



## Interpreting the Farmers Share of the Retail Dollar

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*“The established method of reporting farmer’s share and price spread as a percentage of the consumer’s food dollar has contributed to a wide misunderstanding of the true economic relation of agriculture to food processing and distribution. It has made them appear as competitors for a fixed value, rather than as partners in the production of greater value.” – Atchley<sup>1</sup> (1956)*

There has been renewed interest in the farmer’s share of the retail dollar recently. But it is somewhat unclear what these numbers are, how they have changed and what they actually mean.

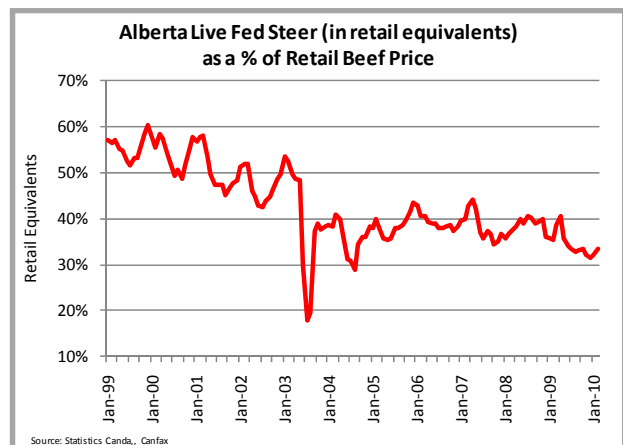
### Price Spreads and Margins – What are they?

Price spreads, gross margins, and net profits measure different components of the spread between what farmers receive and consumers pay. **Price spreads** measure the difference between prices of an equivalent quantity of product at different marketing levels. **Gross margins** refer to the difference between dollars paid and dollars received for beef by a particular firm. They represent the tab for a packer’s or retailer’s labor cost, packaging, overhead, other costs and any net profit. **Net profit or loss** is the measure of the difference between gross margin and the total operating costs of a firm.

The Farmers Share of the Retail Dollar is calculated rather crudely by taking the average live fed steer price \$/cwt received at the feedlot in retail equivalents divided by the average retail price \$/cwt of beef (sourced from Statistics Canada). The reason the live price is adjusted to retail equivalents is due to the difference in volume sold at each level. A 1350 lb live steer may be sold at the feedlot, but only 800 lbs is available for sale at the wholesale level and approximately 580 lbs at retail. Therefore, in December 2009 the average Alberta fed steer price was \$77.50/cwt but when adjusted to retail equivalent is \$165.8/lb and the retail beef prices was \$578.2/cwt resulting in the farmer share of the retail dollar being 31% (the overall trends are the same without the adjustment). Like price spreads this does not take into account changes in cost or profitability at any level.

### How they have Changed

A declining trend in the farmer’s share has been observed in all major commodities over the last 30-50 years from wheat, soybeans, and corn, to beef, pork, and poultry. In January 2000 the Farmers share was 56% and 10 years latter in January 2010 it was 31%. After declining from 1999 to 2004 the Farmer’s Share has stabilized in recent years and has ranged between 31% and 43% since 2005. The question to ask is what is it about these commodities that are the same and has contributed to this trend. Consumers are getting further away from their food. The average distance food travels



<sup>1</sup> Atchley, F.M. “Alternative Approaches to the Marketing Margin: Farmer’s Share Concept” J. Farm Econ. 38(1956): 1573-1585.

before getting to the consumer has increased dramatically over the years. In addition, consumers are looking for value added products.

**What does it all mean?**

Ultimately, changes in the farmer’s share of the retail dollar statistic depend upon supply and demand elasticity’s and the size and source of the shocks to the marketing chain. For instance consider Figure 1 which shows the relevant marketing linkages for a two sector marketing chain, representing the beef industry, which is separated into a slaughter (farm) sector and retail (processing) sector.

Where the farm sector is represented by:

(D<sub>f</sub>) Beef packing plants demand for slaughter cattle and

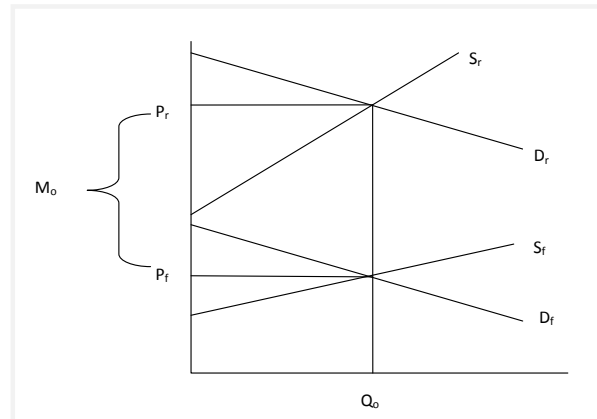
(S<sub>f</sub>) the supply of slaughter cattle by feedlots.

