The Big Hog Cycle - What goes down, must go up?

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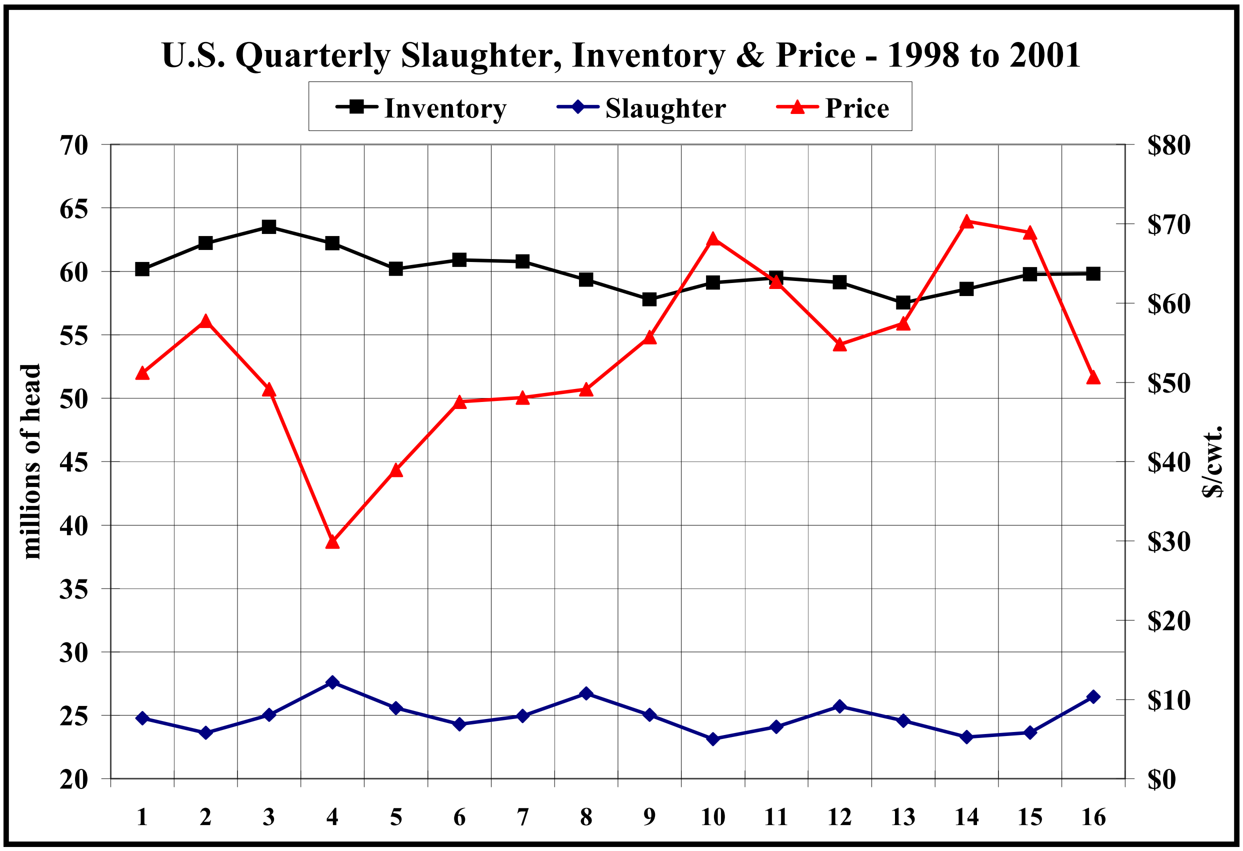
What is the hog cycle?

