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Member Commitment and the Market and Financial Performance of the Saskatchewan Wheat Pool

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The Issue

Since 2001 several of the largest agricultural co-operatives in Western Canada and the United States have battled impending bankruptcy or ceased operations. In February 2001 Dairyworld Foods was bought out by Montreal dairy processor and cheese producer Saputo Inc. (Saputo; Toronto Stock Exchange). In November 2001, Agricore, formed through a 1998 merger of Alberta Wheat Pool Ltd. and Manitoba Pool Elevators, merged with United Grain Growers to form Agricore United (Agricore United). In the United States, AgWay and Farmland Industries filed for Chapter 11 bankruptcy protection in 2002 (Reuters, 2000), while the Saskatchewan Wheat Pool (hereinafter referred to as SWP or the Pool) underwent a massive debt restructuring in 2003 after four years of consecutive multi-million dollar net losses (SWP Annual Report, 2003).

This decline in the market and financial performance of agricultural co-operatives has been associated with a decline in the commitment of the members to their co-operatives (Fulton, 1999; Fulton and Giannakas, 2001; Richards, Klein and Walburger, 1998; Burt



and Wirth, 1990). The purpose of this article is to examine the market and financial performance of one of a number of co-operatives that have faced recent financial and market hardships, and to link this performance to member commitment. Specifically, the article examines whether the Pool's declining market and financial performance is consistent with the predictions that emerge from a model that examines the impact of falling member commitment in a co-operative.

Implications and Conclusions

Declining member commitment negatively affects a co-operative's market and financial performance. When member commitment falls, a co-operative faces a trade-off between maintaining market share and maintaining its price markup. While a co-op can hold on to its market share by lowering its price markup, doing so will lead to falling profits.

Comparing the events encountered by the Pool over the last several decades to the predicted impact of declining member commitment on market share and profitability reveals a close parallel. Based on views expressed by the membership, there is evidence of declining member commitment at the Pool beginning in the late 1970s. The decline in net earnings throughout the 1980s, despite a constant market share, is consistent with the hypothesis of a drop in member commitment. However, the maintenance of a market share in the 60 percent-plus range may have signaled to Pool management that member commitment was strong.

Beginning in the early 1990s, the Pool began a period of expansion and facility modernization through intensive capital investment in value-added business lines and a grain handling system overhaul known as Project Horizon. Based on the view that its member commitment was solid, the Pool maintained its price markup in an effort to generate the revenues required to finance the capital expenditures. The result, however, was not as management expected. The Pool's market share dropped dramatically and the co-op experienced numerous consecutive net losses, which eventually forced the Pool to restructure its debt.

SWP Financial and Market Performance

Figure 1 shows the real net earnings and share of provincial grain handlings for SWP from 1974 to 2003. Figure 1 also shows the chief executive officers for the same time period along the top of the figure, while the board chairmen are listed along the bottom.

The Pool's net earnings (solid line in figure 1) peaked in 1981 at \$151 million (constant 2003 Canadian dollars). Net earnings continually declined from 1982 onward to a low of \$7.4 million in 1989. There was a modest recovery in earnings throughout the 1990s as net earnings ranged between \$34.3 and \$55.8 million. In 1999 the Pool posted its first net loss (\$14.3 million); net losses have been reported each year since. In 2000 the Pool experienced its largest net loss to date (\$97.7 million).

