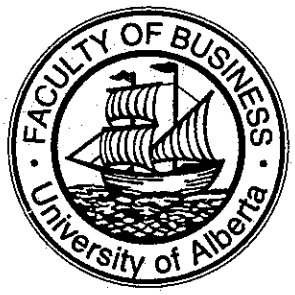

Number 42 • October 1996

THE MARKET POSITION OF SELECTED WESTERN CANADIAN COMMODITY EXPORTS TO THE REPUBLIC OF KOREA*

by

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* A paper presented at the Canada-Korea Conference, University of Alberta, August 26, 1996

The Market Position of Selected Western Canadian Commodity Exports to the Republic of Korea

This paper examines the market share of selected Canadian merchandise exports to the Korean economy from 1980 to 1994. The commodities include woodpulp, paper and paperboard, grains, anthracite (coal), aluminum sheets and ingots, potash, beef, and animal hides and skins. These items constitute a significant fraction of western Canadian exports to Korea. They amounted to roughly half of the region's merchandise exports to that market in both 1988 and 1994.[1] The data used is from the World Trade Data Base (WTDB) which covers some 800 commodities and is adapted by Statistics Canada from trade reported to the UN Statistical Office by member countries.

The accuracy of Statistics Canada's export data has recently been questioned. Some analysts believe that the considerable (and ever increasing) volume of Canadian exports to the U.S. reflect, to some degree, a surge in re-exports from the U.S.[2] Since this paper focuses on commodity grade exports with generally high transportation costs, distortion by way of US re-exports is probably minimal. In addition, this paper does not consider trade in services. Some consideration, however, is given to Korean direct investment flows into Canada together with the possible implications for future trade flows.

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[1]This approximation was arrived at by aggregating HS categories within the Statistics Canada TIERS database. Since the SITC numbers used by the WTDB do not correspond neatly with the HS categories, this remains a rough and fairly conservative estimate.

[2]Statistics Canada has recently inititated investigations into re-exports from the U.S. but has yet to publish any results. For a brief discussion of the issue, see "Soaring Surplus", *The Financial Post*, September 27, 1996, pp. 12, 14.

The introductory section of the paper offers a very brief summary of the changes occurring in the ROK economy during the period examined. The second section looks at the Canadian import market share position in the Korean economy of the selected commodities, the chief competitors, and the US$ values involved. The third section of the paper looks at the aggregate position of the chosen commodities, and uses a regression model to separate from other influences the impact of changes in the Canadian real exchange rate on market position.

I. Introduction

We begin by providing some of the ROK's economic context by including output growth, economic policy, trade and foreign direct investment (FDI) patterns. The years covered by the paper witnessed substantial changes in the ROK economy, and in the orientation of economic policy. From 1980 to 1991 the ROK real GDP grew at an annual rate of more than 9%. While the rate of growth in output has slowed somewhat during the past four years, the average still exceeds 6% annually. Real per capita GDP rose from 21% to about 40% of American per capita levels.

Structural changes in the economy have continued at a rapid pace. The ROK's transition from agriculture to manufacturing remains the most striking characteristic. For example, at the beginning of the period being analysed, agriculture and manufacturing each accounted for about one-fifth of market value GDP. Currently, agriculture accounts for less than a tenth of GDP while

the manufacturing share has risen to one-third. Given the high rate of growth in the ROK there is every reasonable expectation that Canada's exports to that market should increase in both value and volume.

During the period from 1980 to 1994 there were important economic policy changes in the ROK. Especially relevant was abandonment during the mid-1980s of the entrenched policy of promoting strategic industries. In its place was a new emphasis on trade and financial liberalization. While the extent of trade liberalization (e.g., the erosion of non-tariff barriers) has still some distance to go, the shift in direction can nevertheless be exemplified by the fall over the past decade in simple average tariff rates from 30% to less than 10%.

Japan and the United States were the major suppliers of the ROK economy in 1980 and remained so through the early 1990s. Together they are the source of about one half of ROK's merchandise imports. Canada, in aggregate terms, occupies a very small import niche and supplied from 1.2 to 2% of the market over the study period. By using market share analysis throughout the paper, we can see if Canadian exporters have managed to improve their position in certain segments of the ROK market subsequent to the adoption of greater liberalization.

