Four Wheel Drive, Fence posts or Foreclosure: What is the Economics of Farming in Saskatchewan?

Presented to the Soils and Crops Workshop 1999
Saskatoon, Saskatchewan
February 25 and 26, 1999

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Agricultural Economics and Extension
University of Saskatchewan

The Current State of Saskatchewan Agriculture

Agricultural Income Disaster Assistance (AIDA) Program announced on February 23, 1999

- History may suggest it could have been Agricultural Incompetence Displayed Again!
- National Safety Net Advisory Committee members
  - CFA - Lloyd Evans, Yvon Proulx, Jack Wilkinson,
  - Leslie Jacobson and Larry Miehls
- Canadian Horticulture Council: Ken Forth
- Canadian Pork Council: Cad Moore
- Canadian Cattlemen’s Association: Marlin Beever
- NISA Representatives: Dale Verheke, Hector Delanghe and Dianne Balderston

Microeconomic Analysis: Crop Choice

Saskatchewan Agriculture and Food Crop Planning Guides for the Brown, Dark Brown, Black Soil Zones and Alternative Crops

- Cost are variable expenses and total expenses per acre
- Brown soil: only spring wheat and mustard on fallow have a return over total expenses (previous year summerfallow costs are ignored) (27 budgets)
- Dark Brown Soil: only canola and lentils on fallow and lentils on conventional or direct seeded have a return over total expenses (previous year summerfallow costs are ignored) (27 budgets)
- Black soil: only canola on fallow has a return over total expenses (previous year summerfallow costs are ignored) (27 budgets)
- Alternative crops: Eston, Laird and Red lentils, Desi and Kabuli chickpeas, Oriental and Brown mustard on Brown soil and caraway, coriander and fenugreek in the Dark Brown soil and no crops in the black soil zone provide a return over total expenses (23 budgets)

Good News – Bad News

The good news is that your region appears to be the most competitive region for dairy, beef, hog and poultry production in Canada.

The bad news is that it is because your grain prices have collapsed and land prices have plummeted to $200 per acre.

Macroeconomic Analysis: Saskatchewan Farm Income

Realized Net Farm Income has been reported since 1926

Also Compare with off farm income and all Sask. families

A set of data on incomes and margins in agriculture

Indicate the amount of dollars in NISA accounts for Saskatchewan farms by size
Realized Net Farm Income for Saskatchewan

1990 = 1994 Million Dollars

Saskatchewan Realized Net Farm Income, 1965-99

Millions of Dollars

Saskatchewan Realized Net Farm Income

Percent of Total Farm Cash Receipts (Selected Years)

Years

Percent


Average Value of Farm Capital in Current Dollars

Years

Average Value


Saskatchewan Farm Land Prices

1998 dollars per acre

Years

Saskatchewan Farm Cash Receipts Operating and Depreciation Charges and Realized Net Farm Income (Selected Years)

Total Farm Cash Receipts

Operating and Depreciation Charges

Realized Net Farm Income

Years

Forecast December, 1998
Saskatchewan Average Off-Farm Family Income, 1971-96

Wheat Production, 1966-96

Saskatchewan Average Farm Size

Saskatchewan Farmers NISA Fund Balance
- 0 to 10K ENS (5,966 producers)
- 10K to 25K ENS (10,460 producers)

A Safety Net??
Saskatchewan Farmers NISA Fund Balance

- 25K to 50K ENS (11,660 producers)
- 75K to 100K ENS (5,911 producers)
- 150K to 200K ENS (3,480 producers)
- 250K to 500K ENS (751 producers)
- Over 500K ENS 75 producers
Farm Income Forecasts for 1998 and 1999
Summary Tables

### Farm Income Forecast, Canada and Provinces, 1998 ($ million)*

<table>
<thead>
<tr>
<th>Province</th>
<th>Crop Receipts</th>
<th>Livestock Receipts</th>
<th>Total Market Receipts</th>
<th>Total Payments</th>
<th>Total Cash Receipts</th>
<th>Operating Expenses After Rebates</th>
<th>Net Cash Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF D.</td>
<td>16</td>
<td>194</td>
<td>212</td>
<td>156</td>
<td>1,097</td>
<td>1,672</td>
<td>4,197</td>
</tr>
<tr>
<td>P.E.I.</td>
<td>116</td>
<td>236</td>
<td>179</td>
<td>1,063</td>
<td>3,567</td>
<td>1,063</td>
<td>3,738</td>
</tr>
<tr>
<td>N.S.</td>
<td>303</td>
<td>359</td>
<td>337</td>
<td>5,332</td>
<td>6,206</td>
<td>1,751</td>
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<td>144</td>
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<td>9</td>
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<td>344</td>
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Although the forecasts are expressed as numbers, they are best interpreted as mid-points of forecast ranges (see Average Prediction Errors (RMSPE) table providing forecast ranges.