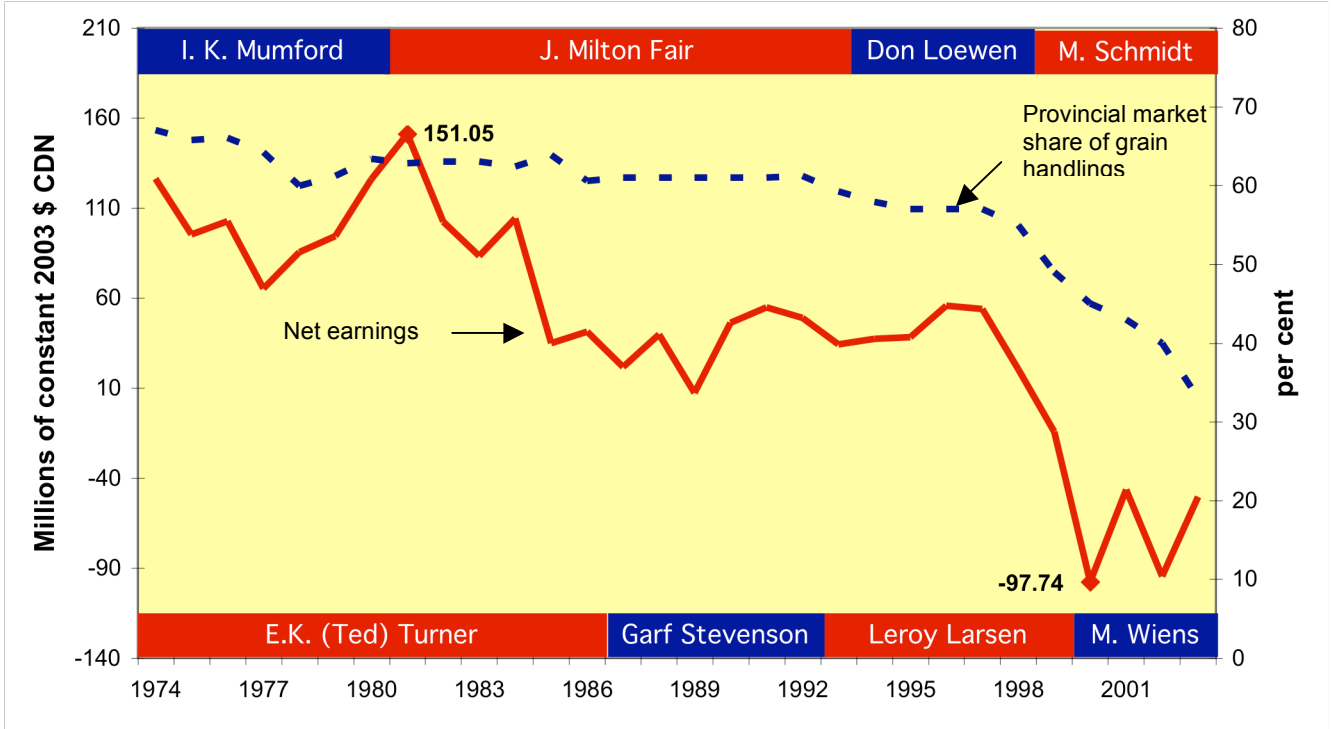


Figure 1 SWP real net earnings (constant 2003 C\$) and provincial market share of grain handlings (1974–2003).

Source: SWP Annual Reports; Schroeder et al.

The SWP’s provincial market share of grain handlings (dotted line in figure 1) reached 67 percent after its 1972 joint takeover of Federal Grain enabled the co-op to have a virtual monopoly at 217 elevator locations (Fairbairn, 1984, 200). Market share remained relatively stable into the 1990s; for example, in 1992 the Pool’s share of provincial grain handlings was 61.2 percent (SWP Annual Report, 1992). Market share has fallen significantly since 1999, which is the same timeframe for the Pool’s most dramatic decline in net earnings. The Pool’s current (2003) share of provincial grain handlings is approximately 33 per cent (Schroeder and Chim, 2003).

Figure 2 shows the Pool’s long-term debt (measured in constant 2003 Canadian dollars) from 1974 to 2003 and the majority of capital investments in each of the last three decades. Capital investment in the 1990s was significant, with investments in this decade outnumbering the previous two decades combined. One of the major capital investments in the 1990s was Project Horizon, a \$270 million upgrade and consolidation of the Pool’s grain handling division (SWP Annual Report, 1998). The Pool also made its first foreign direct investments in the 1990s, with the purchase of facilities in England, Poland and Mexico (SWP Annual Report, 1997).

The solid line in figure 2 shows the Pool’s long-term debt from 1974 to 2003. Long-term debt was relatively constant from 1974 to 1996 and never rose above \$160 million.