FDI outflows rose substantially during the period, reflecting the changed orientation of the economy. Direct investment abroad has increased since 1980 from virtually nothing to about 2% of GDP. North America and to a lesser extent Indonesia were major destinations.

II. Canadian Sourced Import Market Shares for Selected Commodities

A word first about the choice of the WTDB as a statistical source: data on the absolute levels of exports and their trends have many applications. They produce knowledge about the importance of the export sector to the domestic economy and they cast light on some dimensions of export performance. For example, domestic industries can be ranked by export contribution; the country destination of domestic exports can be identified together with the market importance of particular regions; multiplier effects of particular exports on the domestic economy can be estimated; the job content of the export sector can be calculated.

However, it is also necessary to know and evaluate relative position in overseas markets of a specific commodity or group of commodities. A full measure of export performance has to consider the positioning of given exports in the foreign market and the changes that may occur over time. The obvious questions include: How are we doing relative to our competitors? Answering the question will suggest new opportunities, and lead to further evaluations of why success may be evident in some instances, and why experience may be less than adequate in others.

There are certain disadvantages in using the WTDB. One is the approximate 18 month delay in publication. Data for 1994 became available only in mid-1996. Another is the fact that the data are for countries, not for provincial or state

jurisdictions. Hence, data do not relate specifically to western Canada but are sourced from the national economy. However, it is possible to identify from the Statistics Canada TIERS database the Canadian dollar value of exports to Korea originating in the four western provinces and their relative importance.

The paper uses the WTDB for a period of fifteen years from 1980 to 1994. Obviously, year to year market position can be markedly affected by random shocks. These may originate on either the demand or supply side and be specific to the commodity in question, or they may be general in character. The years from 1980 to 1994 is a span long enough to get some sense of the trend in market position, a period of sufficient length to identify, if possible, some of the factors that have influenced changes in market position.

