

Risk Management in Canada's Agricultural Sector in Light of COVID-19

Alan P. Ker

OAC Research Chair in Agricultural Risk and Policy,
Professor, Department of Food, Agricultural and Resource Economics
Director, Institute for the Advanced Study of Food and Agricultural Policy
University of Guelph, Guelph, ON, N1G 2W1
(corresponding author: phone: 519-824-4120, ext. 53236; email: aker@uoguelph.ca)

Abstract

The unexpected introduction and spread of COVID-19 have presented significant challenges for every aspect of Canadian society. While the food and agricultural sector is positioned better than most, there are many risks that will need to be managed in the coming months. The suite of Federal-Provincial-Territorial (FPT) Business Risk Management (BRM) programs delivered under the Canadian Agricultural Policy (CAP) framework are meant to assist farmers in managing risks; however, there are no corresponding specialized programs for agribusinesses. The underlying structure of the BRM program was developed decades ago and certainly not with any thought to the possibility of a global pandemic. This article considers to what extent the BRM program and, more broadly, government programming will assist farmers in managing new risks. By default, the article is speculative in nature given we are currently at the onset of the pandemic in Canada.

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1002/cjag.12232](https://doi.org/10.1002/cjag.12232).

This article is protected by copyright. All rights reserved.

L'introduction et la diffusion inattendues de COVID-19 ont présenté des défis importants pour tous les aspects de la société canadienne. Bien que le secteur alimentaire et agricole soit mieux positionné que la plupart, il existe de nombreux risques qui devront être gérés au cours des prochains mois. La série de programmes fédéraux-provinciaux-territoriaux (FPT) de gestion des risques de l'entreprise (GRE) offerts dans le cadre de la Politique agricole canadienne (PAC) vise à aider les agriculteurs à gérer les risques; cependant, il n'y a pas de programmes spécialisés correspondants pour les entreprises agroalimentaires. La structure sous-jacente des programmes GRE a été élaborée il y a des décennies et certainement sans penser à la possibilité d'une pandémie mondiale. Cet article examine dans quelle mesure le programme de GRE et, plus largement, la programmation gouvernementale aideront les agriculteurs à gérer les nouveaux risques. Par défaut, l'article est de nature spéculative étant donné que nous sommes actuellement au début de la pandémie au Canada.

Introduction

“Farmers and food producers work hard to put food on tables across our country, and they should not have to worry about being able to afford their loan payments or having enough money to support their own families. We are taking action now to give them more flexibility to meet the challenges ahead in these times of uncertainty.” -- Prime Minister Justin Trudeau (March 23, 2020).

On March 23, 2020, the federal government announced new measures to assist farmers in managing risk during the COVID-19 pandemic. The first gave support to Farm Credit Canada (FCC) for an additional \$5 billion in lending capacity for farmers, processors, and other agribusinesses. Additionally, eligible farmers who have an outstanding Advance Payments Program (APP) loan due on or before April 30, 2020, will receive a Stay of Default, allowing them an additional six months to repay the loan. Canadian farmers have access to a suite of Business Risk Management (BRM) programs, which begs the question: to what extent are these lacking, necessitating the need for these additional measures during this pandemic? Canada is not alone. For comparison, the U.S. announced \$9.5 billion in disaster relief for coronavirus-related financial losses and an additional borrowing authority of \$14 billion by

the Commodity Credit Corporation (CCC) (Orden, 2020). Similar packages have been, or are likely to be, announced in many developed countries in order to ensure that their citizens have an uninterrupted food supply at affordable prices during the pandemic. However, like Canada, most developed countries already have in place heavily subsidized risk management programs for farmers.

The design and management of agricultural policy in Canada is unique in that neither the federal nor the provincial-territorial governments have sole jurisdiction. Programs are negotiated between governments at a fairly high level. After the policy framework is established, provinces and territories have latitude to develop non-BRM programming that suits their needs within these themes. BRM policy is uniform across provinces and territories. The current Canadian Agricultural Policy (CAP) framework came into effect in April 2018. BRM under CAP resembles programs of the past, as the underlying structure of BRM dates back multiple decades. Under CAP, approximately \$1.5 billion per year has been allocated for these BRM programs. The \$1.5 billion is split 60%-40% between the federal and the provincial/territorial governments.