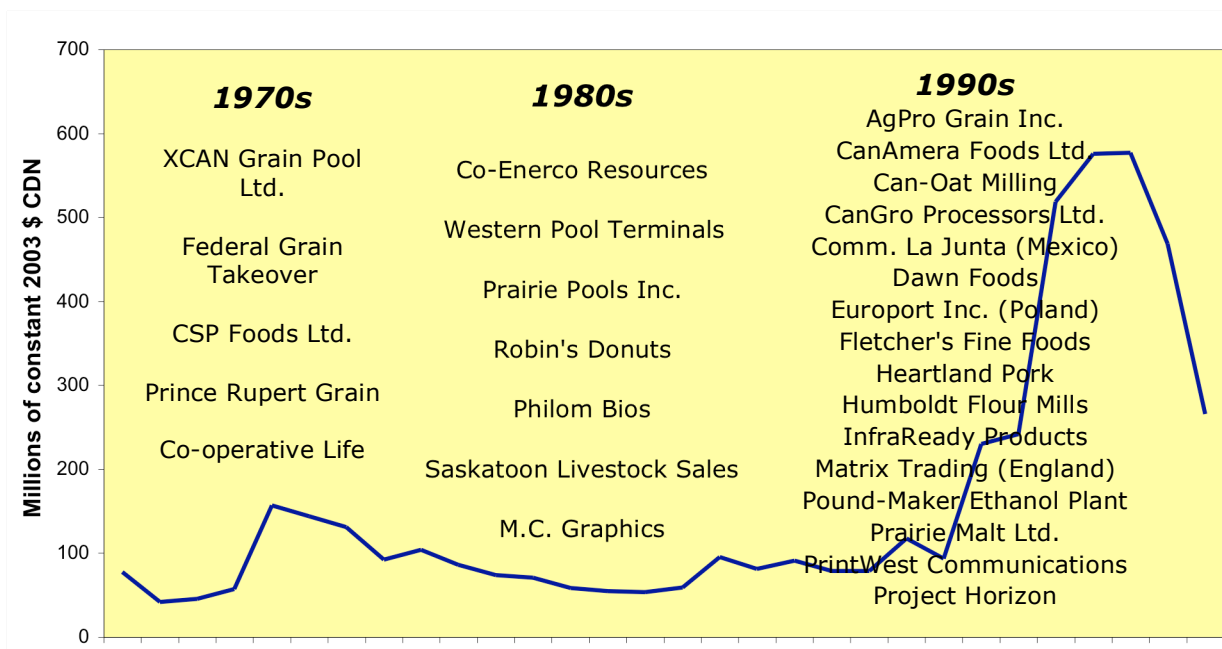


Figure 2 SWP long-term debt and acquisitions (1974–2003).

Source: SWP Annual Reports 1974-2003.

The numerous acquisitions in the 1990s resulted in a rise in long-term debt from \$93.6 million in 1996 to over \$518.7 million in 1999. A management change in 1999 resulted in the sale of several major business lines, which decreased long-term debt by \$311 million from 2001 to 2003.

One reason the Pool was able to take on this debt was its move to become publicly traded on the Toronto Stock Exchange in April 1996 (Saskatchewan Wheat Pool, n.d.). The Pool believed that in order to maintain market share and remain competitive it had to continue diversifying its activities and modernize its grain handling facilities. Since nearly half of the Pool’s members were set to retire in the 1990s – and in doing so they would take their retained member equity with them – it was believed that a capital shortage was likely (CBC Saskatchewan). The Pool’s solution was to convert the retained member equity to tradable Class B shares, thus providing a much more long-term source of equity (Saskatchewan Wheat Pool, 1994). In spite of maintaining this equity, as well as adding more through a 1998 share offering, the Pool’s debt-to-equity ratio rose significantly (Saskatchewan Wheat Pool, 1998). In 1985 the Pool’s debt-to-equity ratio was 0.61, by 1995 it had risen to 0.72, and in 2000 the ratio was unmanageably high at 1.38 (SWP Annual Reports). It is interesting to note that the Pool had previously experienced high debt levels. For instance in 1973, the debt-to-equity ratio was 2.46, a result of the debt acquired to purchase Federal Grain Company (SWP Annual Report, 1974).

The ability to service this debt depends in large part on the Pool’s market share along with the price markup the Pool is able to charge. As figure 1 shows, market share dropped

sharply beginning in 1999, leading to substantial net losses. A key factor in determining market share is member commitment. The next section presents evidence that member commitment at the Saskatchewan Wheat Pool has declined over the last 20 to 25 years.

Evidence of Declining Member Commitment

As outlined in the Issue section of this article, a number of authors have indicated that member commitment in co-operatives may be falling (Fulton, 1999; Fulton and Giannakas, 2001; Richards, Klein and Walburger, 1998; Burt and Wirth, 1990). This section examines the evidence of falling member commitment among SWP members from the 1970s through 2000. Five specific events are identified: (1) a lack of candidates for delegate elections; (2) the construction of inland grain handling terminals; (3) the pricing of farm supplies; (4) the Crow Rate debate; and (5) the closure of the Pool's numerous small wooden elevators.

In the SWP's democratic structure, members directly elect delegates in their respective districts; the delegates from each district then elect a representative to the board of directors (SWP Annual Report, 2000). There were sixteen districts until April 2001, when the number of districts was decreased to twelve and two outside advisors were appointed to assist the board members (SWP Annual Report, 2001). The structure was changed again in 2003 as a requirement of the SWP's debt restructuring agreement; there still remain twelve delegate-elected board members, but now there are also four independent board members elected by the delegates from a list of nominees selected by the corporate governance committee (SWP Annual Report, 2003).

In the late 1970s and the early 1980s there was a lack of candidates to run for Pool delegate elections (Fairbairn, 1984, 205). While some positions were being filled by acclamation, the situation had worsened to the point that by 1981 nearly 10 percent of the open positions did not have a single nomination. The delegate structure provides members with direct board and management contact and gives the members a role in the co-operative's decision-making process. A nomination shortage provides an indication that members lacked a desire to be involved in the running of their co-op and/or they felt involvement as a delegate had little impact on the co-op. Both of these interpretations are suggestive of falling member commitment.