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<td>128</td>
<td>156</td>
<td>1,141</td>
<td>3,013</td>
<td>1,546</td>
<td>3,760</td>
</tr>
<tr>
<td>P.E.I.</td>
<td>61</td>
<td>113</td>
<td>241</td>
<td>185</td>
<td>3,194</td>
<td>3,717</td>
<td>1,106</td>
</tr>
<tr>
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<td>286</td>
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Note that net income is before deducting depreciation charges on machinery and buildings. This overestimates net income, especially on grain farms which have a large machinery investment.

**Political/Economic Analysis**

**An Appropriate Selection of the Facts!**

Weak and disorganized farm lobby in Saskatchewan

Farm income now reported as net cash income which is income prior to deducting depreciation charges

A major distortion

"Send me an S 19 or S11!"

"Why, so I can apply for a new tractor or combine because my depreciation was not factored in and the machine is wearing out!"

**Format: Farm Income Reporting 1926 to 1986**

<table>
<thead>
<tr>
<th>1926</th>
<th>'000 of dollars</th>
<th>Sask</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receipts from Farm Operations</td>
<td>293127</td>
<td></td>
</tr>
<tr>
<td>Income in Kind</td>
<td>20692</td>
<td></td>
</tr>
<tr>
<td>Supplementary Payments</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Realized Gross Income</td>
<td>3 13819</td>
<td></td>
</tr>
<tr>
<td>Operating Expenses and Depreciation</td>
<td>148425</td>
<td></td>
</tr>
<tr>
<td>Realized Net Income</td>
<td>165394</td>
<td></td>
</tr>
<tr>
<td>Value of Inventory Change</td>
<td>-1835</td>
<td></td>
</tr>
<tr>
<td>Total Gross Income</td>
<td>311984</td>
<td></td>
</tr>
<tr>
<td>Total Net Income</td>
<td>163559</td>
<td></td>
</tr>
</tbody>
</table>

227
Format: Farm Income Reporting 1988 to 1998

<table>
<thead>
<tr>
<th>Year</th>
<th>$/acre X Your cultivated acres</th>
<th>Your annual shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>33.60</td>
<td>$</td>
</tr>
<tr>
<td>1989</td>
<td>30.16</td>
<td>$</td>
</tr>
<tr>
<td>1990</td>
<td>26.53</td>
<td>$</td>
</tr>
<tr>
<td>1991</td>
<td>2 3 4 8</td>
<td>$</td>
</tr>
<tr>
<td>1992</td>
<td>2 2 0 4</td>
<td>$</td>
</tr>
<tr>
<td>1993</td>
<td>2 1 0 2</td>
<td>$</td>
</tr>
<tr>
<td>1994</td>
<td>20.84</td>
<td>$</td>
</tr>
<tr>
<td>1995</td>
<td>2 0 6 1</td>
<td>$</td>
</tr>
<tr>
<td>1996</td>
<td>2 0 0 9</td>
<td>$</td>
</tr>
<tr>
<td>1997</td>
<td>1 9 7 2</td>
<td>$</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$</td>
</tr>
</tbody>
</table>

For a 1000 acre farm it is $28,090!!

Proposed SII Application Form

Check appropriate box

Send tractor   Send combine
Send Cash

Date ___________ 1999

Signature of Farm Operator   Witness

Dollars per acre in Saskatchewan is calculated as depreciation costs for buildings and machinery for each year divided by annual number of acres and brought to current dollar value using an average interest rate of 90 day treasury bills and 10 year bonds as reported in the Canadian Economic Observer Table 32. Historical Supplement, 1997/98.