CHART 1

CANADA % MARKET SHARE: CHEMICAL WOODPULP

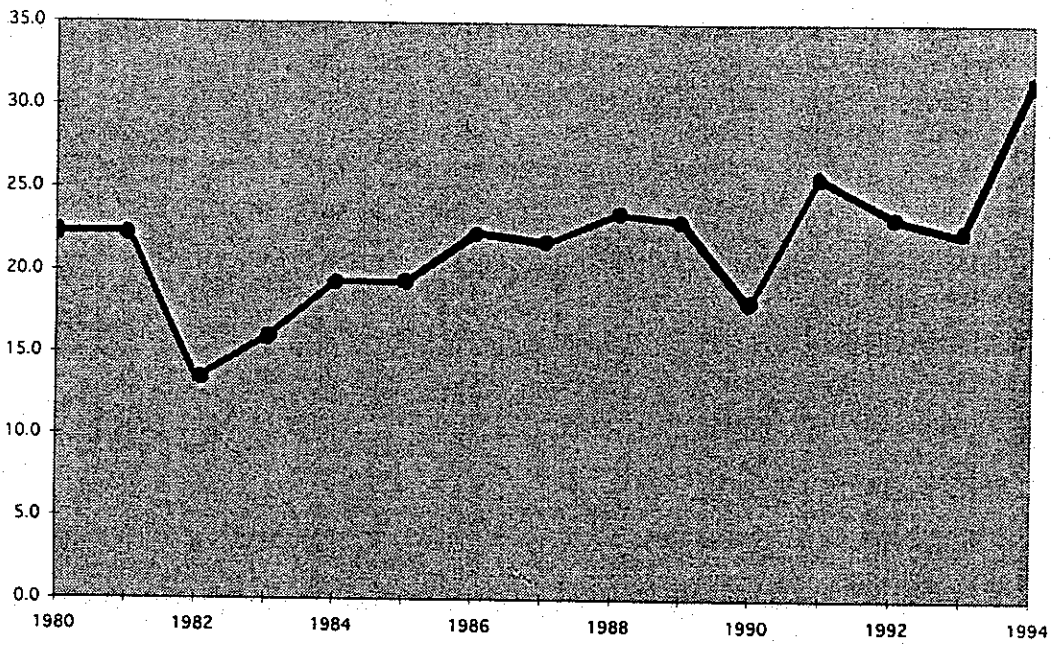
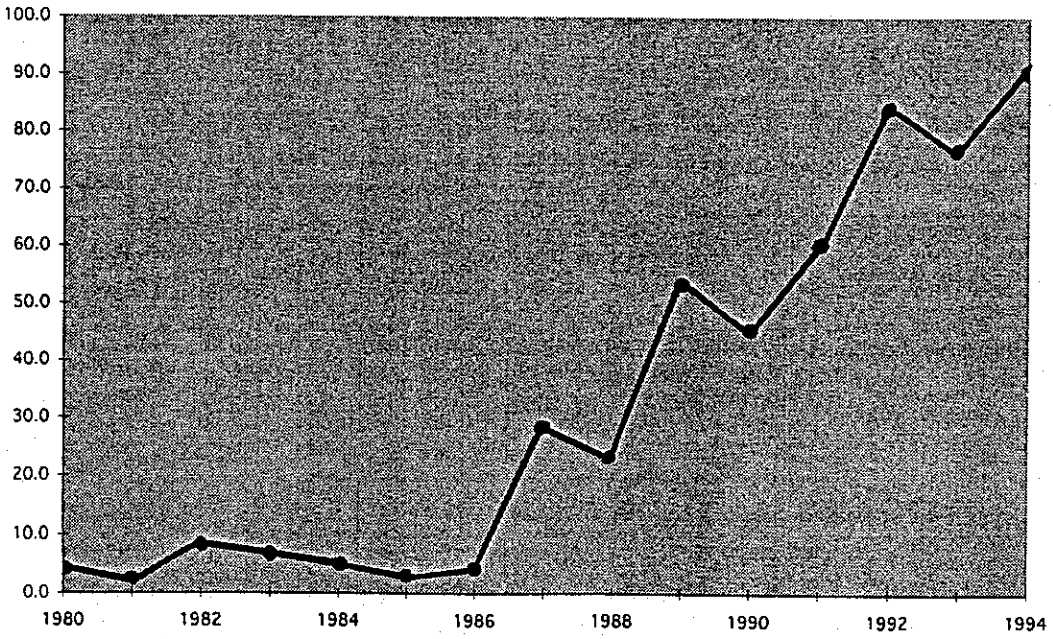


CHART 2

CANADA % MARKET SHARE: MECHANICAL WOODPULP



Chemical Woodpulp (SITC 2517)

Korean imports of chemical woodpulp rose in value from $US170.4 million in 1980 to $US704.9 million in 1994. Chart 1 (opposite) shows the Canadian market share. From the beggining of the period Canada occupied a significant position in the Korean market and by the end of the period its position had grown. The U.S. is currently the principal competitor. Its market share in the 1990s has averaged about 45%, up from one-third at the beginning of the period. Marginal suppliers to this market are New Zealand and Chile.

Mechanical Woodpulp (SITC 2512)

Total imports of mechanical woodpulp, considered environmentally superior to chemical woodpulp, increased from an average of some $US10 million during the early 1980s to an average of about $US40 million in the 1990s. The Canadian market share shown in Chart 2 (opposite) reveals that growth from virtually nothing in a very limited market to dominance in a modestly sized one. The U.S., New Zealand and Sweden have virtually disappeared from the market.