In 1970 the Palliser Triangle Wheat Grower's Association (PTWGA) was formed and it "quickly became a major irritation for Pool leaders" (Fairbairn, 1984, 215). The members of the PTWGA questioned the power held by the Pool within the grain handling industry and wondered whether the Pool had altered its focus from addressing members' problems to furthering its corporate stance. Specifically, PTWGA members wanted to have (1) farmers rewarded financially for higher protein levels; (2) grain cleaned at the point of production in order to avoid paying freight on dockage screenings; and (3) elevators focused on moving grain rather than storing grain. The construction of a farmer-owned inland terminal at Weyburn, Saskatchewan became one of the ways the PTWGA

believed the system could be changed to address these concerns. Although SWP opposed the idea of an inland terminal, construction of the Weyburn Inland Terminal (WIT) went ahead, with 1,600 farmers in the Weyburn area purchasing \$1000 shares. WIT became operational in November 1976; it was the first of 11 inland terminals that currently operate in the province of Saskatchewan (Herman, 2003; Driver, 2001). The effort of farmers to build an inland terminal in the face of strong opposition is an indication that members perceived that the Pool was not satisfying their needs and suggests that member commitment was weakening.

In 1982, a communications study conducted by the Pool indicated that a substantial number of members believed the Pool was overpricing farm supplies compared to competitors (Fairbairn, 1984, 235). One source of this dissatisfaction may have been the Pool's method of pricing. The Pool at the time had a uniform pricing philosophy in which all members paid the same prices for farm supplies regardless of volumes purchased (Fairbairn, 1984, 193). Given the diversity that existed in the size of members' purchases and the likelihood that competitors would target larger purchasers with volume discounts in an attempt to lure them away from the Pool, the adoption of a uniform pricing policy by the Pool meant that it was relying on member commitment to some degree to keep members buying from the Pool. The complaints regarding the Pool's prices on farm inputs indicate that members were not pleased at having their commitment tested in this fashion and that perhaps the commitment was not as strong as management believed.

The Pool's uniform pricing philosophy was abolished with the introduction of AgShare in 1996 (SWP Annual Report, 1996). AgShare was a rewards incentive program based on the amount of business a member conducted with the Pool. This program was one of the first indications that the Pool had shifted from uniform pricing to differential pricing for its members, and suggests that falling member commitment was becoming a significant business issue. Institution of this program fourteen years after the 1982 survey on farm input prices reflects a response time that was likely too long to allow restoration of lost member commitment once the policy was changed. AgShare was eliminated in 1998 and never reinstated despite Pool delegate efforts (Ewins, 1999a), thus compounding the problem.

A major agricultural policy issue in the 1970s, 1980s and 1990s was the Crow Rate subsidy and the manner in which it should be paid (Fulton, Rosaasen and Schmitz, 1989). The SWP and its membership were very involved in the debate around the Crow Rate, a debate that highlighted a significant division in Pool membership. At the 1980 and 1981 annual meetings, Pool delegates voted in favour of negotiating the sharing of railway costs between the railways, government and producers (Fairbairn, 1984, 226; Ewins, 1981a). Pool members were displeased with the outcome of these votes since the long-established stance of the SWP was to not negotiate on the Crow Rate.

The delegates argued that they took the position they did because the transport minister, Luc Pepin, had pressured them to show they were willing to negotiate or face

being left out of future negotiations (Ewins, 1980). The president of the National Farmer's Union, Ted Strain, sided with Pool members and openly proclaimed that the outcome of this vote had divided farmers and hurt the Pool (Ewins, 1981b). At a National Farmers Union "Keep the Crow" rally, members expressed their concern by passing a recommendation that Pool president Ted Turner resign.

In 1983 the transport minister announced legislative changes to the Crow Rate that called for the railway subsidy to be shared by farmers and railways (Saskatchewan Wheat Pool, 1983a). The three prairie pools (Saskatchewan Wheat Pool, Manitoba Pool Elevators and Alberta Wheat Pool) and the Quebec farm group Union des Producteurs Agricoles aggressively lobbied for the act's subsidy clause to be revised (Western Producer, 1983a). Pepin succumbed to the lobbying and amended the legislation so that the subsidy would remain entirely with the railways (Western Producer, 1983b). This result irritated representatives from the Prairie Farm Commodity Coalition, the Canadian Cattlemen's Association, United Grain Growers and Manitoba Farm Bureau, as these groups wanted the Crow benefit payments to be paid directly to farmers (Wilson, 1983).

