# THE CANADIAN WHEAT BOARD AND BARLEY MARKETING

by

Richard Gray

# Objectives

- To report on the results of the 2005 study by Schmitz, Schmitz and Gray
- To be available to answer questions about the study and provide clarification
- This report deals with comparing the total barley revenue and average prices with current system versus multiple sellers
- I will not address issues of producer choice or producer freedom

# Last Caveat

- I have often been put in the camp of “friend of the CWB”
- Based on my own research and on the evidence in the economic literature I currently strongly hold the view that the CWB has a positive effect on average producer income
- I also strongly hold the view that the decisions about the future of the CWB should be made as part of democratic process where average producer impacts is only part of information that should feed into a democratic decision

# Outline

- Background to the study
- Canada’s place in world barley
- Basis and other issues
- Methodology for estimating revenue affects
- Study results
- Conclusions and need for further work
- Discussion and questions

# Background to the study

**THE CANADIAN WHEAT BOARD**

**AND**

**BARLEY MARKETING**

**by**

Dr. Andrew Schmitz

Dr. Troy G. Schmitz

Dr. Richard Gray

# Background to the study

- A updated look - Previous study 1985/86 - 1994/95 this study the 1995/96 to 2003/04
- Funded by the CWB
- Used actual CWB transaction data - pricing in each market is important information

