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CATPRN

Canadian Agricultural Trade Policy And Competitiveness Research Network

BETWEEN A CAP AND A HIGHER PRICE: THE DAIRY QUOTA TRILEMMA

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1. Introduction

After four decades of existence, the Canadian dairy supply management system is caught in a trilemma. To achieve the objective of providing a “fair” return to farmers, the system relies on controlling production levels through the use of milk production dairy quotas. The exchange of dairy quotas on provincial auctions encourages efficient allocation of dairy quotas across producers. However, rising quota prices and the increasing cost of financing the purchase of quota (along with the bad optics) led Canada’s two largest dairy producing provinces, Quebec and Ontario, to implement a cap on the price of quotas in 2007 and 2009 respectively. With the cap in place, the demand for quotas has greatly exceeded supply, and the auctions ability to allocate quotas to the most efficient producers has been neutered. An alternative means of lowering quota prices is to reduce the quota rent (the difference between the administered price and the marginal cost of producing milk) through lowering the farm price of milk. However this strategy may conflict with the system’s objective of providing a “fair” return for producers.

In the face of escalating quota prices, three policy options define the dairy quota trilemma: 1) provincial marketing boards can retain the existing cap on the price of quotas at the expense of limiting the auction’s ability to allocate quotas to the most efficient producers; 2) they could remove the price ceiling and let the auctions determine the price of quotas thereby allocating quotas to the most efficient producers; and/or 3) they could reduce the price of quotas by lowering the farm price of milk.¹ The third option overcomes the shortcomings of the first two options. The auction continues to allocate quotas to the most efficient producers, and a lower price of quotas is maintained thereby reducing financing costs and improving the optics of the supply managed regime. Whether or not there is a conflict between the third option and the objective of providing a “fair” return for milk producers depends on the magnitude of the reduction in the price of raw milk, and the effect on farmers’ profit levels.

This brief reports the findings of two counterfactual policy experiments focused on the second and third options. In 2010, I estimate that dairy quotas in Quebec would have traded at a price of \$31,955 per unit in the absence of the price ceiling. My results indicate that lowering the valuation of quotas to \$25,000 per unit would have required an 11.8 percent reduction in the farm price of milk. In 2010, an 11.8 percent reduction in operating revenue would have reduced Quebec dairy farmers' profit margin to 4.5 percent. While this is the lowest level in recent history, the margin would remain higher than the profit margin in other Canadian animal product industries.

2. Rising Dairy Quota Prices

Dairy quota prices in Quebec tripled in value between the early 1990s and 2006. A similar ascent in quota prices occurred in Ontario over this same time period. How can we explain the ascent in the price of dairy quotas? Cairns and Meilke (2012) argue that the rapid rise in quota prices was the result of several factors, including a drop in producers' perception of the risk of major policy reform following the conclusion of the Uruguay Round of multilateral trade negotiations in 1994. After the conclusion of the Uruguay Round, producers' confidence in the stability of the supply management system grew over the late 1990s. The diminished risk of reform to supply management bolstered dairy farmers’ confidence in the realization of future profits, leading to the increase in quota prices. My econometric results support the theory that the rapid escalation in dairy quota prices was driven by a decrease in producers' perception of the risk of policy reform. Specifically, I estimate that Quebec dairy farmers’ perception of the risk of major policy reform declined by 5.3 percentage points in the late 1990s.

¹ As Barichello, Cranfield and Meilke (2009) point out there are more than three policy options in the broader context of reform of the supply management system.

3. Price Ceilings on Dairy Quotas

Concerns over the escalating price of quotas led the provincial marketing boards in Quebec and Ontario to introduce a price cap on quotas in 2007 and 2009 respectively. In Quebec, dairy quotas have been trading at the price cap (currently at \$25,000 per unit) for over three years. During the price ceiling era, the demand for quotas has vastly exceeded the quantity of quotas supplied to the quota exchange. For example, on the 2012 monthly quota exchange in Quebec, the quantity of quotas demanded at the price cap was approximately 20 times the quantity supplied. This has forced the provincial marketing boards to implement rationing rules to allocate available quotas across all those demanders that are willing to pay the ceiling price. With the price cap in effect, there is no market mechanism to allocate quotas to the most efficient dairy farmers.

