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Pulling the Plug on Monopoly Power: Reform for the Canadian Wheat Board

By
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- Change is in store for the Canadian Wheat Board (CWB), which has the legal authority to purchase all Western Canadian wheat and barley produced for export and for domestic human consumption;
- The CWB defends the continuation of this legal authority on the premise that by selling together, Western Canadian farmers exert more market power in wheat markets and receive higher returns than they could if competing against each other;
- However, the declining global market share of Canadian wheat makes it increasingly unlikely that the CWB is able to exert market power: the CWB is a price taker in many markets. In the absence of strong evidence that the CWB is able to achieve its policy goal of higher returns to farmers because of the compulsory purchase of grains, its monopoly over Western Canadian wheat and most barley sales should be reconsidered with an eye to ending it.

The federal government's June 3rd Speech from the Throne called for "legislation to ensure that western farmers have the freedom to sell wheat and barley on the open market." In so doing, Ottawa made clear dramatic changes were in store for the Canadian Wheat Board, which has held monopoly market power for over 75 years. This *e-brief* discusses the case for such a reform.

The Canadian Wheat Board (CWB) is a national agency whose enabling legislation grants it the authority to purchase all Western Canadian wheat and barley for export and for domestic human consumption. This authority is defended on the premise that its position as the single Canadian seller in relevant grain markets gives it the market power necessary to obtain better prices for farmers collectively than they could achieve by selling independently.[1] According to the CWB, its compulsory nature is essential to the existence of the organization.

1 The authority was originally granted to implement a form of price control over grain sales (Carter and Loyns 1996).

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While the CWB may have had market power in the past, grain markets have changed in scope and structure, and the claim may not be true today. In our view, these changes mean the CWB is a price taker in many markets, suggesting that compulsory grain acquisition in the prairies does not assure higher returns to farmers. In the absence of strong evidence that the CWB is able to achieve its policy goal of higher returns to farmers because of the compulsory purchase of grains, its monopoly over Western Canadian wheat and most barley sales should be reconsidered with an eye to ending it.

The Logic of Market Power

The CWB's authority covers the three Prairie Provinces, and parts of British Columbia. It claims that:

> As the sole marketer of the high quality wheat and barley grown in western Canada, the CWB is able to provide marketing clout to individual farmers who benefit from higher returns. By selling together, western Canadian farmers are able to exert more power in the marketplace than they could if they were competing against each other.[2]

Market power in world markets is a necessary but not sufficient condition to generate higher prices for farmers (Pedde and Loyns 2011).[3] The CWB has market power if its decision to withhold sales from the relevant export market or to expand sales causes the market price to increase or decrease. It may also be able to improve farmers' returns through cost-reducing factors like economies of scale in transport and distribution. For farmers to benefit, the Board must exercise its power appropriately, trade and operate efficiently, and share the excess proceeds with them.

Attempts to harness marketing power, either coercively or voluntarily, are common around the world.[4] Legislation enabling cooperatives and marketing boards aimed at improving producers' bargaining power exists in most agricultural countries.[5] In voluntary organizations, the cooperative purchases and markets the production provided to it by producer members; farmers outside the cooperative are free to sell their production independently. If the cooperative is successful in increasing net returns through exercise of its market power, non-members may benefit from the higher prices, without sharing in the costs of holding back and storing grain or of operating the cooperative (a practice known as free-riding), and they may increase production accordingly. The presence of nonmember farmers in the market increases the number of competing sellers and decreases the share of the market held by the cooperative, which puts downward pressure on prices. This production volume and cost sequence, which is associated with voluntary membership in bargaining associations, is an argument for compulsory membership under marketing board legislation. CWB supporters draw on this logic to reject the concept of a voluntary CWB. However, the point rests on the assumption that the agency has the market power its supporters profess.

Defining the Relevant Market and Measuring Market Power

Among the factors that determine the extent of market power are the concentration of sellers and buyers in the relevant market, and the availability of substitute products in that market.

Defining the Market. Wheat (or barley) is not a homogeneous product; for example, different qualities of similar wheat can be blended in milling and baking mixes. To have pricing power in a given market, it is a necessary, but not sufficient, condition that one grain cannot be substituted for another. Further, the market for international trade in wheat or barley is only a fraction of world production and consumption. If importers can substitute different qualities and sources of

2 CWB website, "Hot Topics, the Power of the Single Desk." Accessed on 7/8/10. http://www.cwb.ca/public/en/hot/choice/power/

3 Other factors between the farm gate and final delivery, such as grain handling costs, grain pool administration costs, and risk pooling, mean there is no guarantee of increased returns at the farm.

4 Market power may derive from a number of factors, such as inherent market structure (e.g., few firms or a large market share), from product characteristics such as unique quality, patent protection, or from significant scale economies.

5 See, for example, Helmberger and Hoos (1963) and Hoos (1979).

Table 1: World Wheat Export Market HHI Measures

	1970-1991	2000-2010
Current Market, with 5 US and 3 Australian Firms	1,159	1,102
Counterfactual, 3 competing Canadian Producers	891	967

Sources: Authors calculations from United States Department of Agriculture.

grain, including domestic sources, among their inputs, then aggregate world grain production and sale, not the export market, is likely the relevant market.

