. This later part perhaps is the largest component. However, for lack of practical alternative only the available data were used.

Using the time series annual (April 1 to March 31 fiscal year) data for the period 1969/70 to 1981/82 the initial model was estimated. Due to the small number of observations, high multicollinearity problems, and perhaps the inadequacy of the proxy, the variable C with a nonsignificant coefficient and wrong sign was dropped. The deletion of this variable, however, did not reduce the explanatory power of the model as the reduction in R^2 value was extremely small. Linear forms of these models were also estimated. But in general they had lower R^2 values, wrong signs on some of the important variables and lower t values. Hence, the log linear forms of these equations are selected.

Results and Discussion

The model has been estimated by three different methods of estimation—IOLS, IALS and IALSI. The results are presented in Table 3. A comparison of these three estimated equations, based on the root mean square error (RMSE) and the t statistics of most variables, indicates that the estimates of the IALSI model are most preferable as it presents the

Table 3. Estimates of the Structural Parameters of the Canadian Agricultural Export Model Under Three Different Methods of Estimation (1969/70 to 1981/82)

Independent Variables[a]	Estimation Method[b] IOLS	IALS	IALSI
Intercept	1.225	1.208	1.108
	(0.34)[c]	(0.31)	(0.28)
Export Price of Ag. Products (P_t)	-0.842	-0.957	-0.970
	(2.83)***	(3.34)***	(3.47)***
Export Promotion (M_t)	0.086	0.116	0.121
	(1.29)	(1.61)*	(1.67)*
Per Capita Income (Y_t)	0.627	0.701	0.721
	(0.89)	(1.04)	(1.07)
Lagged Dependent Variable (X_t-0	0.533	0.372	0.353
	(1.97)**	(1.48)*	(1.40)*
P[d]		0.275	0.336
RMSE[e]	-111	.106	.104
R^2	.80	.81	.81

[a] All of the variables are in logarithmic form.
[b] IOLS = Iterative Ordinary Least Squares Method; IALS = Iterative Autoregressive **Least** Squares Method; **IALSI** = Iterative Autoregressive Least Squares with Instrumental Variable Method. The estimated lagged dependent variable is used as an Instrumental Variable. (Explanation of these methods is provided in the text).
[c] The figures in parentheses are t values.
[d] *p* is the first order coefficient of autocorrelation.
[e] RMSE is root mean square error.
*, **, and *** indicate that the variable is significant at 10, Sand 1 percent level of significance, respectively (based on one tailed t tests).

best, linear and unbiased estimates (BLUE) including the unique value of A. Experiments with high and low initial values of A. have produced stable and unique final values of it. Consequently, only the IALSI estimates of the export model are discussed here.

The selected variables explain 81 percent of the total variation in the annual real exports. All of the variables have signs conforming with economic theory and most of the variables are significant at the ten percent level. It should be noted that the coefficients of the log linear model can also be interpreted as the elasticities.

Export Price

Of all the variables considered here, the Canadian real export price of agricultural products is the most significant in explaining the variability in the real agricultural exports of Canada. The results indicate that the aggregate export demand for all agricultural products is almost unitary elastic indicating that the price changes, within a reasonable range, are likely to result in the proportional (opposite) changes in the export demand. Some of the past studies have found the export demand much more price sensitive. Maclaren (1977), for example, estimated the short-run price elasticity of Canadian wheat export demand 3.6 based on the 1949/50 to 1973/74 data. Johnson (1977) reported an implied price elasticity of 6.7 for U.S. agricultural products.

Increased role of non-price competition such as the long term trade agreements, **barter" trade negotiations, credit and repayment terms, etc. may be partly responsible for the lower price elasticity. Also, in general, Canadian prices of some of the major grains are adjusted to offset the changes in the Canadian dollar against the U.S. dollar. This increase in the Canadian price may not be perceived by the importing countries. Hence, a low value of the price elasticity is justifiable.

Export Promotion

Based on aggregate annual data for the past 13 years, real expenditures on all programs intended to promote the export of agricultural products are found to have significant positive effects on real agricultural exports. More specifically, the export demand elasticity with respect to export promotion indicates that a 10 percent increase in promotion expenditure is estimated to increase exports in real dollar value by 1.21 percent within the same year.