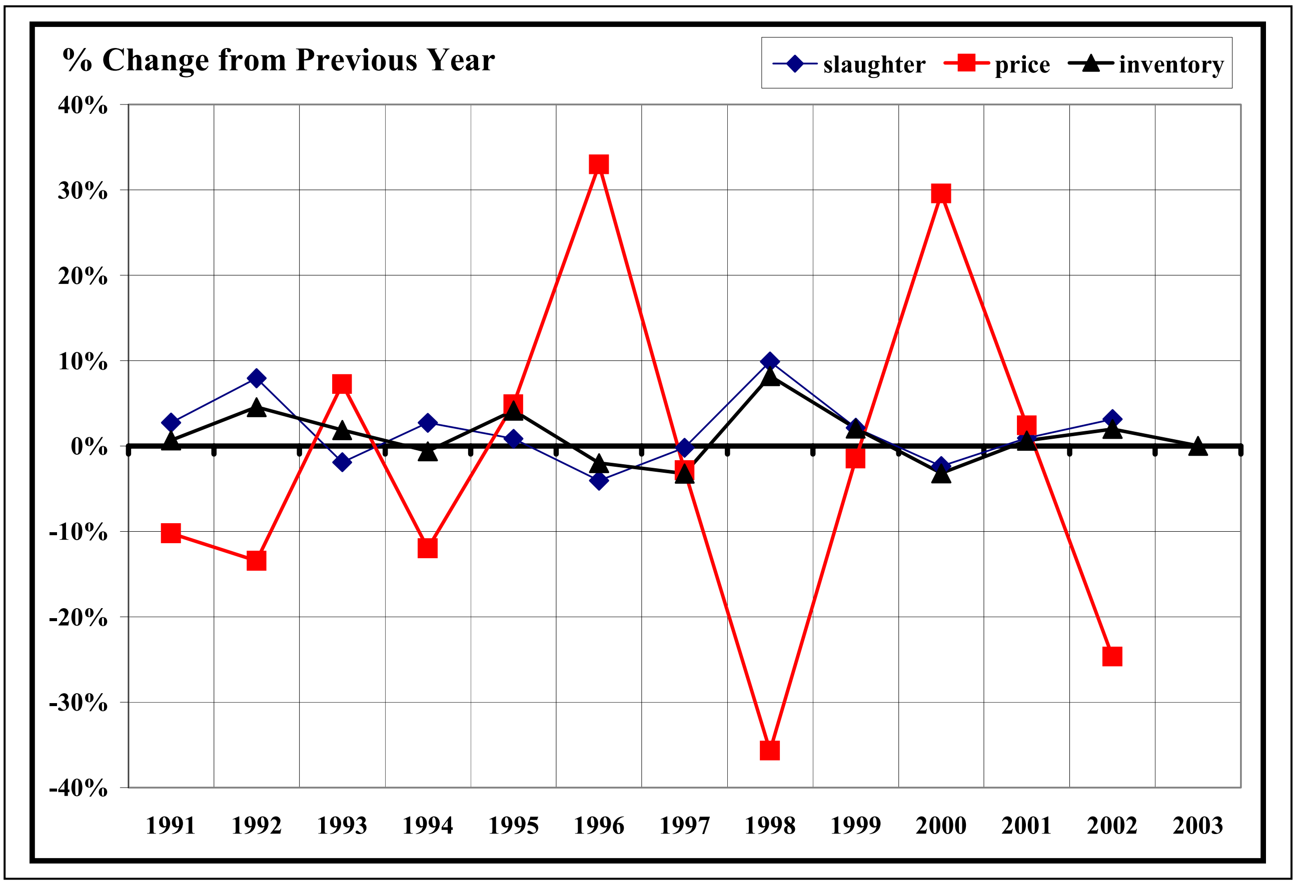
In theory, the hog cycle is four years in length. It is the interaction of the pig inventory, hog slaughter, and hog price. As the pig inventory grows, the number of hogs slaughtered increases and the price decreases. As the profitability decreases, marketing more sows and not keeping as many replacement gilts reduces the breeding herd. This creates a further increase in slaughter numbers. The graph below provides an example using United States (U.S.) data from January 1998 to December 2001 on a quarterly basis.



With the profitability in the industry in 1996 and 1997, the inventory of pigs started to increase and it peaked in the third quarter of 1998. The number of pigs slaughtered increased during 1998, peaking in the fourth quarter, resulting in the low price for the cycle. The U.S. breeding herd continued to decrease for eight quarters. Slaughter decreased on a year over year basis. Because of the decreasing slaughter and inventory, prices returned to profitable levels in 2000 and 2001. Again, slaughter and inventory numbers began to creep up in 2001. This led to another price cycle low in the fall of 2002.