4. Estimating the Price of Dairy Quotas in the Absence of Price Ceiling Legislation

My first counterfactual policy experiment answers the question: *what would be the price of dairy quotas in Quebec if the price cap were removed?* Answering this question requires estimating the implicit market valuation of quotas during the price ceiling era. I begin by developing a theoretical model of the market for dairy quotas in Quebec. Working from this economic model I develop an econometric model that is used to estimate the price of dairy quotas in Quebec for the period 1993 to 2010. I use farm level data from the Quebec Federation of Management Clubs' Agritel, and a quota price series from the Fédération des Producteurs de Lait du Québec (FPLQ)².

The modeled price, exchange price, and price ceiling are presented in Figure 1 for the years 2000-2010. The modeled price “fits” the actual market exchange price well during the preprice ceiling era. During the years following the introduction of the price ceiling in 2007, the modeled price remains well above the price ceiling. In 2010, I estimate that dairy quotas in Quebec would have traded at a price of \$31,955 per unit.

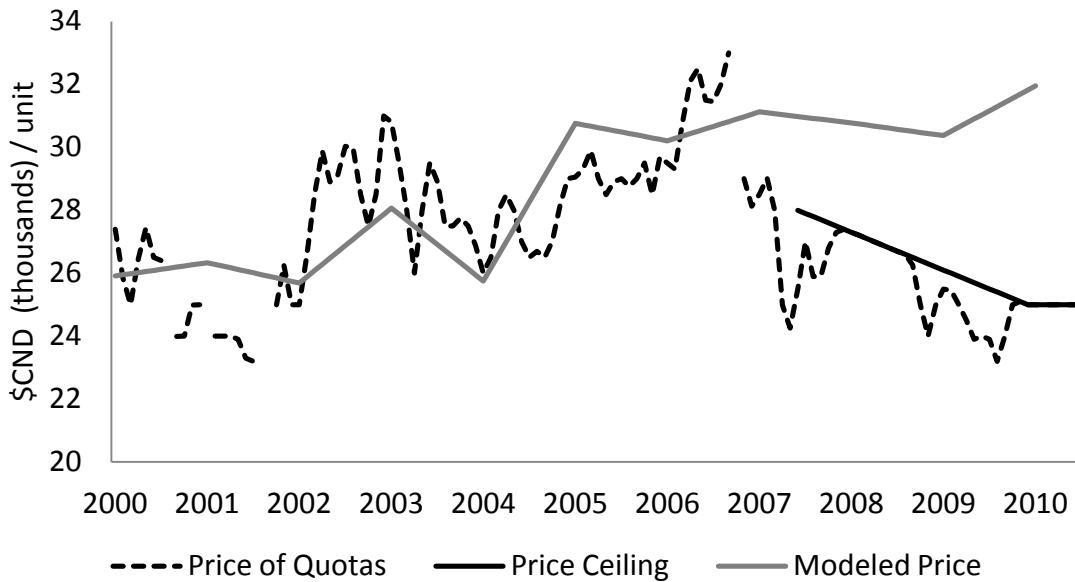
5. An Alternative Policy Option for Lowering Quota Prices

From the perspective of economic theory, lowering the price of raw milk is preferred to a price cap as a method for lowering the price of quotas. However, this strategy is potentially in conflict with the legislated objectives of the supply management system if the resulting reduction in producer profits prevents dairy farmers from earning a “fair” return. The *Canadian Dairy Commission Act* states that an objective of the Canadian Dairy Commission (CDC) is “to provide efficient producers of milk and cream with the opportunity of obtaining a fair return for their labour and investment...” (Canada, Department of Justice, 1985, s.8). In practice, achieving this mandate is the joint responsibility of the CDC and the provincial marketing boards.

The price Canadian dairy farmers receive for their milk is jointly administered by the CDC and the provincial marketing boards. The CDC sets support prices for skim milk powder and butter. These support prices guide the provincial marketing boards in setting the prices that processors pay for milk destined for industrial purposes (butter, cheese, yogurt, etc.). The provincial marketing boards also set the price that processors pay for “fluid” milk (i.e. farm milk destined to be processed for table milk and cream). Farmers receive a “blended” price that reflects the various prices paid by processors for the different classes of fluid and industrial milk.

² The FPLQ is the provincial dairy marketing board in Quebec.