The Crow debate highlights a reduction in member commitment to the Pool and the policies it supported. In the early 1980s, almost all farmers in Saskatchewan were members of SWP. As evidenced in the positions put forward by groups like the Prairie Farm Commodity Coalition, the Canadian Cattlemen's Association and United Grain Growers, farmers were not united in their positions on the Crow. While cattle producers generally favoured a change in the method of payment so farmers would be paid the subsidy, grain farmers were often split, with some favouring paying the railways and others favouring paying the farmers. While the Pool enjoyed considerable support among those farmers who wished to see the Crow payment go to farmers, it was not supported (and was in some cases strongly opposed) by those who wished to see the Crow payment go to the railways. This opposition to the Pool's policy positions reduced the likelihood that some farmers would deliver grain to the Pool, even if it offered competitive prices.

The Pool's decision in the 1990s to upgrade and consolidate its grain handling facilities through the construction of inland terminals and the closure of almost all of its traditional elevators is widely identified as a damaging factor to member commitment (Ewins, 1999b). As part of Project Horizon, the Pool constructed 22 new facilities and closed several hundred country elevators (SWP Annual Reports, 2000–2003). While closing a local elevator may have made economic sense in terms of lowering the Pool's costs of handling grain and earning premiums from the railways for providing larger train runs, the loss of a local elevator that farmers could easily and inexpensively access and that provided economic spin-offs to the local community left farmers bitter and reluctant to deliver to the Pool (Sproat, 1994). Farmers began putting the cost of trucking ahead of member commitment to the Pool and hauling their grain to the closest elevator even if it was not a Pool station.

Theoretical Framework

The previous section presented evidence that member commitment to the Pool declined over the 1980s and 1990s. The purpose of this section is to develop a model that links declining member commitment to the market and financial performance of a co-operative. The basis of the model is found in Fulton and Giannakas (2001).

In the simplest case, consider a market with two firms – a co-operative and an investor-owned firm (IOF) – that sell a product to a group of farmers. The utility a farmer gets from purchasing the good from either the co-op or the IOF is given by

$$(1) \quad U_c = U - p_c + \lambda\alpha \quad \text{if the product is purchased from the co-op and}$$

$$(2) \quad U_i = U - p_i + \mu(1-\alpha) \quad \text{if the product is purchased from the IOF,}$$

where U_c and U_i are the net consumer benefits associated with purchasing a unit of the product from the co-op and the IOF, respectively. The parameter U is the per unit benefit associated with the consumption of the physical product/service and is common to all consumers. The prices charged by the co-op and the IOF are p_c and p_i , respectively. The parameters λ and μ are non-negative utility enhancement factors while the variable α takes values between zero and one and captures heterogeneous farmer characteristics. The term $\lambda\alpha$ gives the utility that farmer with characteristic α obtains from patronizing the co-op, while the term $\mu(1-\alpha)$ is the utility this farmer gets from conducting business with the IOF. Thus, the terms $\lambda\alpha$ and $\mu(1-\alpha)$ can be thought of as commitment parameters, since they show the utility a farmer gets from conducting business with the co-op and the IOF, respectively. The critical parameter for the purposes of this article is λ , since it provides a measure of the commitment farmers have to the co-operative.

The above model can be interpreted according to work by Meyer and Allen (1997). In their model, agents (in this case, farmers) can be thought of as possessing two types of commitment: affective and continuance commitment. Continuance (or calculative) commitment is the degree to which a member “needs” to remain with an organization; it can be represented by the term $U - p_c$ or $U - p_i$ in the utility function and is based on the price that is offered for the good that is being purchased. Affective commitment is the degree to which an agent “wants” to remain with an organization; it can be represented by the term $\lambda\alpha$ and $\mu(1-\alpha)$ for the co-op and IOF, respectively.

Figure 3 graphs the farmers’ utility functions described in equations (1) and (2). The consumer at α^* where the two utility functions intersect represents the farmer who is indifferent between conducting business with the co-op and the IOF. For tractability, assume that farmers are uniformly distributed with respect to the characteristic α