Not surprisingly, CAP was designed without any thought given to the possibility of a global pandemic. Agricultural policy formation is a difficult process involving multiple governments and many industry stakeholders. BRM policy is an order of magnitude more difficult because large sums of money are being transferred between stakeholders. Furthermore, agricultural policy is meant to be a complete contract in that all contingencies are accounted for, a priori, in the policy. In Canada, as with the U.S. and the E.U., the formation of a new agricultural policy framework is notoriously arduous and also takes multiple years of negotiation. As a result, very little changes from one BRM policy to the next and, generally, those changes are dictated by the size of the government transfer. Though CAP was designed without the assumption of a global pandemic, it would not necessarily have been efficient to do so. Governments always have the option to deal with Black Swan events in real-time as they arise. This is almost always more efficient, as Black Swan events can neither be predicted as to their specific form nor their timing. So, while it is necessary and important to ask where the gaps may be in our current BRM policy with respect to issues related to COVID-19, the presence of gaps should not necessarily be an indictment. Furthermore, any shortcomings as they relate to the COVID-19 pandemic, while informative, should not in themselves warrant BRM policy changes.

The BRM suite of programs under the CAP framework consists of AgriInvest, AgriStability, AgriInsurance, and AgriRecovery. AgriInvest is essentially an annual direct payment program to farmers up to the maximum of 1% of net sales or \$10,000. AgriInsurance is a heavily subsidized multi-peril crop insurance program that provides protection against yield (not price) losses.¹ This program is not available for livestock losses (e.g., beef, pork, etc.). AgriInvest and AgriInsurance are well received by farmers and maintain continually high participation rates. AgriStability covers declines of more than 70% of a farmer's net margin. AgriStability is designed such that the farmer absorbs a portion (30%) of any realized losses

¹ Farmers pay 40% of the pure premium or expected loss and no administrative or operating costs.

(termed co-insurance).² Participation in AgriStability has been steadily declining in recent years since the government changed the parameters and dropped the margin coverage from 85% to 70%. The farmer paid premium is \$4.50 for every \$1,000 of reference margin plus a \$55 administrative fee. Given that this program is whole-farm net margin based, guarantees as well as indemnities are derived ex-post using tax records. Any claims are both significantly delayed and uncertain to farmers. Ker et al. (2017) notes two fundamental flaws of AgriStability: (i) unknown guarantees, indemnities, and timing of payments introduce additional uncertainty; and (ii) the whole-farm approach provides incentives for less on-farm diversification (most farms are mono-culture for efficiency reasons). AgriStability and AgriInsurance were designed to be the main tenants of the risk management program.

AgriRecovery is a framework that covers catastrophic losses from natural disasters. At first glance, this framework would seem most likely to cover ANY farmer loss related to COVID-19. However, the program is specifically designed NOT to cover market price declines or sporadic quantity interruptions, but rather to cover the extraordinary costs necessary for recovery. Consider the example of detecting African Swine Flu (ASF) in a particular Canadian county. AgriRecovery is designed to cover the cost of disposal of any hogs deemed necessary to eradicate. However, the presence of ASF would necessarily close the Canadian border, resulting in a significant price decline (likely upwards of 50%) for all non-eradicated hogs. Losses associated with this price decline, which would dwarf losses associated with the quarantined area, would NOT be covered under AgriRecovery despite being a direct result of ASF. If losses were sufficiently large, a portion would be covered under AgriStability. While this example might appear disconcerting, in times of significant political distress there tends to be more government discretion than a policy may first indicate. Moreover, this distinction may not matter as the federal government can provide ad-hoc support, if it so deemed, through additional legislation measures apart from AgriRecovery. It is worth noting that AgriRecovery is formerly triggered by an ask of the provincial government to the federal government and, in the past, not all asks have triggered the program.³

While AgriInsurance and AgriStability resemble publicly subsidized programs in most other developed countries, AgriRecovery is relatively unique to Canada as it provides specific ex-ante legislation for ad-hoc disaster aid. That said, this uniqueness appears to be inconsequential as many governments have already exercised other avenues of legislative authority to enact disaster aid programs for their farmers during this pandemic. Summarizing, AgriInsurance, AgriStability, and AgriRecovery are designed to cover big losses, while farmers are left to self-insure, with the assistance of AgriInvest, to cover shallow losses. Ontario and Quebec have additional BRM programs that are solely funded by the province. Ontario has Risk Management Program (RMP) and Quebec has Farm Income Stabilization Insurance (ASRA), both of which operate similarly to a cost of production gross margin area insurance program. Participation is significant for eligible sectors.

