Canadian Direct Payment Farm Programs: 1981 - 2010

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Background

- The Canadian government has a long history of supporting and stabilizing farm income with direct payment programs.
- While some programs such as crop insurance and farm input rebates are "permanent", most programs have had short life spans.
- The nature of the intervention has evolved considerably over the past 30 years due to trade rules, increased focus on the environment and many other factors.
Current direct payment programs are coordinated through the Business Risk Management (BRM) and various non-BRM programs within a 5-year joint federal-provincial initiative called Growing Forward (2008-2012). Since 2007, over $7 billion in federal and provincial funds has flowed to producers from BRM programs. Non-BRM programming allocates about $1.3 billion annually (cost-shared 60:40 between the federal and provincial/territorial governments).
Example (Ontario)

- In Ontario Agricorp delivers a variety of direct payment programs, which include the national BRM suite and other non-BRM programs which are unique to Ontario.

- The main non-BRM program is the Risk Management Program, which is funded by a combination of producer premiums and the Ontario government.

- The Risk Management Program pays out (livestock, grains, oilseeds and horticulture) if a commodity’s market price drops below a threshold, which depends on the cost of production and coverage chosen by producer.
Direct payments demand and supply

How has this support evolved over the past 30 years (analysis of Federal Direct Payment Data)?

What are the social costs and concerns over federal direct payment programs?
Farm Level Demand for Intervention

- Agricultural producers vary with respect to degree of price and production risk.
- All sectors are subject to short, medium and long term price and production shortfalls.
- A 2008 representative grain farm in British Columbia’s Peace River District is used to illustrate the farm-level demand for farm income support and stabilization.
- Financial vulnerability is significant after subtracting $115,000 from farm income to account for return on equity and management (no depreciation allowance).
<table>
<thead>
<tr>
<th></th>
<th>Wheat</th>
<th>Barley</th>
<th>Peas</th>
<th>Oats</th>
<th>Canola</th>
<th>Seed(1)</th>
<th>Fallow</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres</td>
<td>600</td>
<td>300</td>
<td>100</td>
<td>200</td>
<td>700</td>
<td>500</td>
<td>100</td>
<td>2500</td>
</tr>
<tr>
<td>Yield (bu/ac)</td>
<td>40</td>
<td>60</td>
<td>40</td>
<td>75</td>
<td>30</td>
<td>6.67</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Price ($/bu)</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>2.25</td>
<td>11</td>
<td>24</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Revenue ($/ac)</td>
<td>240</td>
<td>240</td>
<td>160</td>
<td>168.75</td>
<td>330</td>
<td>160.08</td>
<td>0</td>
<td>230.72</td>
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<tr>
<td>Direct Cost ($/ac)</td>
<td>193</td>
<td>175</td>
<td>134</td>
<td>143.5</td>
<td>232</td>
<td>109.5</td>
<td>91</td>
<td>174.66</td>
</tr>
<tr>
<td>Gross Margin ($/ac)</td>
<td>47</td>
<td>65</td>
<td>26</td>
<td>25.25</td>
<td>98</td>
<td>50.58</td>
<td>-91</td>
<td>56.06</td>
</tr>
</tbody>
</table>

**Figure:** 2008 Peace River Case Farm Assumptions
### Figure: Case Farm Results

<table>
<thead>
<tr>
<th>Debt/Equity</th>
<th>Yield</th>
<th>Price</th>
<th>Base</th>
<th>20%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low debt (Debt/Equity = 0.2)</strong></td>
<td>↓</td>
<td>→</td>
<td>-20%</td>
<td>Base</td>
</tr>
<tr>
<td>-20%</td>
<td>(135,889)</td>
<td>(43,603)</td>
<td>48,683</td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td>(43,603)</td>
<td>71,755</td>
<td>187,113</td>
<td></td>
</tr>
<tr>
<td>20%</td>
<td>48,683</td>
<td>187,113</td>
<td>325,543</td>
<td></td>
</tr>
<tr>
<td><strong>Medium debt (Debt/Equity = 0.4)</strong></td>
<td>↓</td>
<td>→</td>
<td>-20%</td>
<td>Base</td>
</tr>
<tr>
<td>-20%</td>
<td>(173,874)</td>
<td>(81,588)</td>
<td>10,698</td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td>(81,588)</td>
<td>33,770</td>
<td>149,128</td>
<td></td>
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<tr>
<td>20%</td>
<td>10,698</td>
<td>149,128</td>
<td>287,558</td>
<td></td>
</tr>
<tr>
<td><strong>High debt (Debt/Equity = 0.6)</strong></td>
<td>↓</td>
<td>→</td>
<td>-20%</td>
<td>Base</td>
</tr>
<tr>
<td>-20%</td>
<td>(211,859)</td>
<td>(119,573)</td>
<td>(27,287)</td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td>(119,573)</td>
<td>(4,215)</td>
<td>111,143</td>
<td></td>
</tr>
<tr>
<td>20%</td>
<td>(27,287)</td>
<td>111,143</td>
<td>249,573</td>
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</table>
Interest Group Demand for Intervention

- Farm interest groups lobby for direct payments (e.g., NFU, Canadian Dairy Network, Canadian Organic Growers, Horticultural Crops Ontario, Ontario Forage Council)

- Arguments are easy to make, and the non-farming community has generally been sympathetic

- NFU has been very vocal; e.g., June, 2010:
  "Analysis of public data shows that farmer prices are down, grocery-store prices are up, and others in the supply chain must be taking a bigger chunk. We need the government to intervene in the beef supply chain on behalf of the farmer and rancher."
Government Supply of Intervention