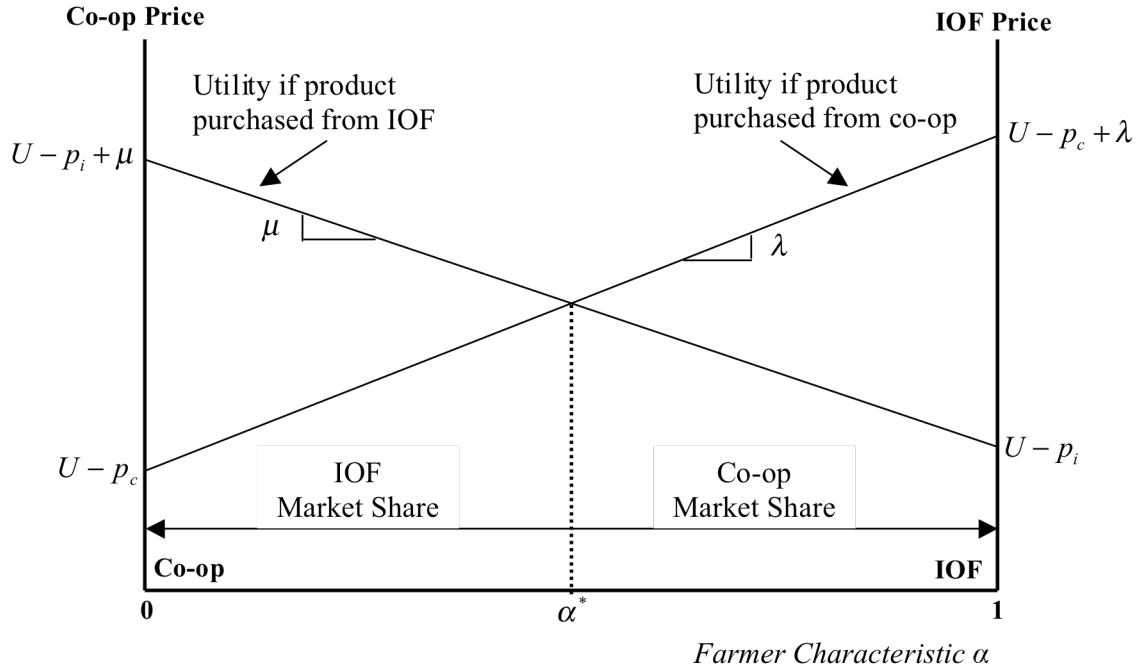


Figure 3 Member commitment model and market share determination.

Source: Fulton, 1999

between the polar values of zero and one; as a result, α^* determines the market share of the IOF. The market share of the co-op is given by $1 - \alpha^*$. Mathematically, the market shares of the IOF and co-op can be written as:

$$x_i = \frac{\mu - p_i + p_c}{\lambda + \mu} \qquad x_c = \frac{\lambda - p_c + p_i}{\lambda + \mu}$$

Reduction in Member Commitment

The impact of a reduction in member commitment, assuming no change in the co-op’s price p_c , is determined by examining the effect of a change in the commitment parameter λ on the co-op’s market share. Since $\frac{\partial x_c}{\partial \lambda} > 0$, a reduction in member commitment leads

to a loss in market share if the co-op does not change its pricing strategy.

This loss of market share will also lead to a loss of profits, since profits are directly related to the product of market share and the price markup. Formally, the co-op’s profits π_c can be written as $\pi_c = (p_c - m)x_c - F$, where m is the (constant) marginal cost of the co-op and F is the fixed cost. A reduction in the price (and hence in the markup $p_c - m$) charged by the co-op can help restore market share (consider the impact of an upward

shift in the $U - p_c + \lambda'$ curve), but profits are still affected, since the co-op earns a lower markup on its sales.

The relationships among member commitment, the price markup and market share and among member commitment, the price markup and profits can be derived mathematically. The first relationship is derived by substituting the best response function of the IOF into the market share equation of the co-op and solving for the price markup as a function of member commitment and market share (see Fulton and Giannakas, 2001, for a derivation of the IOF's best response function). The second expression is derived by substituting the price markup and the market share expression derived immediately above into the co-op's profit expression, and solving for the price markup as a function of member commitment and profit. Graphing the relationship that exists between the price markup and the member commitment parameter in these two expressions results in the iso-market share and iso-profit curves, respectively (the iso-market share expression, for instance, shows the relationship between the price markup and the member commitment parameter when market share is held constant).

Formally, the equation for the iso-market share is given by

$$(3) \quad p_c - m = \mu(1 - 2x_c) + 2\lambda(1 - x_c),$$

while the iso-profit equation is given by

$$(4) \quad x = \frac{1}{2}(2\lambda + \mu) \pm \frac{1}{2}\sqrt{(2\lambda + \mu)^2 - 8(\bar{\pi} - FC)(\lambda + \mu)}.$$

Figure 4 graphs the relationship shown in equation (3), while figure 5 graphs the relationship shown in equation (4). As figure 4 illustrates, the iso-market share curves shift up and become steeper as the market share decreases. Thus, the market share associated with iso-market share curve x'_c is less than the market share denoted by iso-market share curve x_c . A decrease in member commitment from λ to λ' , without a change in the co-op's price markup ($p_c - m$), leads to a fall in market share from x_c to x'_c (point A to B in figure 4). If the co-op wants to maintain its market share in the face of a drop in member commitment it will have to drop its price markup to $(p_c - m)'$ in order to move along the iso-market share curve x_c (point A to C in figure 4).