Figure 1: Quebec Dairy Quota Prices: Exchange, Ceiling, and Modeled



Source: The price of quotas and ceiling price are sourced from the Fédération des Producteurs de Lait du Québec

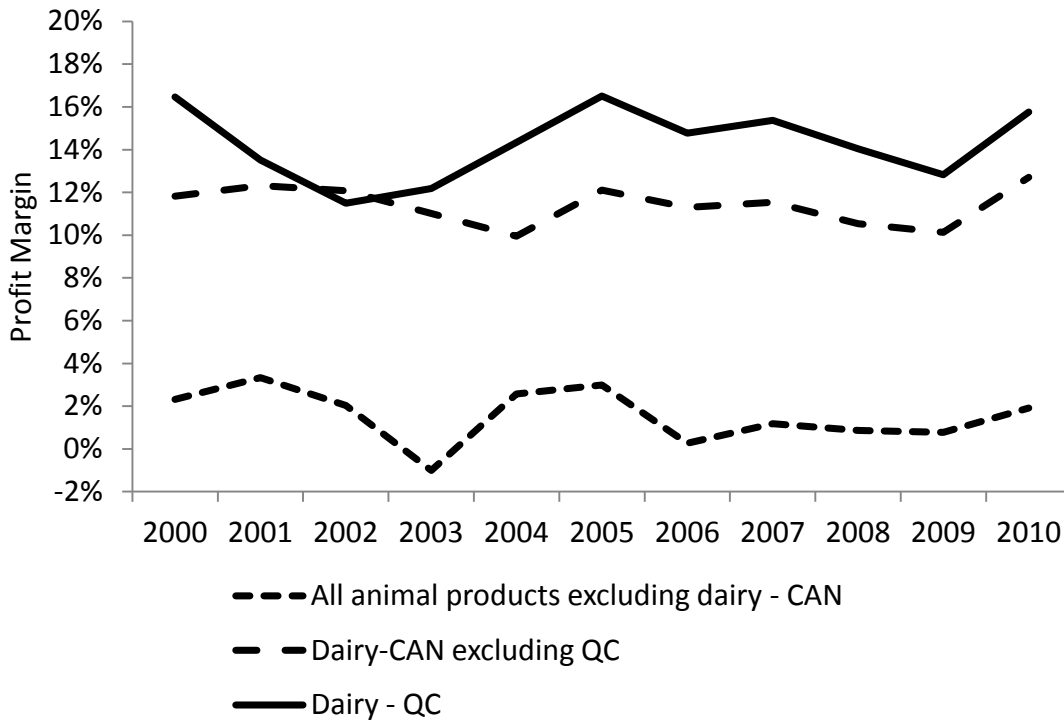
In my second counterfactual experiment I estimate the magnitude of the decrease in the farm price of milk required to reduce the valuation of Quebec dairy quotas to the current ceiling level of \$25,000 per unit. My results indicate that lowering the valuation of quotas to \$25,000 per unit in 2010 would have required an 11.8 percent reduction in price of farm milk.

6.0 Measuring the Impact on Dairy Farmers

How would an 11.8 percent reduction in the farm price of milk affect the profitability of dairy farming in Quebec? I answer this question by using Statistics Canada data to compare the profit margin of Quebec dairy farmers with dairy farmers in the rest of Canada, and other Canadian animal product producers.³ Figure 2 illustrates that dairy farming is the most profitable animal product industry in Canada. Figure 2 also highlights that dairy farming in Quebec is more profitable than in the rest Canada. In 2010, an 11.8 percent reduction in operating revenue would have reduced Quebec dairy farmers' profit margin to 4.5 percent. While this is the lowest level in recent history, the margin would remain 2.6 percentage points higher than the 2010 profit margin of producers in other Canadian animal product industries.

³ The profit margin is defined as the ratio of net operating income adjusted for capital cost allowance to total operating revenue. The other animal product category includes: beef cattle, hog, poultry, egg farming, and all other animal product producers excluding dairy producers.

Figure 2: Profit Margins in Animal Product Production



Source: Statistics Canada CANSIM table 20048

References

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Cairns, A. and K. D. Meilke. 2012. "Price ceilings on milk production quota values: future or folly?" *Canadian Journal of Agricultural Economics* 60:93-112.