The Voodoo Economics of the US National Pork Producers Council: A Commentary

Larry Martin, PhD [1]

August 2009

[1] Larry Martin is Senior Research Associate at the George Morris Centre. He is also a member of the Board of Directors of Big Sky Farms, a Canadian hog producer. This commentary was in no way commissioned or paid for.

Last week, Canada's government announced an assistance program for its beleaguered hog industry. While all details of the program are not yet known, it appears to be based on a structure recommended by the Canadian Pork Council (CPC).

Following the CPC's release of its recommendations, the US National Pork Producers Council (NPPC) published a news release criticizing those recommendations. Citing work by Prof. Dermott Hayes of Iowa State University, the NPPC claimed that the program, if adopted by the Canadian government, would reduce US market hog prices by 7.5% from what they would have been absent the program.

This was an ***un-***thinly veiled threat that there would be another trade action against Canada if the program is adopted. The NPPC has created a trade action cycle roughly parallel to the hog cycle on the premise that trade actions against Canada have been the most effective way for the US to enhance its competitiveness. Most of these have been countervailing duty or anti-dumping actions, although US livestock associations have a new tool to add to their efforts, the Country of Origin Labeling law which adds major costs of no measureable benefit to US retailers who sell Canadian meat products.

The nature of the proposed program makes the claim by NPPC of significant price suppression extremely questionable. The intent of this commentary is to briefly explain the economic situation facing hog producers in Canada, explain the CPC proposal and to examine its likely effects on hog supply and prices in Canada and the US. This discussion needs to begin now, so it will be on the record for what appears to be the inevitable trade action to come.

The Economic Situation in the Canadian Hog Industry

It has been well publicized on both sides of the border that the hog industry has been in a prolonged slump, which has led to economic losses. The problem has been magnified by the outbreak of H1N1, misnamed by many in the press as "swine flu". This appears to have contributed to a decline in demand for pork both domestically and in the export market. Consequently, an expected seasonal and cyclical increase in prices during the summer of 2009 did not materialize, thereby adding to several months of terrible returns in the industry.

This essentially means negative cash flow for hog operations that buy their feed – more cash is going out than is coming in. Negative cash flows have been both severe and cumulative. This is the definition of "bleeding cash", when it persists over time.

It is ironic that the impacts of this are often different for producers with newer facilities. By definition, many of them would have entered this period with large amounts of debt after very heavy investment in facilities and breeding stock. As operating debt grows because of negative cash flows, financial covenants are breached quickly and there is little equity to fall back on to secure loans. When these operations can no longer service debt, they are often sold to other producers at a fraction of their book value. The new owner has equity because of the lower capital cost. Because the assets are so specialized, they continue to be used to produce hogs, but at a lower recapitalized cost.

Older operations may have little debt and significant equity or reserves. As negative cash flows mount up, they are in a better position to absorb more debt; so they can "live off their equity" for some time. Alternately, for those whose facilities are depreciated out, the best alternative may be to close down the operation. Many have done so in Canada.

In general, this means that a protracted period of negative cash flow has three potential outcomes:

- Some operations that can't service debt roll over to new owners at lower capital costs and continue to produce hogs
- Some operations ride it out and continue to produce hogs
- Some operations close down.

All three have occurred in varying degree over the past few months. In addition, governments provided a "sow cull" program in 2008 which paid producers to slaughter sows and hastened the exit of a number of producers. Hence, the Canadian industry has already begun to contract, and at a faster rate than the US industry.

The CPC Proposal

The CPC proposal has a number of aspects, but two of them represent the "money" part. One part can be termed the "exit" strategy. Producers who participate would be paid a fee per sow to completely liquidate their breeding herds. The intention is to encourage producers to leave the industry so it can be downsized. The announced target of this aspect of the actual program is a reduction in the Canadian breeding herd of 5%.

The second "money" aspect of the proposal can be called "maintenance". This is for existing producers who are viable, but strapped with debt. It will allow them to re-structure their debt to amortize it over a longer period of time at commercial terms. In essence, this becomes a government guarantee that provides lenders more security. The emphasis is that loans will be made or restructured based on the expectation that operations will be viable in the long term and thus be able to repay the loans.