CHART 3

CANADA % MARKET SHARE: PAPER AND PAPERBOARD

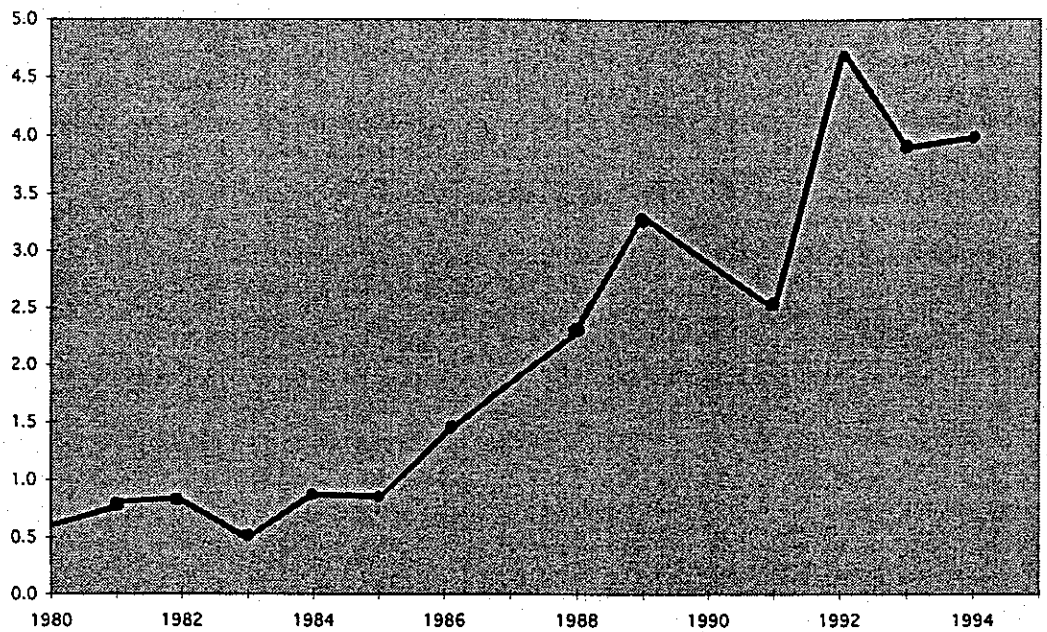
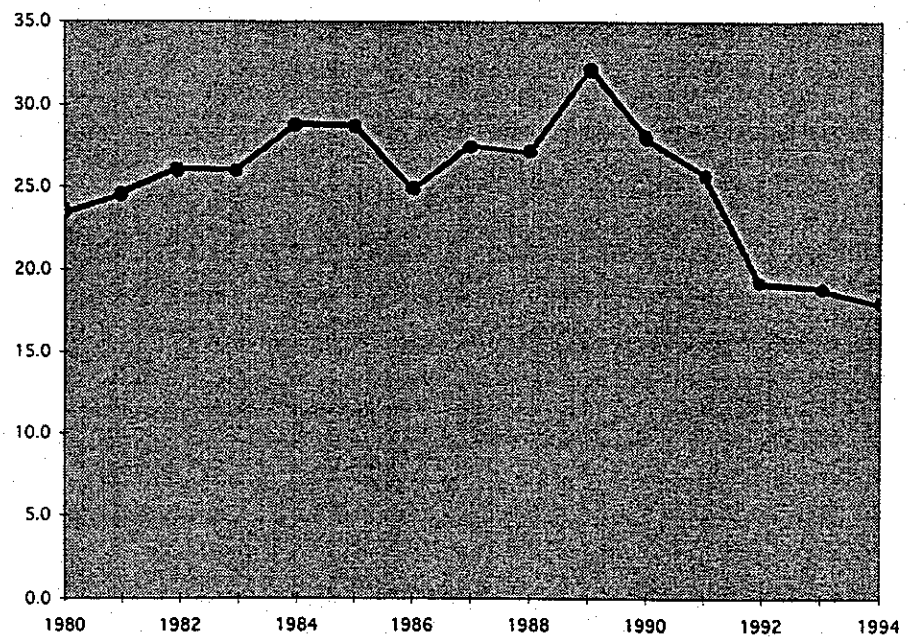


CHART 4

CANADA % MARKET SHARE: ANTHRACITE



Paper and Paperboard (aggregate of SITCs)

Korean imports from all sources rose from approximately $US240 million in the early 1980s to an average of more than $US1 billion in the 1990s. The Canadian presence is limited at best, moving from virtually zero in the early 1980s to an average of less than 4% in the 1990s, as shown in Chart 3 (opposite). Major competitors are Japan and the United States, though they now together account for about three fifths of the market whereas during the early years of the period their share was over 80%. Australia and Sweden are minor competitors.

Anthracite (SITC 3221)

Korean imports from all sources rose to $US1,450 million in 1994 from $US260 million in 1980. Chart 4 (opposite) shows Canadian market share over the period which, during the 1990's, fell measurably from earlier parts of the period. Principal competitors are Australia, the US and in recent years the emergence of South Africa which, in 1994, accounted for 12% of the market. At the same time, ROK domestic production fell by one-half.