The impact of reductions in member commitment and/or the price markup on the co-op's profit is shown in figure 5, which graphs three different iso-profit curves. The curve labeled $\pi = 0$ represents the combination of price markup and member commitment that results in zero profits for the co-op. The curves to the right and the inside of the $\pi = 0$ curve show the combinations of price markup and member commitment that result in

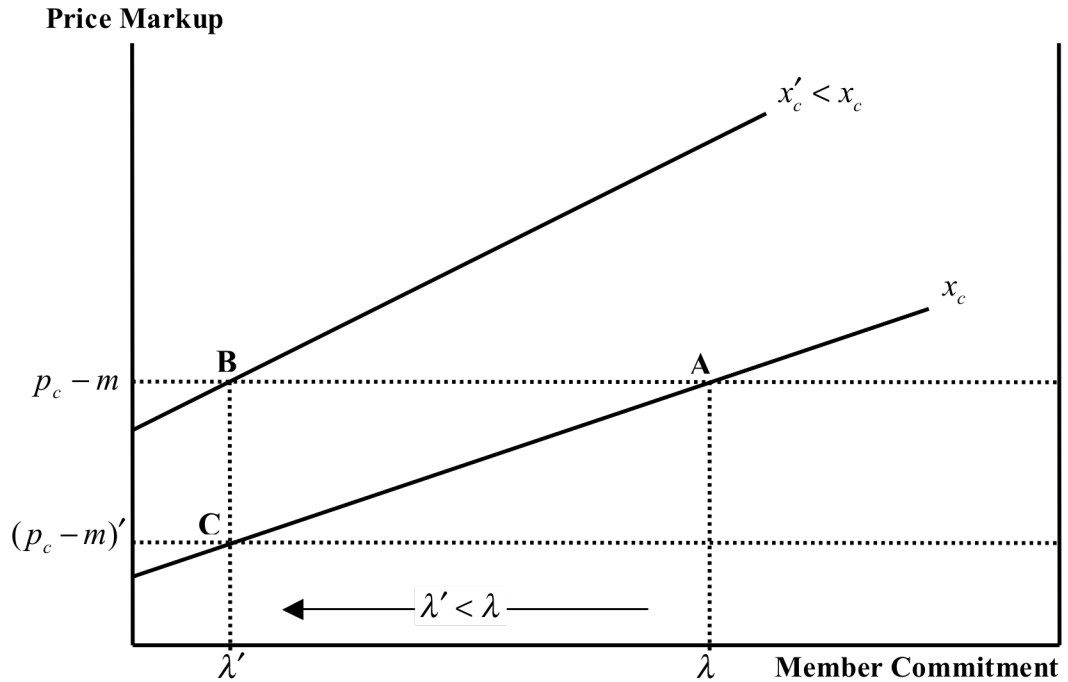


Figure 4 Iso-market share curves for the co-operative.

increasingly higher levels of profit. For any given price markup, the greater the member commitment, the greater will be the market share and the greater will be the co-op’s profit. The area to the left of the curve $\pi = 0$ represents negative profits (Fulton, 1999).

Suppose member commitment is initially at λ . A drop in member commitment to λ' , accompanied by maintenance of the co-op’s price markup at $p_c - m$, will lead to falling profits (profits now equal $\pi' < \pi$). The co-op can retain its initial profit level (π) by increasing its price markup to $(p_c - m)'$ (the movement to C in figure 5). However, as shown in figure 4, an increase in the price markup will lead to a falling market share, particularly if member commitment has fallen.

The position of the iso-profit curves is also determined by the level of the co-op’s fixed costs (recall that F is an argument in the iso-profit function in equation (4)). An increase in fixed costs shifts the entire family of iso-profit curves rightward and inward. Put another way, a higher fixed cost requires a higher market share and/or a higher markup to generate the same level of profit. A shift of the iso-profit curve due to an increase in fixed cost increases the potential for negative profits in the face of decreasing member commitment. For instance, while the member commitment/price markup combination $\{(p_c - m)', \lambda'\}$ generates positive profits for the fixed costs that are implied