² Co-insurance is common in insurance policies to reduce moral hazard problems. Moral hazard is when the insured takes actions after the insurance policy is purchased to increase the probability or size of a loss without the insurer's knowledge.

³ For a thorough discussion of Canadian BRM programs, see Slade (2020); Ker (2020); Ker et al. (2017); Ker (2005).

Canadian BRM resembles programs in the U.S., Europe, and many other developed countries by providing both significant risk coverage and monies to farmers. Most programs tend to cover upwards of 75% or more of the expected yield or revenue. Moreover, the majority of program premiums tend to be paid for by governments. As mentioned, in Canada, CA\$1.5 billion per year in public monies are used to support BRM programs. In the U.S., approximately US\$7.2 billion per year in public monies are used to support similar programs. Not surprisingly, these programs are continually under attack by farm groups for more public monies. Canada is no exception as their BRM program has been under continual review for multiple years now. It is very likely that the COVID-19 pandemic will provide fodder, however translucent and unwarranted, for additional rent seeking efforts for more lucrative BRM programming. Furthermore, it is likely that these efforts will be successful at a time when governments are trying to funnel money to the public to stave off a serious recession or depression.⁴

The COVID-19 pandemic will present many new challenges for farmers. Issues surrounding farmer sickness, farm labour and specifically out-of-country seasonal farm workers, delivery of inputs (seed, fertilizer, chicks, etc.), planting and harvesting, transportation of livestock/harvest, temporary or extended closure of processing and packing facilities, border thickening or closures, exchange rates, and, finally, changes in consumer demand all represent areas that will likely be affected by the pandemic. Managing these risks, many of which may be considered new because of their sheer magnitude, will be non-trivial. In the following sections, I discuss price risks, output risks, and border risks under the backdrop of how Canadian BRM policy will provide assistance to farmers in managing those risks. This discussion is followed by a look at the solvency of BRM programs, ruminations on the ability of farmers to self-insure against uncovered risks, and, finally, reflections on the recently announced measures to assist farmers. The final section summarizes the article.

Price Risk

In this section, I discuss the potential input and output price risks that farmers face in light of COVID-19 and to what extent, if any, those risks will be covered under BRM. Farmers face input price risk primarily with respect to capital, energy, feed, and labour. As a result of COVID-19, the cost of capital and energy are very low and are expected to remain so for a number of months. The Bank of Canada announced a rate of 0.25% on March 27, 2020. Similarly, the price of crude has fallen over 50% since the beginning of the year.

The price of feed for cattle and hogs has also decreased, but marginally so in comparison to other inputs. As noted by Larue (2020), the cost of farm labour may increase because of

⁴ What is somewhat ironic is that, in stark contrast to U.S. farmers, Canadian farmers have not questioned the actuarial soundness of the program's rating methodologies particularly in light of provincial Crown Corporations holding in excess of \$7.5 billion in reserves (the largest payout in excess of premiums has been less than \$250 million in the past 25 years). Moreover, 40%, or \$3 billion, of these monies belong to the farmers and effectively represent a taking from farmer pockets.

COVID-19 but not to the point to trigger 30% declines in on-farm net margins, i.e., an AgriStability payment. One exception may, although unlikely, be labour intensive farms in the horticulture sector.

In Canada, the food supply chain is driven by consumers (Hobbs, 2020). Changes in consumer preferences and income have always reverberated back through the supply chain. Market power along the supply chain dictates to what extent various participants absorb shocks. Those shocks are absorbed neither uniformly nor symmetrically (positive versus negative) amongst participants. While prices may not change at the retail level, farmers may experience considerable price changes depending on the source and nature of the shock. For example, when the BSE outbreak occurred in 2003, beef retail prices remained relatively flat while producer prices decreased by as much 50% (Rude, Carlberg, & Pellow, 2007). Despite unprecedented stimulus packages in Canada and the U.S., most believe that the predominant shock from COVID-19 will be the loss of consumer income. Food is income-normal, so we expect a proportionally smaller decline in food demand relative to any income loss. To a much lesser degree, social distancing measures caused by COVID-19 have and will continue to affect consumer purchase behavior (Cranfield, 2020). Panic buying is likely to subside as consumers continue to see plenty of food on store shelves (Hobbs, 2020). However, it remains unknown to what extent farm prices will be affected by these COVID-19 changes in consumer behavior.