CHART 5
CANADA % MARKET SHARE: ALUMINUM

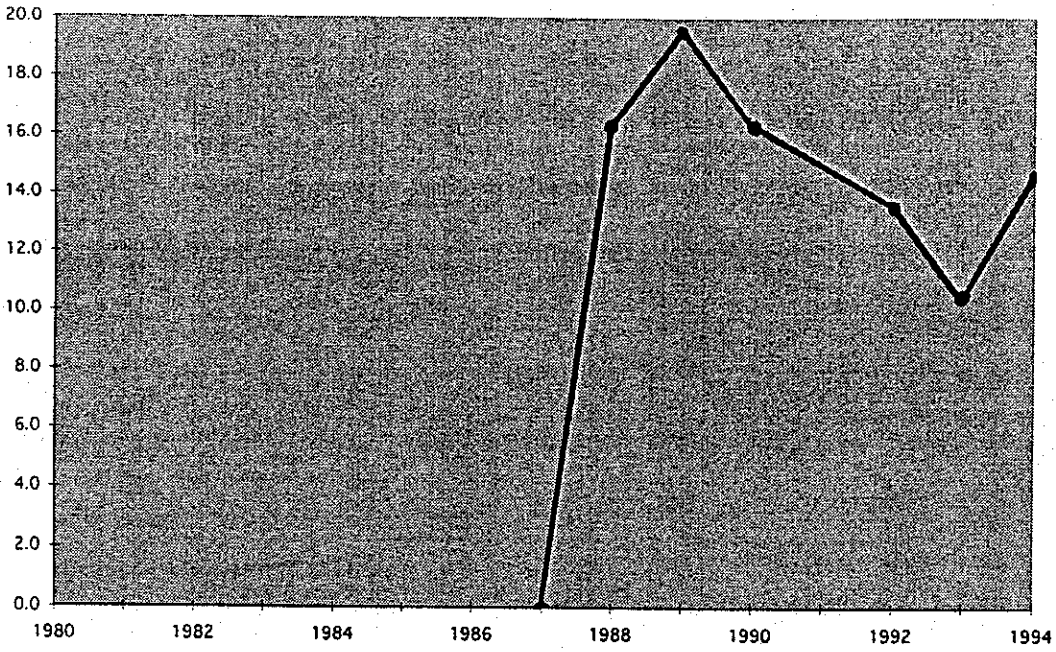
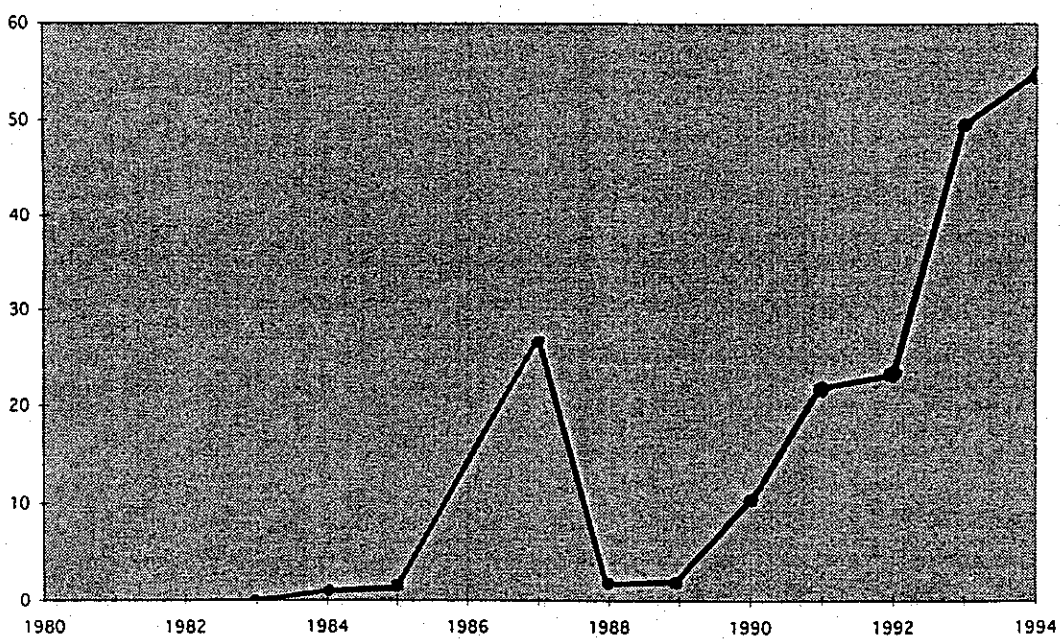