Measuring Market Power. The Herfindahl-Hirschman Index (HHI) is a commonly accepted measure of market concentration that grades it on a scale from zero to 10,000, from least to most. The HHI is based on market share and accounts for the number and size distribution of competitors. In a market with a large number of small firms (such as unorganized farmers) the value of the HHI approaches zero, meaning there is negligible concentration; with one seller monopolizing a market the value would be 10,000.[6] Markets with an HHI above 1,800 are considered to be concentrated by the U.S. Department of Justice and the Federal Trade Commission.[7]

Suppose, for exposition, that the relevant grain market is the world export market – the share of production that is traded. Using US Department of Agriculture (USDA) data for world wheat export and production, we first calculate the market share of each country in world export markets, and from these market shares we calculate the HHI concentration ratio for the world export market. For this exercise, we take into account relevant information on market participants by size and number in the large US and Australia export markets, where information is available and reliable. There are at least five (relatively) equal-sized competitors in the US market and at least three in Australia, each vying for world market share.[8] Given this definition of the market, between 2000 and 2010, the HHI of concentration averaged about 1,100.

Between 1970 and 1991, the average HHI was 1,159. If, during the 1970 to 1991 period, the CWB had instead been replaced by three equally sized competing firms, the HHI would have been 891. This is a 23 percent drop in the index of concentration between the base case and the counterfactual. However, applying this thought experiment to the 2000-2010 wheat export markets, a competitive Canadian wheat sector would have led to a relatively smaller change in the HHI, from 1,102 in the base case to 967 in the counter-factual, a 13 percent drop. This smaller drop in the HHI, from the base case to the counterfactual, suggests that Canadian farmers would lose less market power in export markets today, than if the change had occurred than in the past.

6 The HHI is calculated by squaring the market share of each firm and summing these values. For example, a single firm supplying the market has a 100 percent market share and an HHI of 10,000; a market supplied by four firms with forty, thirty, twenty and ten percent market shares respectively has an HHI of 3000; for many small sellers with almost equal shares, the HHI approaches zero. Structural measures such as the HHI are at best rough proxies for market power, because they cannot capture price behaviour directly, which is influenced by supply and demand responsiveness to market conditions.

7 The Competition Bureau uses the concept of market share and generally does not consider a firm with a market share of less than 35 percent to be capable of exercising market power. The Herfindahl – Hirschman Index, US Department of Justice, http://www.usdoj.gov/atr/public/testimony/hhi.htm

8 There are at least of five roughly equivalent sized competitors in the US market – Archer Daniels Midland, Bunge Limited, Cargill, Louis Dreyfus and CHS – although there are as many as 135 major exporting companies (USDA Grain Inspections, Packers and Stockyards Administration, 2008 GIPSA Grain Exporters Directory). In Australia there are now three significant firms – Viterra, Grain Corp Ltd and CBH Group – in addition to 26 Australian licensed exporters competing in the international sales market (Wheat Exports Australia. 2011. "Register of accredited exporters." January 6. Available online at: http://www.wea.gov.au/WheatExports/RegisterOfAccreditedWheatExporters.htm).

Figure 1a: Canadian Wheat Export and Production Shares of World Totals, 1960-2010