Most of Canada's agricultural production is priced on the world markets (e.g., cattle, hogs, canola, wheat, corn, soybean) with the exception of supply managed commodities. Dairy and poultry effectively set farm level prices to desired levels. Weersink (2020) does not note any farm level price risk to supply managed farmers. Rude (2020) indicates in his worst case scenario that cattle prices could fall by as much as 40% because of decreases in consumer income. However, this simulation does not consider the recent decrease in the Canadian dollar, which would temper that fall. The depressed Canadian dollar suggests increased domestic prices for hogs (McEwan, 2020). Like cattle and hogs, domestic field crop prices are somewhat buffered because of the weak Canadian dollar. Brewin (2020) does not note any expected significant declines in grain and oilseed prices because of the COVID-19 pandemic. Overall, and under the assumption that borders remain open and fluid to agricultural trade, there are not widespread expectations of significant output price declines at the farm level.

The only BRM program that accounts for losses caused by price changes is AgriStability. However, those losses must be sufficiently large to trigger a decrease in excess of 30% of a farm's net margin. This appears highly unlikely. In summary, any output price declines or input price increases are not likely to be sufficient to trigger AgriStability payments. Farmers have always self-insured against shallow losses such as those noted.

Output Risk

Farmers face significant output risk with respect to COVID-19. To that end, the ability of farms to secure inputs is worthy of consideration. At the time of writing this, most farms have in place their inputs and this is a non-issue. It should be noted that the inability to secure inputs has not been historically covered under BRM policies.

A second risk to output is farm labour. In many sectors, farms are very capital intensive. However, while labour makes up a small part of the operation, output is highly dependent on labour and, moreover, for some operations that labour is not necessarily easily substitutable. Consider if a farmer gets sick from COVID-19 at an inopportune time. In most cases, crops can be planted later than usual, although this may result in sub-optimal yields. Similarly, crops can be harvested later than usual, although this may also result in sub-optimal yields. With respect to livestock, birth mortality may increase if the farmer is unable to be present. Finally, in many cases, farmers operate within a tight knit community where neighbouring farmers can and do help. While this will be an issue for the farming community (given that the average age of farmers in Canada is 55), this risk is likely manageable on the farm or locally.

A bigger issue for farm labour is seasonal workers; this is particularly important for the horticulture sector which relies heavily on temporary foreign workers. In 2019, there were roughly 60,000 temporary foreign agricultural workers in Canada. The vast majority were employed by the horticultural farms. Issues with respect to agricultural labour are covered in great depth by Larue (2020), while issues with respect to the Canadian horticultural sector are covered in Richards and Rickard (2020). It is important to note that BRM programs have not previously covered losses from a *lack of labour* causing the inability to plant, maintain, or harvest crops.

Another concern is the transportation of agricultural goods off the farm. This can be hampered for a number of reasons. With respect to grains and oilseeds, freight and rail transportation face non-trivial uncertainties at this time. Gray (2020) provides an in-depth discussion of these transportation issues. Fortunately, these goods are easily storable in comparison to livestock goods. It should be noted that losses suffered because of the inability to transport goods are not eligible to be covered under BRM programming. However, the resulting price declines, as reflected in changes in net margin, caused by transportation problems are covered under AgriStability.

Another concern is the temporary closure of a processing plant. This is discussed in detail in Hailu (2020); Rude (2020); and McEwan et al. (2020). In the U.S., processing plants have worked together to accommodate without much interruption or farm price effects. This is likely to be the case in Canada as well. Moreover, agricultural products can be transported to U.S. processing facilities. While the inability to sell your output because of plant closings is not directly covered, any downward pressures in price caused by plant closings is covered under AgriStability.

Finally, it is worth noting that if a farm does not have sales for whatever reason, they would not qualify for an AgriInvest payment. Recall, AgriInvest is an annual direct payment program to farmers up to the maximum of 1% of net sales or \$10,000.