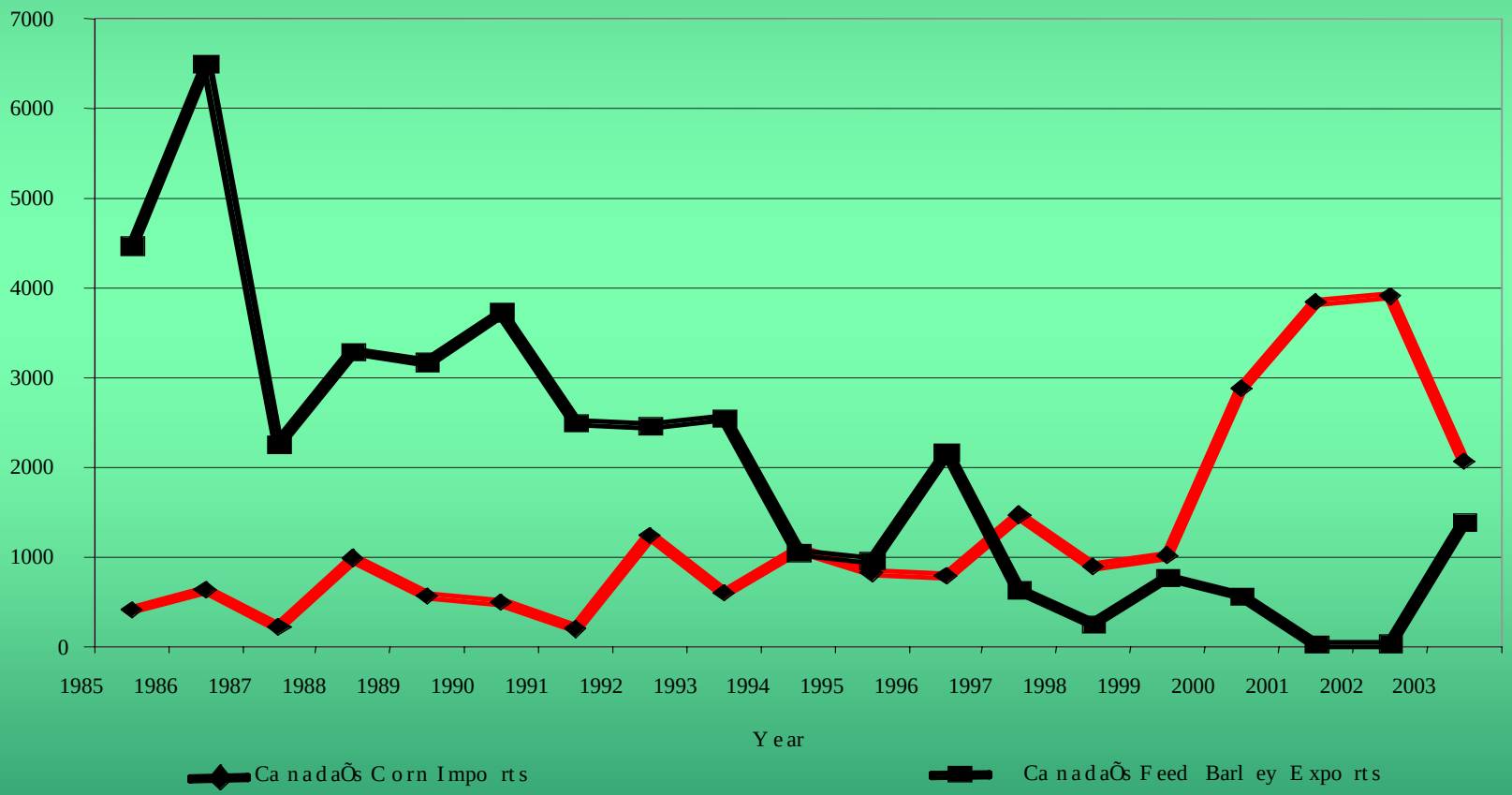
# Four questions

1) Does the CWB deliver higher returns to Western Canada's feed-barley and malting-barley producers than would be the case in a multiple-seller environment?
2) Are there benefits provided to producers through the price pooling operations of the CWB, i.e., risk management?
3) What are the inherent problems of arbitrage between the annual pooled return provided by the CWB and the cash off-Board market price?
4) Are there additional marketing costs that are unique to the operation of the CWB as a single-desk seller?

# Canada's place in world barley

- Feed grain market very small player
- Malting barley and barley malt
  - More significant  in North America and world
  - Global malting-barley trade increased 44% from 3.2 mmt in 1994/95 to 4.6 mmt in 2001/02

# Became feed deficit in western Canada



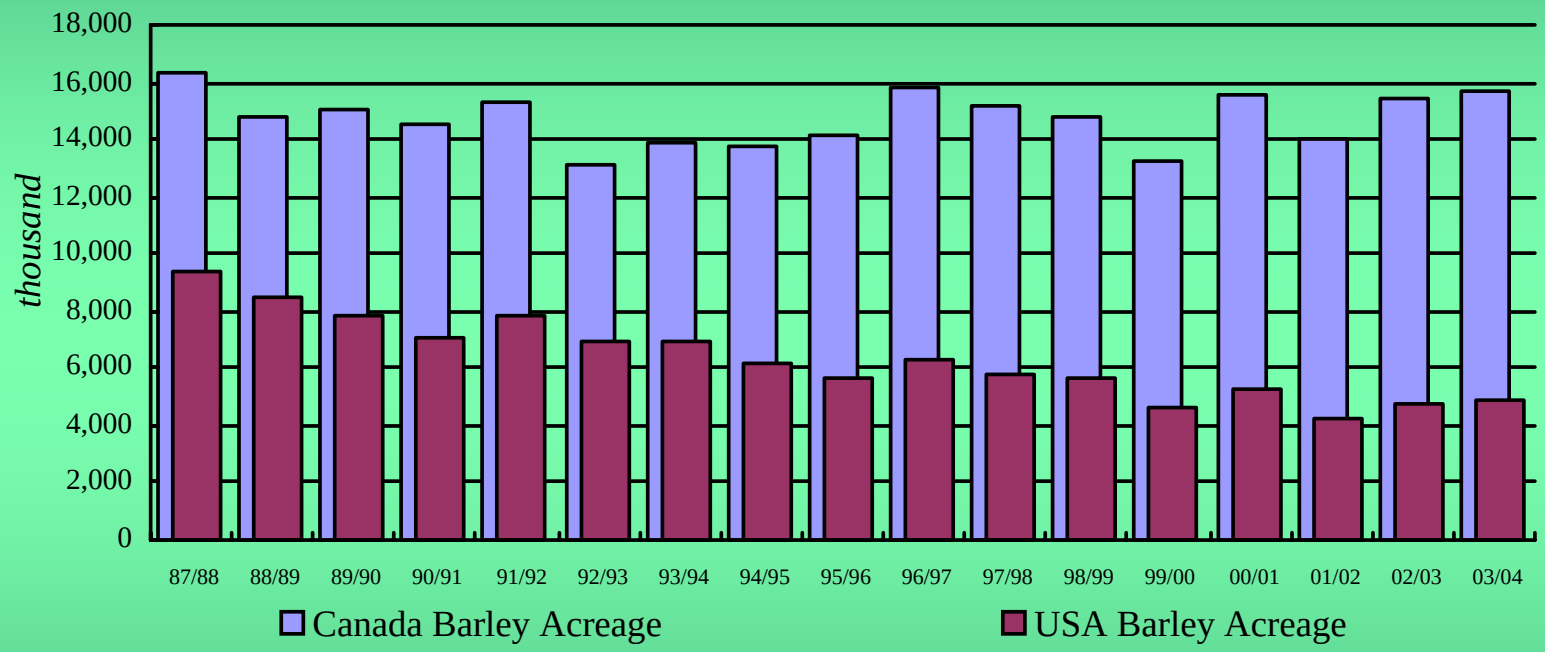
# Canada is large in Malt Barley Exports