CHART 6
CANADA % MARKET SHARE: WHEAT



Aluminum and Aluminum Alloys (SITC 6841)

Korean imports of aluminum and aluminum alloys could be expected to grow very sharply with the increased absolute and relative growth in manufacturing. Their U.S. dollar value rose ten-fold from $86.2 million in 1980 to $851.5 million in 1994. Chart 5 (opposite) shows that the Canadian market share during the period rose from zero during the early and mid 1980s to a significant segment of the market in recent years. Australia is a major competitor accounting for about two-fifths of imports.

Wheat (SITC 412)

Korean imports of wheat rose from $US349 million in 1980 to more than $US700 million in each year of the 1990s. As Chart 6 shows (opposite) the Canadian record here, even more so than that in aluminum, is one of moving from zero market involvement to a blip in the mid-eighties to becoming a major participant more recently. The principal competitor in this segment is the U.S.

CHART 7

CANADA % MARKET SHARE: HIDES AND SKINS

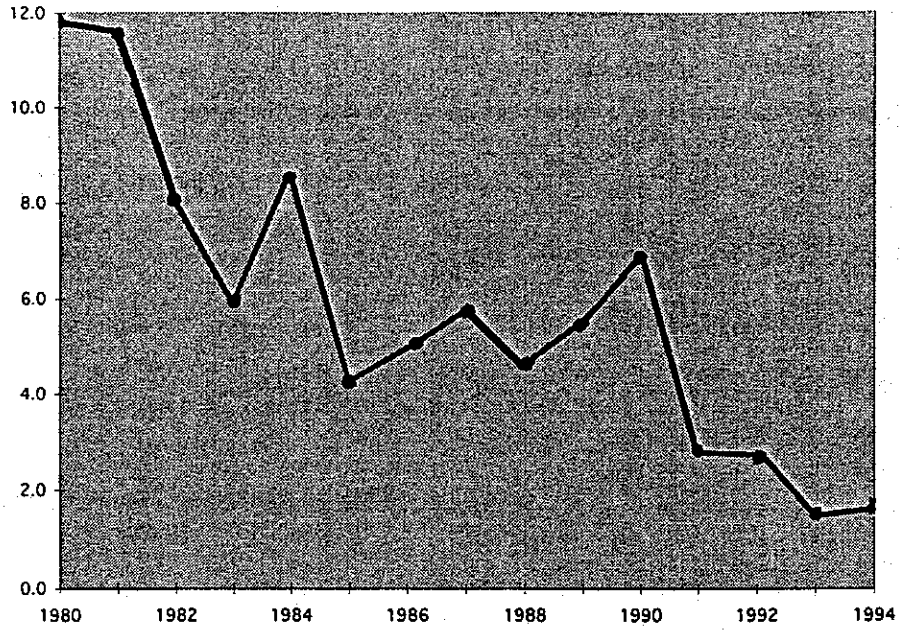
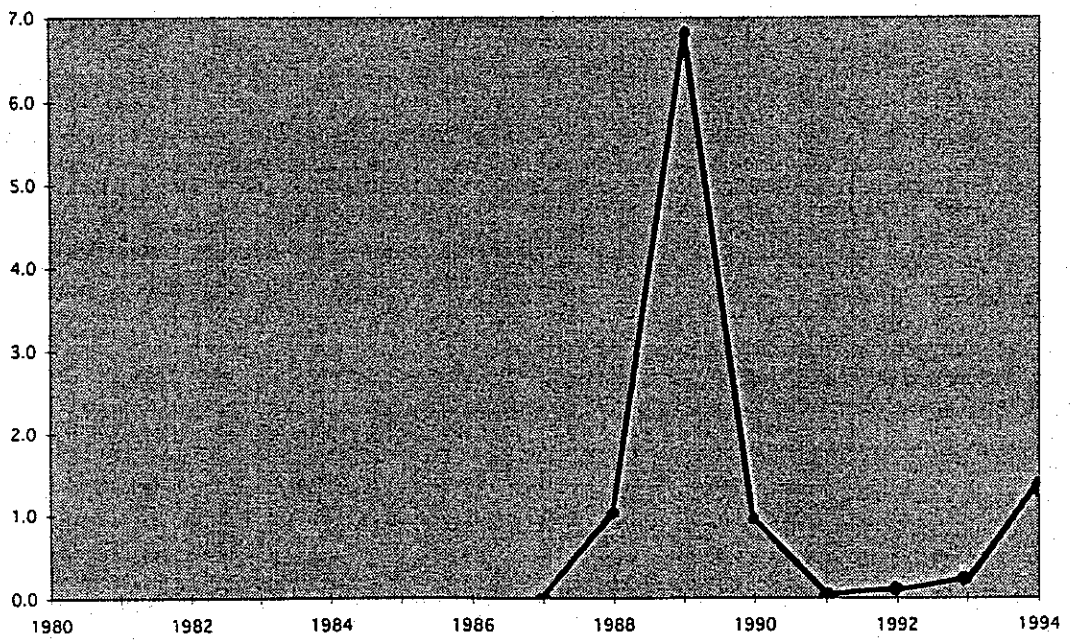