Table 4. Dynamic Elasticities of Agricultural Exports With Respect to Export Promotion Ex-

Lag Period	Real Agricultural Exports[a]
0	0.1206
1	0.0426
2	0.0151
3	0.0053
4	0.0019
5	0.0007
6	0.0002
7	0.0001
8	0.0000
Total (Long-run elasticity)[11]	0.1864

[a]The export promotion elasticity for tth lag period is: (/3oA'). [b] Total refers to the sum of all interim elasticities for lag period up to infinity calculated as $/3_0/(1$ — A.) (Intriligator, pp. 36-39).

The value .121 is called the impact multiplier. The residual and long term effect is calculated with the help of the coefficient of the lagged dependent variable. These effects are measured by interim or dynamic multipliers, 01 elasticities in this case, and are presented in Table 4. The details of the derivation process can be found in Intriligator (1978, p. 36-39). The effects of any one year increase in the promotion are expected to decline gradually over about a five year period. The total of al] interim elasticities is called a long-run elasticity. The long-run elasticity indicates that when the promotion expenditure is increased by 1C percent and, if this rate of increase is maintained every year for five years, the total effeci on the export level each year thereafter would be approximately 1.86 percent. In other words the long-run elasticity implies that a 10 percem increase in the trade promotion expenditure ir 1981 dollars (i.e., C$2.6 million from the 1981/82 level) would result in the total in crease of 1.86 percent in exports in 1981 dollars (i.e., C$160 million dollars from the 1981, 82 level) spread over mostly about the nexi five year period.The present worth, in 1981 value, of this increase in export sales, with £ four percent real discount rate, is C$156.9 million because the multiplier in the present value terms is equal to:

$$B_o/[1 - \lambda/ (1 + \text{real discount rate})]$$
$$= .121/[1 - .353/ 1.04] = .183$$

About 89 percent of the value of the ex ported goods is the cost of production of these goods (1983 estimate of the operating and depreciation expenses as a percentage of the gross farm income excluding the direct government payments (Statistics Canada)). This would indicate that about C$17.3 million is the gross return due to the increased promotion of C$2.6 million.

At first the above mentioned promotion impact seems quite high. Unless it is a function of severe specification bias, these effects perhaps can be explained. There are other major costs such as the transportation and handling associated with the exportation of these goods. Therefore, an increase in the gross return due to exportation would be much smaller. Unfortunately, reliable data for such costs and the share of production costs for processed products are not available. This makes it difficult to estimate incremental gains for total exports. However, it seems that even after subtracting all other costs, the incremental returns due to export would be greater than the incremental trade promotion expenditure making promotional spending a profitable investment for Canada.

Per Capita Income

A weighted average per capita income in 1981 U.S. dollars of Canada's major importing countries is found nonsignificant at the ten percent level of significance. This result is similar to that of Reekie's estimation of foreign demand for U.S. wheat. The nonsig-nificance of this income variable could be due to the lack of the *appropriate* measure of this variable and multicollinearity with other variables. However, considering the theoretical importance of this variable, deletion of it may bias the effects of other crucial variables hence it is retained in the analysis. As such the income effect is positive and the export demand elasticity with respect to it is 0.7.

Concluding Remarks and Limitations of the Study

Based on the econometric analysis of the recent time series data it can be concluded that the Canadian agricultural export promotion programs, in aggregate, have had a positive and statistically significant effect on the aggregate export levels of all agricultural products of Canada. At present, even after deducting all costs (production, transportation, handling,

etc.) associated with the exportation from the value of exported agricultural products, the inceased gain is likely to be higher than the increased promotion expenditure. This provides a net benefit to the Canadian society. Hence, export promotion should be continued and considered as an important trade development strategy for Canada.

The socio-political considerations in the trade agreements, export promotion efforts through the regular diplomatic channels, measurement of some of the variables and in general the accuracy of the reported data are some of the problems that put limitations on the precision of the results of this study. It is hoped, nevertheless, that the methodology developed, and the direction (sign) and general magnitude of the estimates would still be valid.

Finally, it should be noted that the share of production costs in the total value of the product has been steadily increasing in Canada from 61 percent in 1973 to 89 percent in 1983 (Statistics Canada). If this trend continues into the future the gross return to export promotion due to exportation could gradually disappear. Therefore, the estimates of trade promotion effect such as the ones derived in this study could be useful in deciding future levels of the promotion expenditures.

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