Visible Prairies

Less Visible Non-Prairie

WGSA
WGTA
CWB initial

SCGP
Crop Insurance
ASA
Two Price Wheat

Filtering of information

“Please the boss”

- Land Bank cost estimate
  - Land prices down 4 years out of 100 years!
- REFUSED
- Ross Thatcher
  - “From you guys, I want the facts! If there is any lying to be done... I’ll be doin’ er!”
  - Via Roy Lloyd

Government Support Mechanisms

WGSA
WGTA
CWB initial

SCGP
Crop Insurance
ASA
Two Price Wheat

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Is it the Federal policy to abandon any significant support for Prairie agriculture?

- A major departure from the past!
- Other businesses receive implicit support
  - UI or now EI program
  - also welfare if depressed conditions continue
- Prairie agriculture & owner operated farms
  - Large land base and investment
  - Low labor requirement
  - Farmers can’t collect EI or welfare
- Prairie exports provide jobs and economic activity across Canada

Who Pays for Ag Programs (Historical)?

<table>
<thead>
<tr>
<th>Federal</th>
<th>Prov.</th>
<th>Producer</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAR Program</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>C. Grain Commission</td>
<td>Lots</td>
<td>Some</td>
</tr>
<tr>
<td>Feed Freight Assistance</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Temp Wheat Reserve Act</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Init. Payment Guarantees</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>CWB Cash Advance</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>LIFT</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Agriculture Canada annual reports selected years.
Fulton, Rosaasen, Schmidt. Report for Economic Council of Canada
Prairie Farm Policy Guide. Selected Years. Published by Western Producer
Rosaasen. Notes and research.

Who Pays for Ag Programs (Historical)?

<table>
<thead>
<tr>
<th>Federal</th>
<th>Prov.</th>
<th>Producer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two Price Wheat</td>
<td>100% *</td>
<td>Occasional*</td>
</tr>
<tr>
<td>Branch Line Subsidies</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Hopper Cars</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Crop Ins. (Pre late 1980s)</td>
<td>-45%</td>
<td>(Admin) 10% -45%</td>
</tr>
<tr>
<td>WGS</td>
<td>-67%</td>
<td>-33%</td>
</tr>
<tr>
<td>WGT</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>SCG I</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Agriculture Canada annual reports selected years.
Fulton, Rosaasen, Schmidt. Report for Economic Council of Canada
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- During years when the wheat price exceeded the set price range, the program resulted in a producer to consumer income transfer.

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</tr>
</thead>
<tbody>
<tr>
<td>SCG II</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>CDAP Drought</td>
<td>Most</td>
<td>Some</td>
</tr>
<tr>
<td>GRIP</td>
<td>41.6%</td>
<td>25%</td>
</tr>
<tr>
<td>NISA</td>
<td>-30%</td>
<td>-20%</td>
</tr>
<tr>
<td>New Rules</td>
<td>60%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Source: Agriculture Canada annual reports, selected years.
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Producer Subsidy Equivalents in %

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>56</td>
<td>36</td>
<td>54</td>
<td>32</td>
<td>51</td>
<td>10</td>
</tr>
<tr>
<td>Beef &amp; Veal</td>
<td>60</td>
<td>7</td>
<td>4</td>
<td>20</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Pigmeat</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td>16</td>
<td>11</td>
<td>35</td>
</tr>
<tr>
<td>Total All</td>
<td>48</td>
<td>42</td>
<td>30</td>
<td>56</td>
<td>36</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: OECD Data
An Appropriate Selection of the Facts

Disinformation
- Used during the war intended to mislead
  - Examples
    - Realized Net Farm Income vs Net Cash Income
    - Hog industry in Australia
      - Barley subsidized $70 per tonne entering North America (implied it was fed to Canadian hogs)
    - Canadian Minister of Agriculture?
      - Comment on PSE?