CHART 8

CANADA % MARKET SHARE: BEEF



Bovine and Equine Hides (SITC 2111)

ROK imports rose from an average of US$170 million in the early 1980s to more than US$730 million in the 1990s, a growth that could be expected with the expansion of manufacturing. The dominant supplier in this market is the U.S. which has consistently accounted for four-fifths of import values. The only other supplier of consequence is Australia which in recent years has accounted for roughly 15% of the market. Canada's declining presence is quite evident in Chart 7 (opposite).

Fresh Chilled Beef (SITC 111)

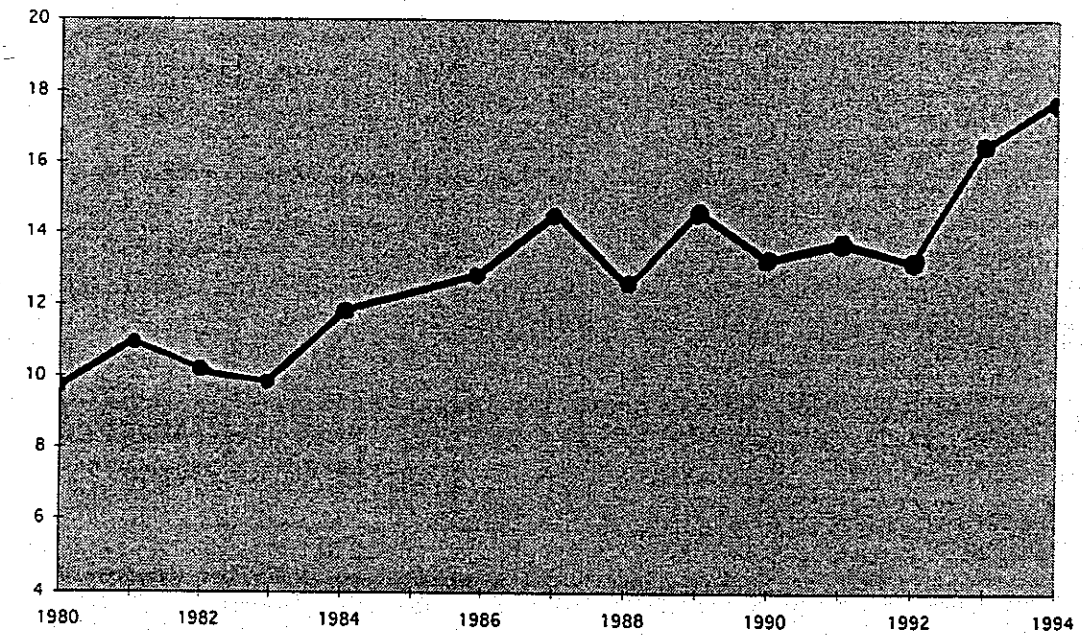
Korean imports of fresh, chilled beef have increased from their average value of US$100 million in the early 1980s to an average of almost US$400 million in the 1990s. Chart 8 (opposite) shows Canada's market share. The market is dominated by the U.S. and Australia which together account from four-fifths to nine-tenths of imports. Chart 8 speaks to the limited Canadian presence in this market which, apart from a blip in 1989, has been absolutely minimal. The contrast with what has happened to the market shares of aluminum and wheat is quite stark.