Trade Risk: Border Closures

Perhaps the biggest risk to the Canadian farmer is the transportation of agricultural goods across international borders. Canada exports in excess of \$50 billion a year in agriculture and agri-food products, and approximately half of everything we produce is exported as either primary commodities or processed food and beverage products. Specifically, we export half of our beef/cattle, 70% of our soybeans, 70% of our pork, 75% of our wheat, 90% of our canola, and 95% of our pulses (Canadian Agri-Food Trade Alliance, 2017). For an in-depth consideration of the COVID-19 pandemic on Canadian agriculture trade, see Kerr (2020) and Barichello (2020).

If borders close to agricultural goods, farmers will experience an immediate and significant downward decline in domestic prices. Moreover, a weak Canadian dollar will not provide relief as the market prices are only a function of domestic factors in a closed economy. Storable commodities like grains and oilseeds would fare much better than non-storable goods like cattle and hogs. Prices of cattle and hogs could be expected to fall by 50% or more (Rude, Carlberg, & Pellow, 2007; Ker et al., 2017). For price declines of this magnitude, AgriStability would trigger payments. For illustrative purposes, consider the following example: a farm's net margin is \$1000 and the price declines 50%, resulting in a margin decrease of \$500. AgriStability would make a payment of 70% of all losses in excess of 30%. That is, the farm would receive a payment of \$140 and must absorb the remaining \$360 loss. Interestingly, the end of the sign-up period for AgriStability is April 30, 2020. Given the farmer paid premium is only \$4.50 for every \$1,000 of reference margin plus a \$55 administrative fee, I do expect to see a moderate increase in the AgriStability participation. Moreover, as noted by Slade (2020), AgriStability indemnities exceeded premiums by a factor of 16.5 during Growing Forward 1 (2009-2012) and 5.4 during Growing Forward 2 (2013-2017). However, the premium is only \$4.50 for every \$1,000 of reference margin and so farms on average received \$74.25 and \$24.30 per \$1,000 of reference margin, respectively.

Other Relevant Risk Management Considerations

(i) Solvency of the BRM Programs

A natural and important question to consider is whether BRM programs can withstand a barrage of economic hits that may (or may not) be forthcoming over the next six months. AgriInvest is a direct payment program, and there is no reason why the number of farmers applying for it will change dramatically this year. Concomitantly, there is no reason to expect farmer AgriInvest deposits not to be matched by the federal government in accordance with the provisions of the policy. AgriInsurance payments are triggered by yield losses, which are dominated by weather events. There is no reason to expect weather to trigger more or less

payments this year versus other years. Moreover, Crown Corporations hold in excess of \$7.5 billion in reserves. For perspective, the largest payout in excess of premiums in the last 25 years was \$250 million. That is, there are currently enough reserves to pay thirty consecutive years of the largest-ever payout. Clearly, AgriInsurance is solvent.⁵ I have noted throughout the past two sections that we may see increased sign-up in AgriStability due to much greater uncertainty. However, I have also noted that, unless the border closes, we do not expect to see price changes sufficient to trigger AgriStability claims. Nonetheless, should AgriStability participation dramatically increase and the borders thicken or close, causing significant declines in Canadian prices, AgriStability could experience a considerable increase in the number of claims. However, AgriStability is funded by the government, and, given the \$82 billion economic stimulus package announced on March 17, 2020, it is exceedingly likely that the program will have access to any necessary monies, no matter how considerable the total claims. Likewise, AgriRecovery, funded through the federal government, if triggered, will not face any resistance in securing funds from the finance department or opposition parties. In summary, the ability of the BRM programs to make farmer payments in accordance with their provisions is a non-issue.

ii) Ability of Farm Sector to Self-Insure

Another natural and important consideration is whether the farm sector, in general, has the ability to self-insure against shallow losses arising from COVID-19 for which they will not receive payments under BRM programs.⁶ Figure 1 illustrates the ratio of the average household farm income (including non-farm income) to the average income in both Canada and the U.S.⁷ Although each country defines farm households differently, they both indicate that the farm household is in a better position to self-insure than many nonfarm households. More importantly, if we compare net worth of farm to non-farm households in Canada, that ratio was roughly 2 in 1999 and has risen above 4 by 2016.⁸ These ratios are certainly skewed upwards because of the supply management sector, which is unlikely to experience any price risk, and thus the need to self-insure, as a result of COVID-19. Another ability to self-insure is access to, and cost of, capital. While more on access is discussed in the next subsection, there is no evidence of liquidity or credit constraints for farms at this time. The cost of capital is very low; the Bank of Canada announced a rate of 0.25% on March 27, 2020. Summarizing, the farm sector is in a relatively good position to self-insure against any shallow loss that may occur as a result of COVID-19.