Agriculture Legislation

- Like pouring concrete

Farmers are Great at Inventing/Adopting Technology

- Machines
- Agricultural chemicals
- New varieties
- New enterprises to diversify
  - Crops
  - Livestock
- But
  - “Farmers: Neanderthals in the legal world”

Other Rules in the Legal World

- Property rights - silence vs loud music
- Plant breeders rights
  - Charles Saunders: Benefits to producers and consumers
  - Who receives benefits today?
- Carbon credits to reduce pollution
- Other environmental regulations
  - Snake River in US

Monsanto - Roundup Ready Canola
- “migrated to the next field”
- what about responsibility for your property and operations?
- cattle - on a neighbors canola or wheat crop
- spray - drift to a neighbor’s broad leaf crop and cause damage
- there are laws and precedents
- when will farmers launch a legal action?
- GMO (genetically modified organism) has increased my cost of operation

The new research world??! !

Look for a wider window for a wild oat spray.

What if a public scientist didn’t have to patent...perhaps would seek a chemical to break the dormancy of wild oats...then spray once...cultivate after 40 days!!

What about a nitrogen fixing wheat?? Would a fertilizer company fund research on this??

How you structure your legal framework can be very important!

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The public sector and Universities lament declining budget $ and public support.

How much have they contributed to the provision of public goods?

Privatizing of data, information, grading etc.

---

A Suggested Payment Mechanism

**The “Freedom to Manage Proposal”**

- Flexible - Each person makes the decision based on their farm
- Acceptable under GATT
- Neutral to crop choice - pay on all cultivated acres across Canada
  - 5% set aside (smf, gm, ch fall) $5.00/acre
  - 10% set aside (smf, gm, ch fall) $10.00/acre
  - 15% set aside (smf, gm, ch fall) $15.00/acre
  - 20% set aside (smf, gm, ch fall) $20.00/acre

1000 cultivated acres = 20% $20/acre or $20,000

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Two Proviso’s

- If your farm is in an area where 35% or more of the land is normally in summerfallow, (using 3 year average Crop Insurance data), then reduce payment by $5.00/acre.
- If your farm is in an area where 20% or less of the land is normally in summerfallow, then increase the payment by $5.00/acre.

- Make the adjustment in 1999 plantings.
  - Use elevator agent (CWB permit book) and Crop Insurance data to determine individual payout
  - Maximum of $60,000 per farmer.

---

Responsive to Market Changes

- If canola is $12.00/bushel, and wheat and barley up by $2.00/bushel, you can change your mind!
  - The payment that was received in early 1999 under Freedom to Manage becomes due and payable on August 20, 1999 after the summer inspection identifies less set aside acres than the level committed.
  - The interest rate is 10% per annum on the deemed overpayment
The Future:

- Simple to administer
- Simple to calculate
- Available across Canada
- Funding suggestion: Provincial 10% Federal 90%
- Can use to bargain at WTO talks

**Funding suggestion:** Provincial 10% Federal 90%

**Can use to bargain at WTO talks**

The Future:

- Government programs are inadequate to handle a trade war
  - NISA and Crop Insurance
- Farm consolidation
- Asset value declines in some areas
- Boom/Bust farm economy will place financial stress on input suppliers and output purchasers
- Communities decline due to loss of economic base

Economics: On the one Hand...

- What is Your Framework for Analysis?
  - Consider a vertically integrated hog operation vs a hog farmer
    - Prices fall below variable costs
      - Shut down... unless you consider costs up and down the marketing chain
  - What about payments to farmers producing products impacted by the “trade war”?
    - Cost of adjustment go up and down the chain
    - There is a cost of action
    - There is a cost of inaction

There Are Policy Options

- It is legal to:
  - Regulate the railways
  - Have government owned roadbeds
  - Fund research for a midge resistant wheat
  - Maintain rules for licencing and bonding of dealers
  - Provide research and demonstration projects
  - Have an agricultural extension program
  - Monitor prices of inputs and marketing margins
  - Maintain a Canadian Wheat Board
  - Build and maintain roads
  - Support rural infrastructure like schools and hospitals
  - Bargain more effectively at GATT (WTO) next time
  - And many others

Powerful Economic and Political Forces Outside Canada Influence our Grain Prices

- Can influence components to alter “Made in Canada” price
- Must present case to neighbors - then politicians
- Speak with a clear unified voice
- We are fortunate!
- We live in a Democracy!
- Changes are possible!

Thin Margins
High Financial Risk in Grain Farming

- Volatile prices for export commodities
- World economic swings... Asia... currencies
- Farmers may form “buying /selling groups”
- Shift to low inputs - forage, pasture
  - Will try exotic crops and livestock

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