**Table 2.7: Malting-Barley Trade Shares: Canada, Australia, and the European Union, 1995/96 to 2002/03**

| | Canada | Australia | European Union |
|---|---|---|---|
| | *percentage* | | |
| **1995/96** | 38.6 | 48.7 | 6.8 |
| **1996/97** | 35.2 | 48.5 | 10.9 |
| **1997/98** | 41.8 | 27.9 | 16.8 |
| **1998/99** | 26.2 | 40.6 | 19.6 |
| **1999/00** | 27.4 | 31.3 | 34.1 |
| **2000/01** | 27.0 | 36.6 | 29.9 |
| **2001/02** | 25.0 | 39.4 | 27.1 |
| **2002/03** | 27.7 | 41.2 | 21.0 |

*Source: CWB estimates.*

# Canadian and US barley acreage



## Table 2.11: Canada: Barley Supplies and Disposition, 1995/96 to 2002/03

| Year | Production | Imports | Domestic Use | | Exports | | Ending Stocks |
|---|---|---|---|---|---|---|---|
| | | | Feed and Seed | Malting Barley | Barley Malt | Feed Barley | |
| | *thousand mt* | | | | | | |
| **1995/96** | 13,033 | 10 | 9,848 | 922 | 1,426 | 910 | 1,740 |
| **1996/97** | 15,562 | 19 | 10,000 | 938 | 1,392 | 2,047 | 2,919 |
| **1997/98** | 13,357 | 12 | 10,960 | 929 | 1,276 | 851 | 2,459 |
| **1998/99** | 12,709 | 55 | 10,424 | 960 | 969 | 131 | 2,737 |
| **1999/00** | 13,196 | 33 | 10,338 | 1,058 | 1,152 | 575 | 2,838 |
| **2000/01** | 13,229 | 40 | 10,585 | 1,059 | 1,121 | 820 | 2,516 |
| **2001/02** | 10,846 | 112 | 9,356 | 973 | 956 | 136 | 2,048 |
| **2002/03** | 7,489 | 259 | 7,197 | 807 | 303 | 10 | 1,475 |