- Two extreme views of the supply side of support and stabilization
  - "Self-willed" government (maximizes a weighted sum of producer and consumer surplus)
  - "Clearing house" government (responds to lobbying in a bid to secure resources and votes)
- In most countries, including Canada, actual policies are somewhere in between and include fiscal constraints
- A long term decline in prices help explain governments’ attempts to support income to historic levels
Figure: Market and Total NFI for Canada
Figure: Market and Total NFI for Canada, 2002 Dollars
Objectives of Graphical Analysis

- This section examines direct payments broken down by commodity sector, region and various other dimensions.
- Time lines for the various programs are also examined.
- Direct payments are presented against a historic events backdrop to help us understand how external factors shape the level of payment.
Figure: Break Down of Federal Direct Payments

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Canadian Direct Payment Farm Programs: 1981 - 2010
Introduction
Demand and Supply: Support and Stabilization
Evolution of Support Over Past 30 Years
Social Cost of Farm Income Support
Conclusions

Figure: Regional Recipients of Federal Direct Payments

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Canadian Direct Payment Farm Programs: 1981 - 2010
Introduction

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Evolution of Support Over Past 30 Years

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Canadian Agricultural Income Stabilization (CAIS) Program

Crop insurance

Agri-Stability

Special Canadian Grains Program

Farm Income Payment

Gross revenue insurance plan (GRIP)

Provincial stabilization programs

Agrilnvest

Net income stabilization account (NISA)

Transitional Industry Support Program (TISP)

Grains and Oilseeds Payment (GOPP)

Farm Support and Adjustment Measures II

Farm input rebates

Dairy subsidy

Special Drought Assistance

Western grain stabilization

2003 Transition Funding

Farm Income Assistance

CAIS Inventory Transition Initiative (CITI)

AgriRecovery

Beef Cattle and Sheep Support

Canadian Farm Income Program (CFIP)

Bovine Spongiform Encephalopathy Recovery Program

Agricultural Income Disaster Assistance program (AIDA)

Tripartite payments

Freight Cost Pooling Assistance Program (FCPAP)

Canada-Saskatchewan Assistance Program (C-SAP II)

Figure: Time Span of Current Federal Direct Payment Programs

Canadian Direct Payment Farm Programs: 1981 - 2010
Figure: Distribution of Programs by Program Age
Figure: Number and Value of Federal Programs
Figure: Federal Programs with Historic Events Backdrop

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Canadian Direct Payment Farm Programs: 1981 - 2010
Figure: Ratio of Producer Premiums and Federal Payments
Evidence of Stabilization and Support

- Has the federal government successfully supported Canadian farm income?
- Has the federal government successfully stabilized Canadian farm income?

The analysis is most relevant for the period preceding the recent price boom.
**Figure:** Scatterplot of Market NFI and Direct Payments
Figure: Actual and Fitted Values of Market and Total Net Income: Canada

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Canadian Direct Payment Farm Programs: 1981 - 2010
Figure: Actual and Fitted Values of Market and Total Net Income: Quebec
Figure: Actual and Fitted Values of Market and Total Net Income: Ontario
Figure: Actual and Fitted Values of Market and Total Net Income: Prairies
Transfer Efficiency

- Previous concerns about trade distorting impacts of direct payments have diminished
- Still lots of concern about domestic taxpayer efficiency
- Rude and Ker (2011) estimated that a marginal payment of one dollar in the federal government’s AgriStability program resulted in a mere 39 cent net gain to farm households
- Inefficient targeting of direct payments is a major concern in the U.S. because program recipients are often absentee land owners (Goodwin et al. 2011)
Asymmetric Information

- Moral hazard results when farmers take high-risk actions because programs offer protection.
- Adverse selection results when low risk farmers self select out of programs, and the remaining pool is above average risk.
- Both help to explain why private markets for risk transfer fail to exist.
- Both also reduce the overall effectiveness of direct payment programs.
Delay in Payments

- Direct payments often have significant administrative delays
- AgriStability payments based on income tax (collected typically 10 - 15 months after the loss occurs)
- Vercammen (2011) estimates that a one million dollar decline in Canadian market NFI results in an immediate $772,000 decrease in total NFI (23% protection)
- A permanent one million dollar decrease in market NFI results in a permanent decrease in total NFI equal to $312,600 (69% protection)
Capitalization of Support Payments into Land Prices

- Program payments are expected to result in higher land prices.
- Farmers who pay an inflated price for land require the direct payment to service the added debt.
- The original benefit of the direct payment is therefore diluted.
- Turvey et al. (1995) estimate that a 1 percent increase in payments raises the price of farmland by 0.5 to 0.6 percent in the long run.
Inefficient Outcomes due to Rent Seeking and Lobbying

- Farm groups lobby the federal government for more lucrative programs and larger ad hoc payments.
- Governments may respond with inefficiently high payments to maintain rural support.
- This problem is particularly acute in the U.S.
- Resources are wasted both in terms of inefficient program design and excessively large transfers.
Conclusions

- Highly leveraged farmers operate on thin margins
- Farms are vulnerable to negative price/production shocks
- Federal direct payments have been quite successful with respect to income support, and moderately successful with respect to income stability
- Despite the need for direct payments, there are many sources of market failure which dilute the overall benefit of direct payment programs
- The Federal Government needs to continually "simplify" programs and achieve more efficient targeting