The various components that influence the hog market cycles are constantly changing and interacting. What about the interaction of price, inventory numbers and slaughter volume for both the United States and Canada? The graph below provides a picture of the relative percentage changes from one year to the next of these three items using the combined inventory numbers and slaughter volumes for United States and Canada. The slaughter is the combined hog slaughter of United States and Canada. For example, the percentage change shown for 2002 is 3.2% which means the combined slaughter was up 3.2% in 2002 compared to 2001. The price used is from various sources in the United States including the National Cost Price that is used for the Ontario Base Formula Price. For example, the percentage change shown for 2002 is –24.7% which means the price in 2002 was down 24.7% compared to the price in 2001. The inventory is the combined pig inventories of United States and Canada. The December 1 inventory was used for the United States and the January 1 inventory was used for Canada. For example, the inventory change shown for 2003 is 0% which means the combined inventories of December 1, 2002 for the U.S. and January 1, 2003 for Canada were the same as the combined inventories of December 1, 2001 for the U.S. and January 1, 2002 for Canada.

The graph illustrates the change in the volatility of price versus the change in slaughter volumes that the industry has been experiencing in recent years compared to the early 1990's. Is the 2003 market experiencing a similar transition year (small change in inventory numbers, slaughter volume and price) as it did in 1997, 1999 and 2001 between highs and lows?



Historically, the length of each hog cycle does vary. The underlying principal of the hog cycle is the lag time created by the biology of hogs. It takes approximately 10 months from the time a sow is bred to the time market hogs are available for slaughter. However, it is not just the biology, number of pigs, prices, and pork produced that impact on the length of a hog cycle and the swings in the numbers.

What are some other items that impact on the hog cycle?

Several items that have a direct or indirect impact on the hog cycle include:

- Corn prices and the resulting impact on feed prices
- Supply, demand and prices of competing meats (i.e. beef and chicken)
- Pork wholesale and retail prices along with the farmer's share of the retail price
- Domestic and export demand for pork
- Production efficiency (i.e. % of sows farrowing, pigs per sow, dressed weights of market pigs)
- Production technologies
- Changing consumer attitudes
- Impact of unexpected events (i.e. disease out breaks, political decisions)
- Industry demographics
- Global competition

How has the Ontario market hog price responded during the last two hog cycles and the start of the current cycle?

The following graph is based on the hog cycles from 1994 to 1997, 1998 to 2001, and the current cycle which started in 2002. The weekly Ontario market hog prices ($/ckg, 100 index) are averaged on a quarterly basis. The price for the 6th quarter (the 2nd quarter of 2003) in the current cycle is preliminary. The graph shows the price lows being posted in the 4th quarters of 1994, 1998, and 2002.