*Source: Compiled by the CWB (2004).*

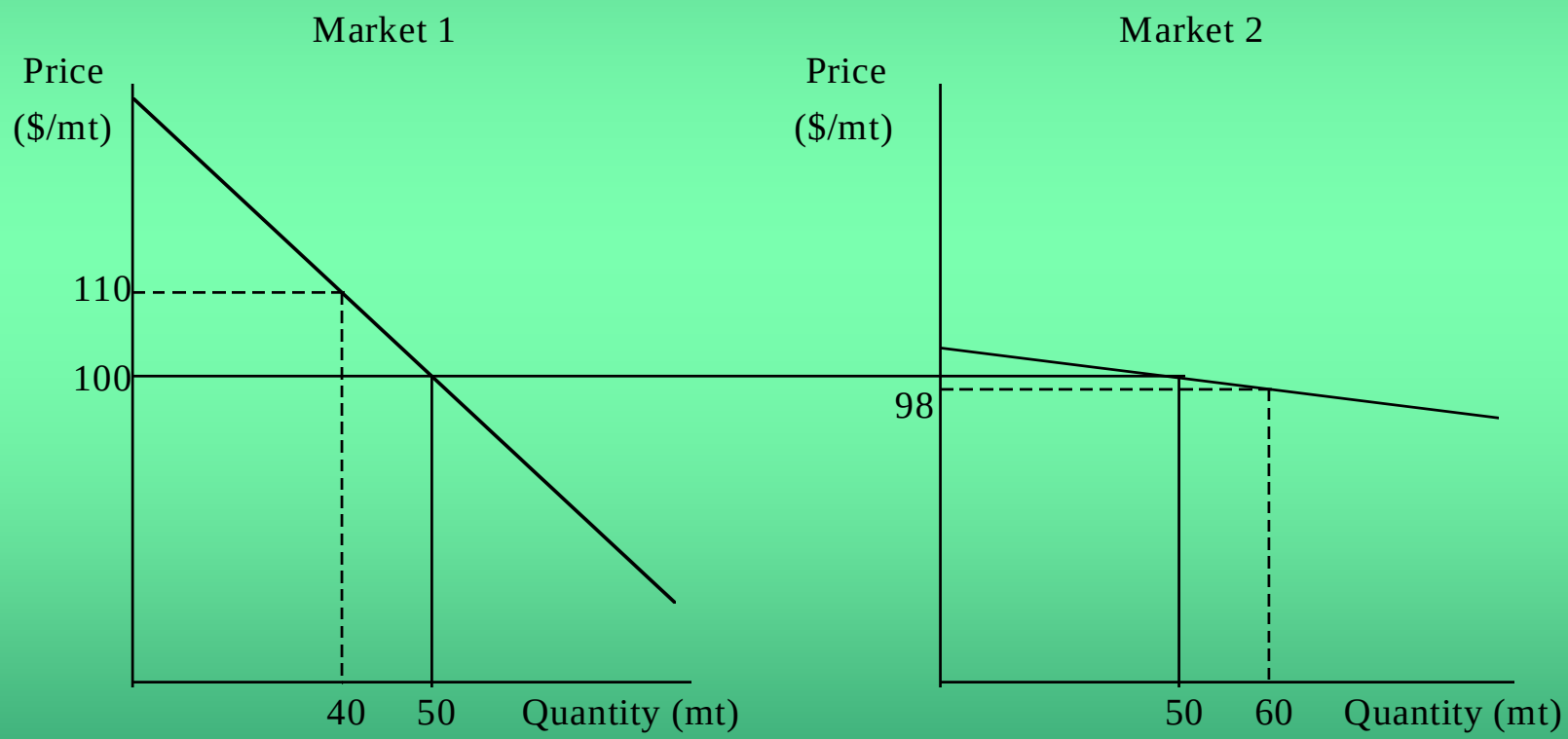
# Survey of Previous Studies

- Summarized and examined many other studies
- No evidence of higher marketing costs

# The theory of single desk selling

- As long as some markets are more price sensitive than others revenue can be increased by charging different prices in different markets