⁵ Ker et al. (2017) raise significant questions about the provincial Crown Corporations spending federal and farmer money on private reinsurance in light of such significant reserves.

⁶ BRM programs are designed to assist farmers manage the natural volatility in the industry. However, they are also designed to maintain international competitiveness and allow farm attrition. To that end, BRM programs do not cover against all downside risks as illustrated in the preceding two sections. AgriStability only covers losses in excess of 30% and does so with 30% co-insurance. AgriInsurance allows coverage up to 85% of the target yield but does not provide protection against price volatility (although losses are paid at a pre-determined price). A cursory look at Canadian agricultural trade numbers clearly suggests that the Canadian farm sector is very competitive internationally in most products (canola, wheat, cattle, pork; notable exceptions include supply managed products). We continually export in excess of 50% of the agricultural products we produce. It is difficult to argue that BRM programs have significantly hindered the international competitive position of Canadian farmers.

⁷ The U.S. numbers are from United States Department of Agriculture Economic Research Service and the Canadian numbers are from Statistics Canada.

⁸ Source: Statistics Canada (2020a; 2020b).

(iii) Government Announced Measures to Support Farmers

The first announced measure gave support to Farm Credit Canada (FCC) for an additional \$5 billion in lending capacity to farmers, processors, and other agribusinesses. Farm Credit Canada (FCC) is a federal Crown Corporation whose mandate (as outlined in the Farm Credit Canada Act) is to “...enhance rural Canada by providing specialized and personalized business and financial services and products to farming operations, including family farms, and to those businesses in rural Canada, including small and medium sized businesses, that are businesses related to farming. The primary focus of the activities of the corporation shall be on farming operations, including family farms.” Note that FCC held loans of approximately \$30.1 billion in 2019, and, thus, the additional liquidity represents approximately 20% of current loans (FCC 2018/2019 annual report). Roughly 80% of the current loans are with farmers, while the remaining 20% are with agribusinesses.

A couple of questions naturally arise. First, is credit currently constrained for farmers and/or agribusinesses? While not scientific by any measure, a cursory look through the agricultural press over the past five years indicates very little to no concern regarding available credit. Moreover, the COVID-19 pandemic is expected to move private capital into more ‘essential’ economic sectors which include agriculture and food.⁹ Therefore, it is likely that more credit is available through the regular banking system than pre COVID-19, and there were no indications that private capital for agriculture was constrained at that time.¹⁰ Second, any existing credit constraints are more likely caused not by available credit but by the failure of loan applications to qualify at the desired level or even qualify at all. This begs the question of whether FCC will concomitantly lower their qualification criteria and, if so, whether this is wise. To date, no announcement along these lines has been forthcoming from FCC.

The second additional measure is intended to provide liquidity to the farm sector. Eligible farmers who have an outstanding Advance Payments Program (APP) loan due on or before April 30, 2020, will receive a Stay of Default, allowing them an additional six months to repay the loan. The federal government’s APP, administered by Agriculture and Agri-Food Canada (AAFC), provides funding to guarantee advances taken by producers through farm organizations and covers the interest on the first \$100,000 in advances taken by each producer under the program. A natural question is to what extent the program is currently being used by farmers such that the ‘Stay’ will provide any meaningful liquidity. This program is well utilized by the farm sector, with over \$2 billion in operating loans serving over 20,000 farmers. However, the ‘Stay’ affects less than 10% of the loans and farmers enrolled and will only stay a payment between \$500-1000 for those eligible farmers.

The third additional measure was announced April 14, 2020. The federal government provided \$50 million in support to farmers who are bringing in temporary foreign workers

⁹ From the farm perspective, there is little difference of any consequence in borrowing from FCC versus a private bank.