And the retail sector is represented by:

(D<sub>r</sub>) consumer demand for beef and

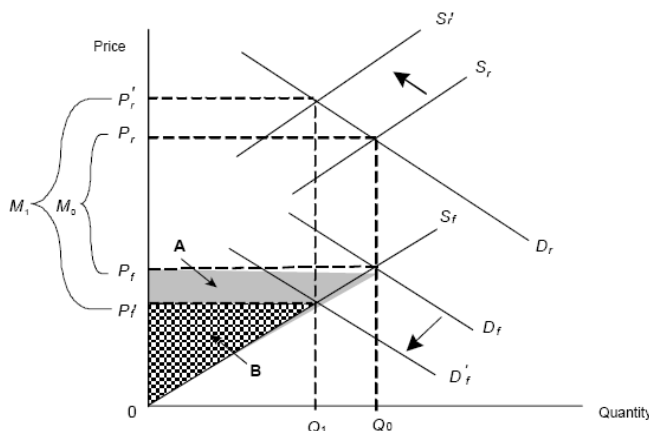
(S<sub>r</sub>) the supply of beef offered by retailers

The difference between the equilibrium prices (P<sub>r</sub> – P<sub>f</sub>) represents the farm to retail price spread or marketing margin (M<sub>0</sub>).

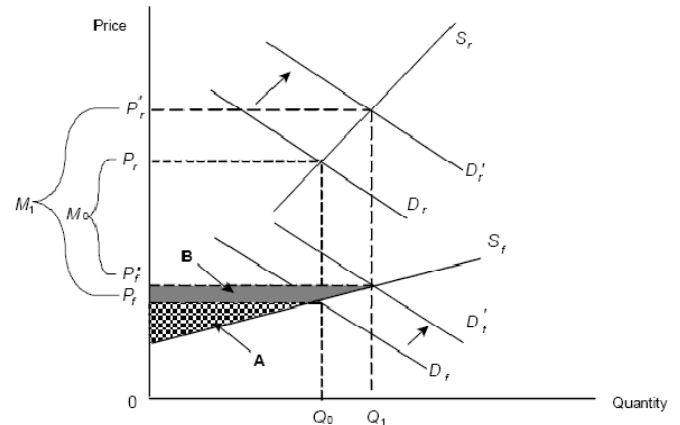


**Figure 1. Retail and Farm level Supply and Demand**

Figure 2 shows an increase in food processing labor costs at the retail/processor level and the effect on the marketing margin and producer surplus. This cost increase shifts the supply of beef retailers are willing to provide from S<sub>r</sub> to S<sub>r</sub>' generating a new equilibrium retail price (P<sub>r</sub>') and consequently a new demand for slaughter cattle and slaughter price (P<sub>f</sub>'). The new larger marketing margin is represented by M<sub>1</sub>. In this case the farmer’s share statistic would decline because of the lower slaughter price which translates into a smaller percentage of the higher retail price.



**Figure 2. The Effect on the marketing margin and producer surplus from an increase in food processing labor costs<sup>2</sup>**



**Figure 3. Effects on the marketing margin and producer surplus from an increase in retail demand<sup>3</sup>**

<sup>2</sup> Brester, G.W. J.M. Marsh, J.A. Atwood. "Evaluating the Farmer’s Share of the Retail Dollar Statistics" Journal of Agricultural and Resource Economics 34(2):213-236. August 2009, Western Agricultural Economics Association. <http://ageconsearch.umn.edu/bitstream/54543/2/JARE,Aug09,%2301R,pp213-236.pdf>

In addition, producer surplus (which is a measure of producer welfare and is calculated as the area below the price received and the cost of producing it as indicated by the supply curve) would decline from the A+B area to just B as slaughter cattle prices and quantity declined. Thus, an increase in the cost of labor increases the marketing margin and reduces both the farmer's share of the retail dollar and producer surplus. There are a number of things that would result in this same result including adding value to a product which increases cost at the retail/processor level. So point proven, a downward trend in the farmer's share of the retail statistic is a bad thing for the producer? Maybe not.

Let us consider the effects on the marketing margin and producer surplus from an increase in retail demand. Figure 3 shows an increase in consumer demand from  $D_r$  to  $D_r'$  which in turn increases the demand for slaughter cattle from  $D_f$  to  $D_f'$ . Retail and farm prices and quantities all increase. The marketing margin also increases from  $M_0$  to  $M_1$ . However, because the retail price increases proportionately more than the slaughter price - the farmer's share of the retail dollar declines. This is caused by a relatively flat supply curve which is the nature of commodity products because when price increases/decreases there are many producers who increase production resulting in a relatively larger increase/decrease in supply. It should be noted that while the marketing margin increased, the producer's surplus also increases from area A to area A+B. Indicating the farm level is better off despite the farmer's share of the retail dollar being lower.

## Conclusions

Over the years, the farmer's share of the retail dollar statistic has been incorrectly used as a proxy for farm/ranch profitability and producer welfare. It has even been used as an indicator of anti-competitive behavior in the food processing industry. However, the farmer share of the retail dollar and their counterparts, marketing margins, provide no hard evidence of imperfect competition/marketing power in the food processing industry because the trends in these numbers can be attributed to any number of changes within industry.

*"I think we can say that the farmer's best interests are not always served by increasing the farmer's share of the consumer's dollar. If they were, then farmers would sell directly to consumers. But the marketing system which we have developed does the job cheaper than farmers can do it. If an added marketing service increases the market or the value of the final product more than the costs, farmers stand to benefit for the added service even though it may lower the farmer's share."* – Atchley (1956)

Therefore, the farmer's share of the retail price statistic is not an accurate proxy for market power or imperfect competition. In fact, little or no reliable information is conveyed by this statistic. Consequently this data should not be used for policy purposes.

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<sup>3</sup> taken from Brester et al. 2009