The amount that would form the loan guarantee is approximately 50% of the variable cost of producing a hog. In other words, the loan guarantee would cover only a portion of variable costs, roughly half. Therefore, the program cannot provide an incentive for expansion. If market prices remain at current levels relative to cost for a protracted period, existing producers will not be able to meet their cash and debt obligations even with this program. It essentially gives those with a chance to survive more collateral for loans, but can't offset market forces.

It is hard to see how this is a program that will cause many hogs to be produced that otherwise wouldn't be. If hog profitability continues to be negative for much longer, no one will be able to pay and won't qualify for the loans. In the current outlook, the most likely beneficiaries are those who have efficient operations which, if not able to service their debt, would be the most likely candidates to be sold at pennies on the dollar and continue to produce hogs.

The NPPC's Interesting Economics

As indicated at the outset, the NPPC and Prof. Hayes assert that the program would reduce North American hog prices by 7.5% from what they would have been absent the Canadian program. In other words, the assertion is that it would increase supply enough in Canada to reduce North American prices by 7.5%.

We asked for a copy of Prof. Hayes' analysis. He said it was the property of the NPPC and could not be shared. We asked NPPC for a copy and have not yet received one. We followed up with questions about the nature of the supply response in the analysis, about which more will be said below.

First, how much supply is required to reduce prices by 7.5%? Using 2008 production, we can estimate broadly how much would be required. A fundamental aspect is the relationship between demand and prices. What demand "flexibility" was used to estimate the price effect of the supply response to the program? Not having the paper, we don't know, but flexibilities in the range of -1.0 to -2.0 are used for pork by most economists. If it is - 1.0, it means that a 1% change in supply results in a 1% change in price. If it is -2.0, it means a 1% change in supply results in a 2% change in price.

Assuming this range, it means that in order to reduce hog prices by 7.5%, the program would need to result in production of 3.75% to 7.5% more hogs in North America.

If we ignore Mexico, we can put this in perspective. In 2008, approximately 116 million hogs were slaughtered in the US, and another 20 or so million were slaughtered in Canada. So, about 136 million hogs in total were slaughtered. Therefore, 3.75% would be 5.1 million head. 7.5% would be 10.2 million head.

So, the argument must be that the Canadian program would cause somewhere between 5.1 and 10.2 million head more hogs to be slaughtered in North America than would have been, absent the program.

With this range, we were perplexed by how the program could possibly have that much effect. As indicated, we asked for the report and found that it wasn't available. We asked the author two general questions about the supply response. The first was, "How can a program designed to pay producers to slaughter breeding stock and exit the market possibly result in an increase in the supply of market hogs?" By definition the "exit" part is designed to ***reduce*** the supply of market hogs. The reply was that it was the loan component – what we called the "maintenance" part – that would result in more hogs.

This implies that the exit part of the program may not have been included in the analysis. But it is part of the program and has to be included. If it reached its objective of a 5% reduction in the breeding herd, then this would be a substantial reduction in the number of market hogs produced. While Canada slaughtered 20 million head of market hogs last year, approximately 10 million more were exported to the US directly for slaughter or for finishing and then slaughter.

Therefore, if Canada successfully reduced its breeding herd by 5% because of the exit portion, approximately 1.0 million head of market hogs (5% of 20 million) would be unavailable for slaughter in Canada or the US.

This means that, for the Canadian program to suppress North American prices by 7.5%, the loan portion would need to result in 6.1 to 11.2 million head more than in its absence. Reversing the logic from above, it means that, based on 2008 numbers, the loan guarantee program would somehow result in an *increase* in the Canadian breeding herd of between 20% and 30% from what would have been the case absent the loan program but with the exit portion.

The only explanation we received when the logic of this analysis was questioned was that the "certainty equivalent" of a loan guarantee (to producers who want to financially restructure and who would otherwise be economically viable) equal to half of variable costs would slow the rate of attrition from the industry to have this kind of effect.

There are three problems with this argument. The first is obvious. It is simply the implicit magnitude of the supply response. A loan guarantee program that guarantees a loss of half of variable cost is not likely to increase a nation's breeding herd by 20 – 30%. If we are to believe this, then what must be the supply response in the US of its marketing loan program for grains and oilseeds that typically guarantee producers *more than variable cost?*

The second issue is that the analysis clearly makes no distinction between the effects of the loan guarantee program on keeping Canadian hog producers in production and its effects on their asset values if the program retards the need to sell at pennies on the dollar. As indicated above, many of the assets that remain in production are relatively new and efficient. They can generate substantial profits if market hog prices move back up to profitable levels, which history says they will. These assets will remain in production; the question is "Who will own them and at what value?"