III. Analysis of Aggregate Market Shares

How can we interpret the market experience of these individual commodities whose relatively volatile prices are quoted internationally in US$? Each is the type of commodity that in and of itself (at least on the surface) have minimal attribute differentiation. However, even though a frequent generalization is that they are pure commodities with price the exclusive key to market positioning, the role of marketing actions in the form of product promotion and service bundling cannot be ignored. They are subject to specific price shocks whose magnitude may be magnified by developments affecting the industry in a given country competitor. Put otherwise, combinations of climatic factors, policy actions, trade actions, industry initiatives, and labour market disruptions that cut across both the economies of respective exporters and of the importing country can alter an exporter's ability to hold, even its capacity to establish a position in the domestic market of a trading partner. Hence, we are dealing with a complicated and intricate set of factors.

We have combined the eight commodities to calculate an aggregate market share. The aggregate market share found in Chart 9 (below) expresses the annual sum of ROK imports sourced in Canada as a percentage of world imports of these same commodities. The market share, a dollar based value, displays a rising trend.

CHART 9
CANADA % AGGREGATE MARKET SHARE



A trend line, of course, expresses the sum total of all influences on the variable in question. The commodities examined are price sensitive and in applying a simple regression model with market share the dependent variable we include the Canadian real exchange rate together with trend as an independent variable. The real exchange rate appear more appropriate than the nominal rate simply because there is no longer term benefit from a nominal depreciation if it is eroded by a relative deterioration in cost levels.

We have defined the real Canadian exchange rate as follows:

C$ real rate = (Nominal Exchange Rate) ÷ (Index of Relative Prices).

The nominal exchange rate is expressed as US$ per C$. In calculating an index of relative prices, the Industry Selling Price Index (ISPI) is used for Canada and Producers Price Index (PPI) for the United States. For this measure of the real rate the index of relative prices is defined as:

(US PPI) ÷ (Canadian ISPI)

Note that we have defined the real Canadian rate in terms of the US$ and not in terms of an effective (country weighted) rate. In reality the index is entirely U.S. weighted. That appears appropriate because the commodity prices are quoted in American dollars and also because the U.S. is a major competitor in these markets.

We expect the trend variable to be positive and the real exchange rate to be negative (a real depreciation of the Canadian dollar should be associated with an increase in Canadian market share). The results of the regression are reported in Table 1 (below). The real exchange rate coefficient has the anticipated sign, though it just falls short of significance at the 10% level. The trend variable is highly significant.

Table 1. Aggregate Market Share Regression Results

Dependent Variable: Aggregate Market Share

Independent Variables/	Constant	Real Exchange Rate	Trend
Coefficient Value	18.4137	-0.09244	0.50582
t value		-1.69557	7.31553
Significance		(.11573)	(.00001)

Adjusted R^2 = 0.795
Regression F(2,12) = 28.1912
Significance level of F = 0.00003
Durbin-Watson = 1.97

Conclusion

For the commodities considered, commodities that are of importance to western Canada, it is apparent that in aggregate their market position in the ROK has improved over the 1980-94 period. This improvement represents the positive experience of several commodities including woodpulp, paper and paperboard, aluminum, and wheat. Deterioration in market position is evident in anthracite while the performance in beef products is disappointing and requires careful scrutiny. It is also apparent that positioning in these markets is the result of a combination of factors. The real exchange rate is of some consequence, but its influence is far from dominant. A greater understanding and appreciation of the approaches to the ROK market adopted by Canadian producers of commodities whose positioning has improved is a good first step. The possible role of ROK direct investment flows in increasing relative trade flows at the industry level is also needed.

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