# Price Discrimination with 2 markets



# Our Analysis

- Divided the Canadian Barley  each year into 10 market segments
- For each year calculated the elasticity of each demand curve based on prices received in each market
- We varied the demand elasticity to reflect corn imports
- Example 2000/2001 crop year

| Market | FOB Price | Quantity Sold | Market Revenue | Demand Elasticity |
|---|---|---|---|---|
| | *$/mt* | *000 mt* | *$ million* | |
| | | **Feed-Barley Markets** | | |
| **Japan** | 160.19 | 241 | 39 | -7.18 |
| **United States** | 145.86 | 7 | 1 | -18.31 |
| **Rest of the World** | 145.15 | 324 | 47 | -20.00 |
| **Canada Domestic** | 151.49 | 10,179 | 1,542 | -13.96 |
| | | **6-Row Malting-Barley Markets** | | |
| **Canada Domestic** | 208.35 | 83 | 17 | Š1.03 |
| **United States** | 209.25 | 531 | 111 | Š1.03 |
| **Rest of the World** | 214.29 | 152 | 32 | Š1.03 |
| | | **2-Row Malting-Barley Markets** | | |
| **Canada Domestic** | 218.95 | 229 | 50 | Š1.03 |
| **United States** | 239.36 | 452 | 108 | Š1.03 |
| **Rest of the World** | 219.53 | 1,237 | 272 | Š1.03 |

# Counterfactual

- For each year, given the demand curves for each market we simulated what would happen with multiple sellers
- With many sellers  (ie. 40,000 farmers) we assumed that all markets would trade at single price except that malting barley would always retain a $15 margin over feed barley because of extra costs
- We compared the observed actual revenue received by the CWB with that of the multiple seller estimate for each year

# Results

- Under multiple sellers malt sales went up and malting premium collapsed in most years
- This makes sense given supply versus demand for malting
- This reduced total producer revenue
- Very small positive impact on feed barley revenue

**Multiple-Seller Marketing System 1995/96 to 2003/04**

| Crop Year | Feed Barley Price | 6-Row Malt Price | 2-Row Malt Price | Total Producer Revenue | Domestic Demand Elasticity |
|---|---|---|---|---|---|
| | *$/mt* | *$/mt* | *$/mt* | *$ million* | |
| **1995/96** | 4.23 | 0.48 | (34.27) | (21) | Š1.57 |
| **1996/97** | 1.47 | (18.59) | (41.21) | (43) | Š1.43 |
| **1997/98** | 1.06 | (43.59) | (44.70) | (88) | Š5.51 |
| **1998/99** | 2.33 | (49.30) | (26.75) | (42) | Š2.02 |
| **1999/00** | 1.62 | (60.96) | (45.64) | (78) | Š2.80 |
| **2000/01** | 0.47 | (43.19) | (57.17) | (128) | Š13.96 |
| **2001/02** | 0.26 | (24.39) | (32.27) | (51) | Š19.82 |
| **2002/03** | 0.28 | (57.45) | (61.82) | (48) | Š20.18 |
| **2003/04** | 0.36 | (20.27) | (19.64) | (33) | Š9.08 |
| **Average** | 1.34 | (35.25) | (40.39) | (59) | -8.48 |

# Sensitivity analysis

- Like all complex analysis we have to deal with estimates for some key numbers, for example how much malting quality was available in each year
- In our sensitivity analysis we change these numbers to see if they impact our results . They did not.

# Conclusions

- The single desk of the CWB earned producers on average an addition $59 million per year for the 1995/96 to 2003/04 period
- This additional revenue was earned through malting premiums that would greatly diminish in the absence of the single desk (These premiums would diminish on both side of the border)
- There is no evidence that marketing and transportation costs would decrease in a multiple seller environment

# Discussion

- The CWB has become a very divisive issue in the farm community.
- Do we have to have a winner take all outcome?
- Is there some middle ground? Where is it?
- What processes can we use?

# Discussion

- Our results show that the CWB has very little impact on the domestic feed market. Is there a way to give more marketing choice in feed barley  without disrupting the malting barley market?
- Are the ways to prevent Canadian “feed barley” export from competing with malting sales?