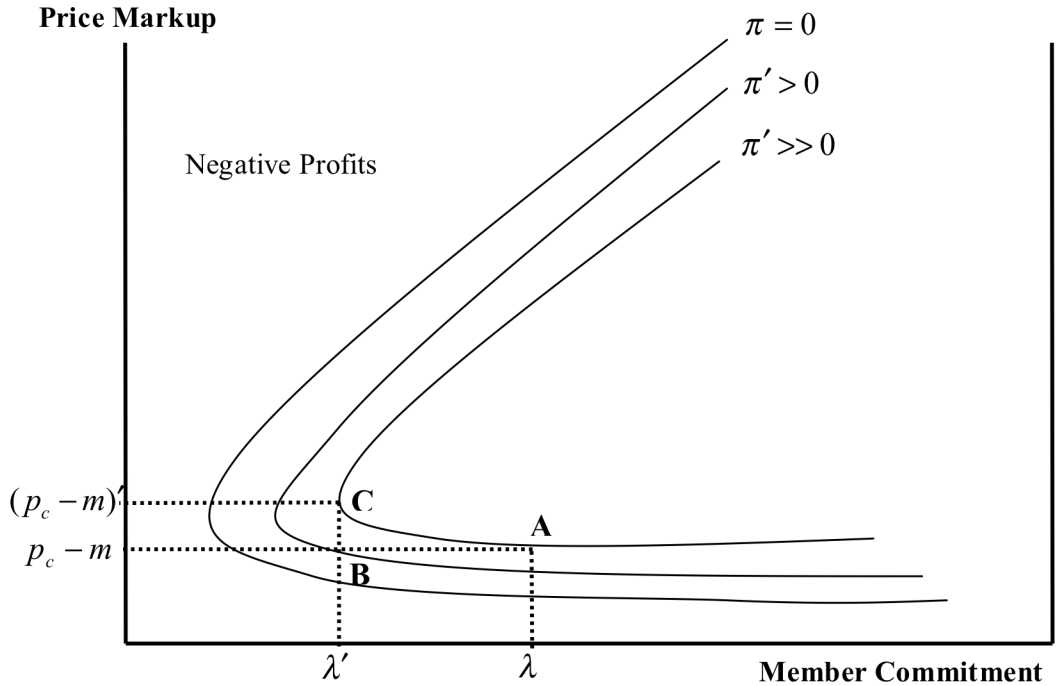


Figure 5 Iso-profit curves for the co-operative.

Source: Fulton, 1999

by the graph in figure 5, an increase in fixed costs could result in this combination generating negative profits.

Analysis

The events encountered by the Pool since the late 1970s closely follow the predictions of the member commitment theory sketched out above. As was discussed earlier in this article, member commitment at the Pool in the 1980s – as evidenced by concerns over pricing philosophy and the debate over the Crow – was falling. Faced with this lower member commitment, the Pool lowered its price markup in order to retain market share. Interpreted in the context of figure 4, the Pool moved along its iso-market share curve from point A to C. This drop in its price markup, combined with the constant market share, lead to a drop in profits.

In the 1990s, the Pool’s ambitious capital investment activities lead to a substantial rise in fixed costs. Interpreted in the context of figure 5, the rise in fixed costs shifted the family of iso-profit curves rightward. While the Pool might have been able to generate positive profits had member commitment been maintained, such was not the case. Instead, a continued fall in member commitment resulted in the Pool operating outside its iso-profit curves and earning negative profits (as was noted earlier, the Pool has posted net losses since 1999). The Pool attempted to increase its profits by raising its price markup,

which in combination with falling member commitment lead to the dramatic drop in market share the company experienced.

In summary, the Pool can be interpreted as moving along its iso-market share curve in the 1980s; the result was declining net earnings while the market share was retained. This maintenance of market share may even have contributed to a belief at the Pool that it could count on its members' business, a factor that may have been at work when the Pool made its large investment in new grain handling facilities. Indeed, it is possible that had the Pool been able to retain its market share after it undertook its major investments in the 1990s, it might have been able to earn a profit. However, this did not occur; the Pool experienced a sharp drop in market share that, along with the increased debt load, resulted in the significant losses the Pool has experienced since 1999.

Conclusion

The Saskatchewan Wheat Pool has experienced a dramatic reversal of fortune over the last 30 years. In the 1970s and the early 1980s the Pool was clearly the dominant player in the grain handling sector in Saskatchewan, and indeed on the Prairies. It had a market share of more than 65 percent and it played a major role in farm policy debates and policy formation. Over the next 20 years, the role of the Pool in Saskatchewan and Prairie agriculture declined somewhat. Although it was still the largest grain handling company, its earnings had slipped and it was no longer a dominant force in agricultural policy (in large part because the Crow debate indicated that the Pool could not speak for all Prairie farmers on agricultural policy issues). One interpretation of the reason for this slip in the Pool's influence was the loss of member commitment that it experienced.

In the 1990s, the Pool attempted to reestablish itself as the major player in the industry by undertaking a very large capital investment program. This program, and in particular the construction of new country elevator facilities, appears to have been built on a belief that the Pool had access to a large and committed membership. This belief, however, was incorrect; the dramatic losses of both market share and profitability that the Pool experienced beginning in the late 1990s are consistent with the view that member commitment at the Pool had declined substantially. Member commitment is the glue of a co-op's existence, and the evidence suggests this glue had weakened considerably; the weakening was not an overnight phenomenon but rather a process that had been underway since at least the early 1980s.

While this article provides some evidence that the Pool's market and financial fortunes were affected by changes in member commitment, additional research is needed to examine and weigh the other factors that have affected the SWP over the years.

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