¹⁰ Arguments could be made that there has been too much credit available to farmers as debt has significantly increased in absolute value, much like the rest of the Canadian population — on pace with land/property values. Farmer debt-to-asset ratios, however, have remained relatively constant. Nonetheless, how vulnerable are producers to declines in land values? Lawley (2020) suggests there is no significant reason to expect a notable decline in land values.

during the COVID-19 crisis. Specifically, employers are eligible for \$1,500 per foreign worker to help cover the costs of complying with a mandatory two-week quarantine upon their arrival in Canada. This program will be significant to those farms that actively hire temporary foreign workers.

In summary, although welcomed by the farm sector, it is not likely that the first two measures will have any significant impact on the farming community or the production of agricultural goods in Canada. Both measures provide very marginal liquidity, and liquidity is not a binding constraint in the operations of farms now (nor is it likely to be over the next 6-12 months). Self-insurance and BRM programs will continue to be the mainstay for farms to manage risk. Conversely, the third measure will provide support to farmers, particularly in the horticultural sector, who hire the bulk of agricultural temporary foreign workers.

Summary

The unexpected introduction and spread of COVID-19 has already presented and will continue to pose significant challenges for every aspect of our food supply chain. This article focused on farmers and their ability to manage risk during this pandemic. The federal, provincial, and territorial governments already had in place various BRM programs (AgriInvest, AgriInsurance, AgriStability, and AgriRecovery) to help farmers manage risks. However, these programs were developed without due consideration to a global pandemic. This is not an indictment; it is almost always more efficient to deal with these Black Swan events in real-time as they arise.

The most notable risks farms will face because of the COVID-19 pandemic are with respect to border closures, transportation issues, labour issues, and consumer income losses. My expectations are that any resulting losses are not going to be of sufficient magnitude to trigger claims under the current BRM program. Farmers will, and are by default, self-insuring against these losses. This may include farms shifting production; i.e., horticultural farms may choose to plant soybeans as opposed to carrots if they cannot secure sufficient labour. Nonetheless, if losses are sufficient to trigger AgriStability payments, farms will necessarily absorb the majority of those losses anyway.¹¹ Fortunately, the farm household is in a stronger financial position to do this versus the average Canadian household. The federal government has stepped in with three new measures to assist farmers. The additional lending capacity of FCC and stay of APP payments are relatively inconsequential whereas the assistance with temporary foreign workers is not. Should the government wish to assist farmers in managing these shallow losses, the parameters for AgriStability could revert back to Growing Forward 1 where only 15% of losses in net margin triggered payments. While this would certainly be

¹¹ There is likely to be renewed calls for private insurance to assist farmers with shallow losses. Private insurance includes not only the actuarially fair premium but also the premium for risk, return to capital, administrative and operating costs, loading, etc. As a result, farmers have tended to realize that they are far better off self-insuring if possible.

welcomed by the farm sector, there are no strong economic reasons to suggest that this is necessary to ensure a stable food supply at affordable prices during this pandemic.

Acknowledgements:

Special thanks to Scott Biden who assisted in collecting data. Also, I would like to thank four reviewers for providing insightful comments.

References

- Barichello, R. (2020). The COVID-19 pandemic: Anticipating its effects on Canada's agricultural trade. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Brewin, D. (2020). The impact of COVID-19 on the grains and oilseeds sector. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Cranfield, J. (2020). Framing consumer food demand responses in a viral pandemic. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Gray, R. (2020). Agriculture, transportation, and the COVID-19 crisis. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Hailu, G. (2020). Economic thoughts on COVID-19 for Canadian food processors. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Hobbs, J. (2020). Food supply chains during the Covid-19 pandemic. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Ker, A.P. (2005). Private insurance company involvement in the U.S. crop insurance program. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 49(4), 557–566.
- Ker, A.P. (2020). Canadian BRM programs under review: A study of syntax and mythical changes. *Presentation at the 2020 Canadian Agricultural Economics Society Annual Meeting, Ottawa, Canada*.
- Ker, A.P., Barnett, B., Jacques, D., & Tolhurst, T. (2017). Canadian business risk management: Private firms, crown corporations, and public institutions. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 65(4), 591–612.
- Kerr, W. (2020). The Covid-19 pandemic and agriculture: Short and long run implications for international trade relations. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Larue, B. (2020). Framing consumer food demand responses in a viral pandemic. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.