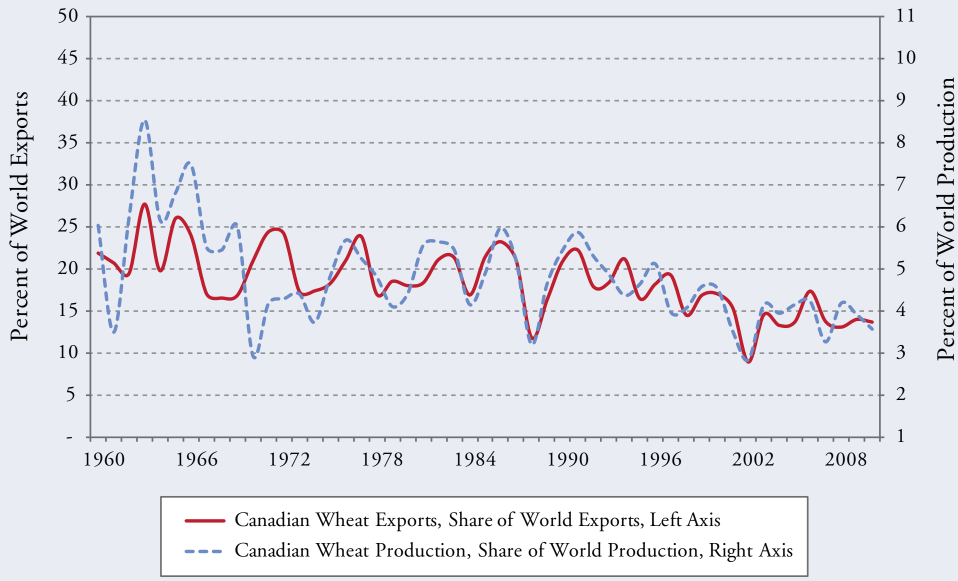
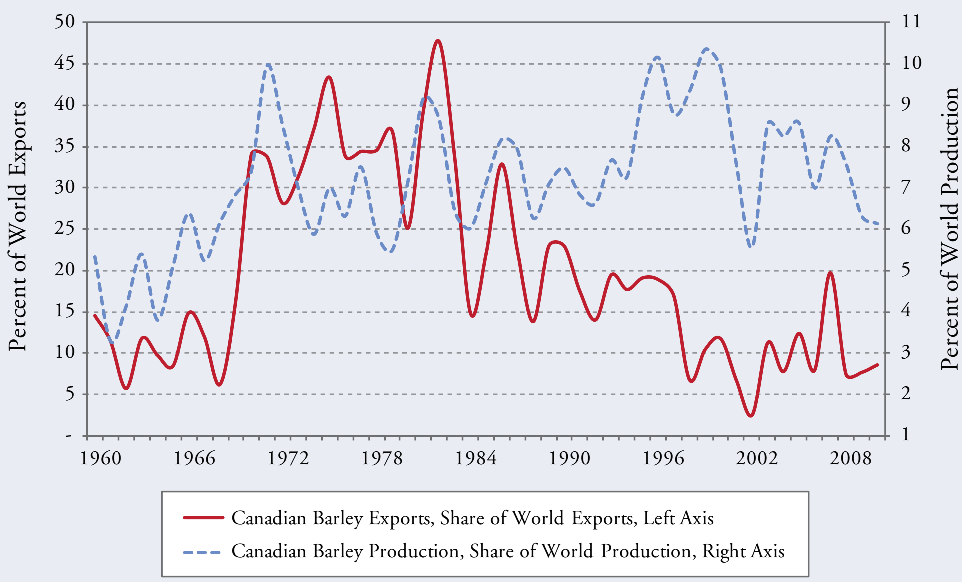


Figure 1b: Canadian Barley Export and Production Shares of World Totals, 1960-2010



Source: Authors calculations from United States Department of Agriculture.

Expanding Market Definitions: World Production and Demand

However, world market prices are not determined by the share of the grain traded: domestic production and domestic demand in our trading partners affect prices as well. On this view, the relevant market is world production and what matters is the share of it sold through the CWB. And, as farm productivity has grown throughout the world over the past generations, Canada's share of annual production has fallen from a high of 8 percent in 1962, to an average now of less than 4 percent today. Meanwhile, Canada's share of the export market has fallen from over 25 percent to less than 14 percent (Figure 1a) over the same period. Similarly, Canadian market share in world barley export markets has declined from peaks of nearly

50 percent in the early 1980s to less than 10 percent today (Figure 1b). If the CWB ever exerted pricing power in world wheat markets (Furtan et al. 1999), it seems unlikely or impossible that it should do so now.[9]

The bottom-line question for policymakers, therefore, is whether and why some Canadian grains might receive a price premium. If these grains do, then the question becomes whether it is because of high demand for their quality and consistency – which the empirical evidence says it is.[10] If, however, that is not the reason, then strong prices could be the result of the CWB's trading skills – which the CWB has not demonstrated to be the case (Pedde and Charlebois 2008). In turn, if that is not the reason, it could be because of the CWB's single-desk buying and selling power. This would support the argument that, absent this power, Canadian farmers would compete against each other for sales, fragmenting their market power and driving down prices. These questions cannot be answered without suitably detailed sales and price data (Schnepf 2006), which to this point the CWB has not provided.

Policy Recommendations

As a first step, CWB sales and pricing data should be made publicly available, to ensure that it serves the needs of the producers it is mandated to represent.

Life after Monopoly Power. If the CWB cannot demonstrate that sole buying and selling authority is necessary to delivering better prices for farmers, it should not have that authority. Even without it, the CWB's existing infrastructure and the expertise and worldwide distribution of its trading staff would make it both an attractive pool for farmers to voluntarily participate in and successfully sell their wheat in world markets.[11] Many farmers would choose to pool their grain through the CWB, to reduce their individual exposures to fluctuations in wheat prices, and many more would prefer to specialize in producing wheat for domestic consumption rather than trading it on world markets, and to take advantage of economies of scale in marketing and transportation. Existing, for-profit companies provide these services for other grains, and a non-compulsory CWB could compete with these firms for farmers' business.

The world wheat market has changed and grown. If justification ever existed for the CWB's mandatory status, on the basis that its world market power enabled it to generate better prices for domestic farmers, it seems to have passed. It is time for reform.

9 Meanwhile, even if the CWB has pricing power in some specific grain markets, such as high-quality spring wheat in a given region or year, the CWB has not provided the data to show this.

10 US buyers seek Canadian durum and hard red spring wheat for pasta flour production, for example, because of its consistency and high protein content, for which they pay a premium (Mulik and Koo 2011). There is an extensive literature on grain prices and market behaviour, much of it cited in Mulik and Koo (2011).

11 The CWB provides other services to farmers, such as advocacy and representation, which farmers may find important.

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