This is intertwined with a third issue with the NPPC analysis. Apparently, conclusions are drawn from the rate of decline in the Canadian breeding herd – i.e. that the rate of decline will slow as a result of the loan program. The Canadian herd has been declining for at least four years. During parts of the past two, there has been another Canadian government program to encourage liquidation. By all reports, it worked and many barns have been closed down and the Canadian herd has been substantially reduced. Therefore, using historical data on the rate of decline means that the NPPC projects the pre-existing program forward, not the market effect. So, rather than appreciate the fact that Canada has already taken steps to help raise North American hog prices by reducing supply, the NPPC would rather threaten punishment for these phantom effects going forward.

Moreover, one would expect that the operations already closed down in Canada are those least likely to be viable in the long term. Thus, those left are the ones most likely to stay in production in the long term. Therefore, they are most likely to benefit from the loan guarantee program by potentially maintaining their asset values.

It would seem logical that, as the capital base in Canada rationalizes, the tradeoff of the effects of a loan guarantee program between supply – i.e. holding assets in production – and asset value for extremely specialized assets will increase. To avoid addressing this is to miss the point entirely.

Summary

Canada recently introduced a program to assist its hog industry. Based on a recommendation from the Canadian Pork Council, the program has two components that can provide direct economic benefits to hog producers. One component will pay producers to exit the industry. The second component provides partial loan guarantees under commercial terms to potentially viable producers who elect to remain in production and restructure their operations.

The US National Pork Producers Council (NPPC) opposes the program and cites a study from Iowa State University that estimates a 7.5% reduction in North American hog prices as a result of the program.

The study is not publically available, so it is not possible to analyze it. However, the claim is surprising. The aim of the first part of the Canadian program is to reduce the Canadian breeding herd by 5%, which would eventually reduce the number of market hogs from Canada accordingly. Assuming price flexibility for pork between -1.0 and -2.0, the loan guarantee program would need to result in 5.1 million to 10.2 million more hogs from Canada than would have been the case. This is based on 2008 production levels. If the first component results in a 5% reduction, the loan component would need to result in a 20 - 30% increase in Canadian production from what it would be absent the program in order to suppress prices by 7.5%.

It’s extremely hard to imagine how a program that reduces sow inventories, provides marginal loan benefits to a relatively small portion of Canada’s industry, and that, at best, guarantees loans at levels equal to about half of variable costs could ever have any negative impact on North American prices, let alone one as large as is claimed. Several potential issues that must be addressed in a proper analysis of the supply response to this program have been identified in this paper.

The NPPC opposed the CPC’s proposal, saying that the program will put the onus on poor American producers to adjust and relieve the responsibility from Canadian producers. The NPPC has not reacted to the actual program announced by Canada. However, it appears to be similar to what was requested by the CPC. The fact is that Canada has already reduced its breeding herd by 14.5% from its peak in 2004, and total inventories of hogs in Canada the second quarter of this year were down 19.4% since mid-2004. During the same period, US mid-year inventories of hogs grew every year until 2008 before dropping slightly by 1.4% this year. Meanwhile, US producers have added to this summer’s poor prices by loading another 4-5 lbs of weight on each hog they ship to market. The market expects that August 2009 pork production in the US will set a record.

I don’t know whether this Canadian program is good policy or not from a Canadian perspective. I do know it is responsible from an international trade perspective. It appears inevitable that there will be threats and the potential reality of yet another trade action by the NPPC. One can

only hope that, when it occurs, the US industry will be held responsible for its failure to adjust to an ugly market situation, and that proper economic analysis is used in the argument.

One of the major reasons for the current situation in the hog industry is domestic and international reaction to the outbreak earlier this year of the new H1N1 virus, which is daily misnamed swine flu in North American media. It has scared domestic consumers and international customers away from pork and has reduced demand. The NPPC might better use its resources and influence to fight that real battle than to blame its trading partner for non-existent negative effects of a benevolent program.