- Lawley, C. (2020). Potential impacts of Covid-19 on Canadian farmland markets. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- McEwan, K., Marchand, L., Shang, M., & Bucknell, D. (2020). Potential implications of Covid-19 on the Canadian pork industry. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Orden, D. (2020). Resilience test of the North American food system. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Richards, T.J., & Rickard, B. (2020). COVID-19 impact on fruit and vegetable markets. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Rude, J. (2020). Covid-19 and the Canadian cattle/beef sector: Some preliminary analysis. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.
- Rude, J., Carlberg, J., & Pellow, S. (2007). Integration to fragmentation: Post-BSE Canadian cattle markets, processing capacity, and cattle prices. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 55(2), 197–216.
- Slade, P. (2020). Business risk management programs under review. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68.
<https://doi.org/10.1111/cjag.12218>
- Statistics Canada. (2020a). *Table 11-10-0057-01 Survey of Financial Security (SFS), assets and debts by after-tax income quintile, Canada, provinces and selected census metropolitan areas (CMAs) (x 1,000,000), Average value for those holding assets or debt.*
<https://doi.org/10.25318/1110005701-eng>
- Statistics Canada. (2020b). *Table 32-10-0101-01 Farm financial survey, Canadian and regional agricultural balance sheet (gross farm revenue equal to or greater than \$25,000).*
<https://doi.org/10.25318/3210010101-eng>
- Trudeau, J. (2020, March 23). Prime Minister announces support for farmers and agri-food businesses under Canada's response to COVID-19. *News Release.*
<https://pm.gc.ca/en/news/news-releases/2020/03/23/prime-minister-announces-support-farmers-and-agri-food-businesses>
- Weersink, A. (2020). Economic thoughts of the potential implications of COVID-19 on the Canadian dairy and poultry sectors. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 68, forthcoming.

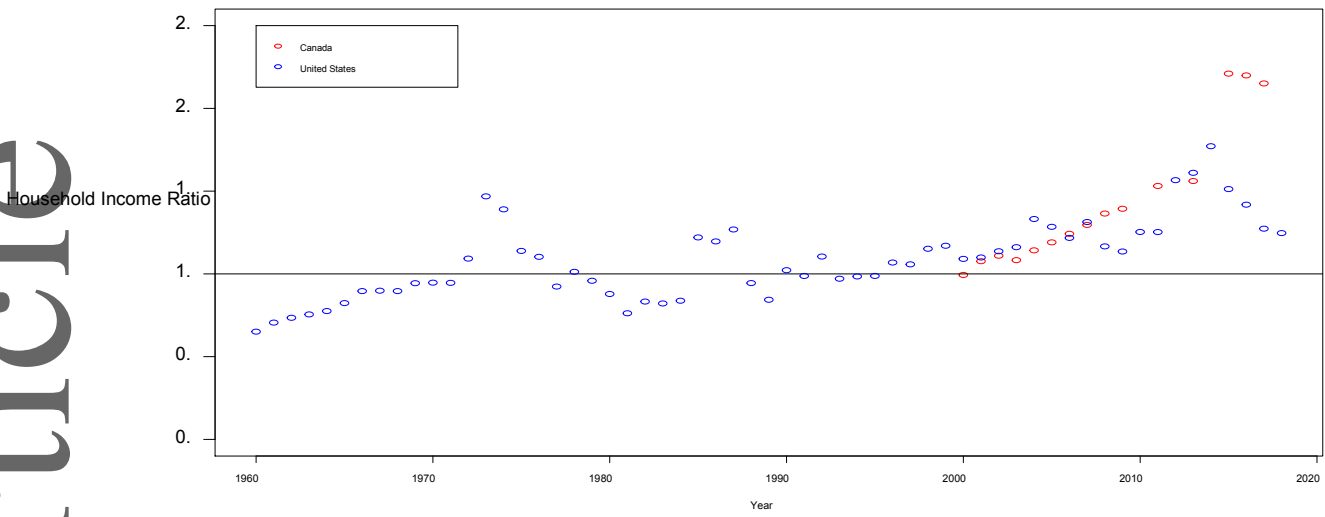


Figure 1. Ratio of average farm household income to overall average household income