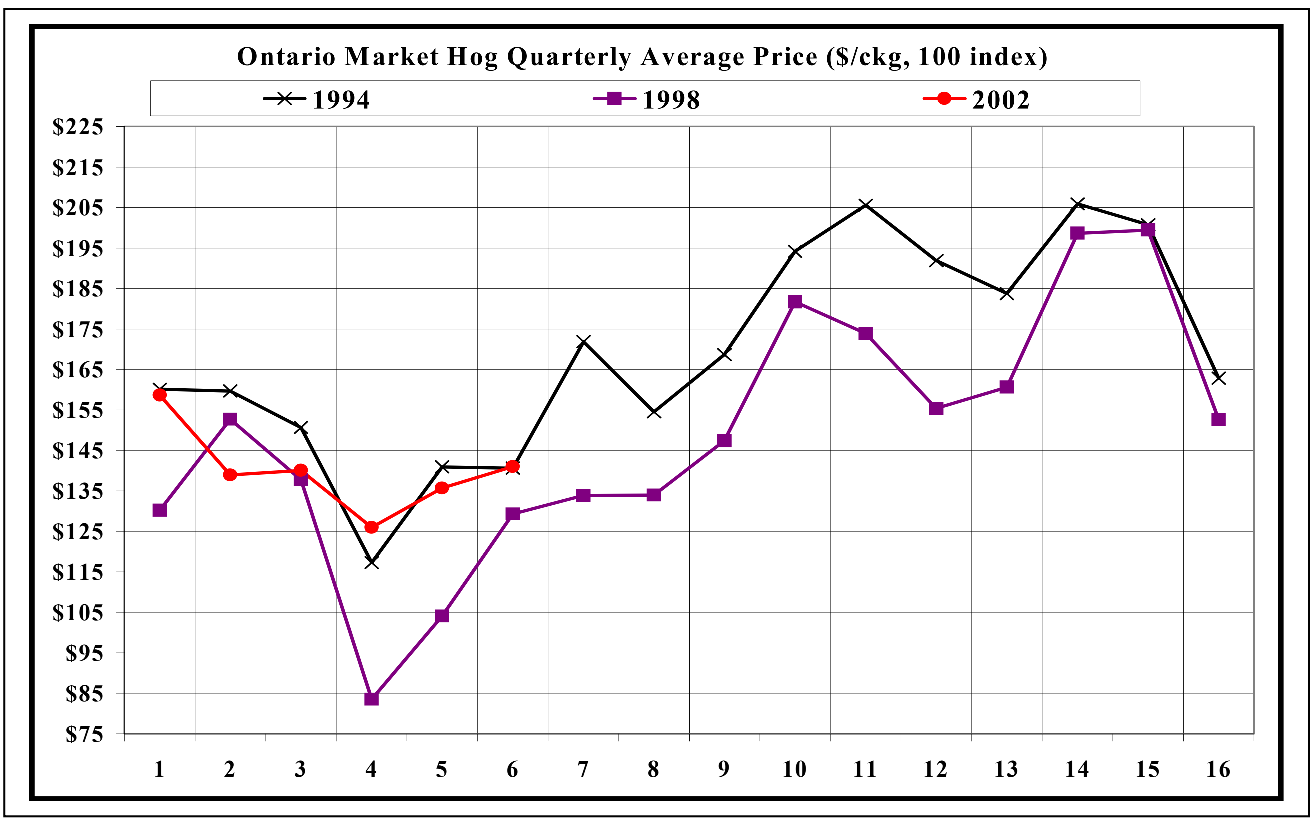


Table #1 below shows some of the statistics for the last two hog cycles and the current cycle. The figures for January 1994 to December 1997 and January 1998 to December 2001 are each based on 48 months of data. The current cycle starts in January 2002 and the data only represents what is available to date.

Table #1 – Ontario Data	**1994 to 1997**	**1998 to 2001**	**2002 to ?**
Market Hog Price ($/ckg, 100 index)	$169	$148	$140
Market Index	106.2	107.9	108.6
Dressed Weight (kg)	84.3	87.9	89.8
Market Hog Value ($/pig)	$152	$141	$137
Canadian Dollar Value	$0.7292	$0.6669	$0.6529
Corn (pickup price) $/tonne	$161	$124	$147
Soybean Meal $/tonne	$363	$305	$333
Prime Interest Rate	6.6%	6.6%	4.4%
Avg. Budgeted Cost of Production ($/ckg, 100 index)	$161	$145	$153
Ontario Production Profile - % of Total Pigs Produced			
Exported as Feeder Pigs	5%	13%	22%
Exported as Market Pigs	12%	10%	6%
Slaughtered in Canada	83%	76%	72%
Pigs Produced per Sow	14.0	17.8	
Canadian Pork Profile			
% of Pork Produced Exported at End of Cycle	32%	39%	
Average Per Capita Pork Consumption (kg)	27	29	

When making production and marketing decisions it is very important to consider both the hog price cycle and the seasonal hog price pattern. If both are indicating declining prices, the appropriate risk management tools can be considered. Current market impacts (i.e. rising Canadian dollar, Bovine Spongiform Encephalopathy situation in Canada, Country of Origin Labeling) need to be assessed to determine their impact on both the seasonal and long-term cycles. Understanding past hog cycles and knowing the results will come into play. Reading, understanding and following the market signs are the basis for making informed marketing and production decisions.

References:

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