ECONOMIC RESPONSES TO MARKET RISKS IN AGRICULTURE

edited by

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STRATFORD'S OF TEXAS EXPERIENCES IN RISK MANAGEMENT

Robert Gow*

I am not sure that we have any answers to questions on risk management, we have had a terrible 1974. Stratford started 1974 with about $24 million net worth and lost about $19 million, primarily in cattle-related businesses. Probably the unique thing is that we are still here.

The principal businesses of Stratford at the beginning of 1974 were the operation of cattle feedlots, broiler operations in the United States and Mexico, and a successful tropical plant business. Most of these were fairly large businesses and our emphasis has focused on increasing their efficiency. In the case of broilers, for example, we generally fell somewhere between the lowest cost producer and the sixth lowest cost producer in the U.S. based on published reports of other broiler operations. We had a small hog operation although this was not comparable in efficiency to the broiler and cattle operations. Our costs of producing chickens and cattle were below national averages but not below the national average in costs of producing hogs. We also farm some land, but it is not significant in our overall operations.

A cattle feedlot as practiced in the Texas panhandle consists of a large series of pens and a mill for processing feed with cattle placed in the feedlot sometimes owned by the feedlot and sometimes others. Cattle might go in at 650 pounds and be sold at 1050 or 1100 pounds. In the case of large feedlots the packers call on the feedlot almost daily for purchases.

I would like to discuss the kinds of performance Stratford has tried

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to attain, how we analyzed the risks, what happened and what kinds of lessons we learned. When Stratford was begun in 1969, we had very high objectives. We raised the money publicly to start the company; most of us had been in this kind of management before. Our performance goals were to have rapidly growing stable earnings. In 1969, we hoped to be rewarded with high stock prices and the ability to easily raise equity capital. Public capital prefers stable, growing earnings. How did we intend to achieve these objectives? We were aware of the high risks associated with our investments. Our first objective was to be a low cost producer. We had effective records and systems of analysis and put great emphasis on cost minimization. We believe to measure is to improve. We used sophisticated techniques applicable to other kinds of industrial situations to measure and evaluate our production efficiency. Of all those cattle feeders filing prospectuses with the Security and Exchange Commission in the United States during that period we achieved the lowest costs of gain. We were two cents a pound below the next highest.

We also attempted to be better financed than other producers so that we would survive adversity more effectively. Hence, we aimed for a lower degree of financial leverage during adverse periods -- lower than other producers for survival purposes. As a result, our broiler operation never lost money during periods of market adversity until 1974 while other large chicken producers were sustaining losses.

In cattle, we initially preferred not to bring in capital from sources outside the cattle industry and through our first three years, cattlemen were waiting in line to place cattle in our feedlots -- feedlots which were expanding in size every year. We had no sales force or advertising strategies other than word of mouth indications on the performance of our

feedlots.

In 1971, we made a change partially because of difficulty in filling our expanding feedlots. Even though the number of cattle on feed in the Texas panhandle was increasing rather substantially. We were not getting our share of these cattle. We still felt we were doing a very good job and could not understand the difficulties in obtaining cattle. In analyzing the problem we found that money was being brought into the cattle industry by feedlots who were going to New York, Philadephia, Boston, Chicago and other large money centers to obtain, bring back, and manage that money. The investors furnishing this money did not have access to cost of production data and other information that indicated the high degree of performance in our feedlots. Some of this money was tax oriented and some was not.

We decided that we would develop a financing program that was sounder, beter conceived and more profitable to similarly attract money. We commissioned a consulting firm to develop a computer model to be used in evaluating a time series of feeder, fat cattle and feed prices. The program used Stratford's feed conversion measures, feeder cattle prices, costs of feed, and fat cattle prices five months later to evaluate the profitability of cattle feeding over a series of feeding periods during a ten year period in the late 1960's and early 1970's. The computer simulated putting cattle on feed every week during this historical ten year period.

From the study, we concluded several things. An investor who continually placed cattle in Stratford's lots during this ten year period would have earned an average of about $17 per head. The best feeding strategy was to put cattle on feed evenly over time. The computer results suggested that there were no leading indicators of the timing of cattle placements -- a somewhat surprising result. Hence, it was best to place the same dollar value of cattle on feed every month. Our historical analysis indicated that

there never would have been a two and a half year period when this cattle investment strategy would have failed to be profitable based on historical markets and the conversion efficiency of our lots. In fact, an investor would have made a profit about 90 percent of the time over a one and a half year period.

We also examined the possibility of being wiped out. Under these historic price conditions a typical investor leveraged at a ratio of two dollars of debt to one dollar of equity historically would never have lost more than half his equity. Our investment program was three years in length, and leveraged two-to-one while most other cattle feeders offered programs with higher leverage -- three-to-one or four-to-one. Our program appeared statistically sound based on the history available to us.

As we began to sell this program our investors asked us, "if you are so sure of its reliability why not guarantee it?" We decided that, indeed, we were getting pretty sure. Hence, we developed an investment program guaranteeing investors at least 85 percent of their money back at the end of their three year commitment. This appeared statistically sound from an analysis of the risks involved. But as compensation for this guarantee we secured 15 percent of the investor's accumulated profits. Without much trouble we raised $105 million.

We thought this arrangement was quite attractive. The $105 million was not even on our balance sheet and still provided us with a return of 15 percent of the investor's profits. We found the program to be quite profitable and our feedlots operated at a very high percent of capacity for quite a long time, a necessary condition for profitability in feedlot operation.

Then, a series of events happended which caused most cattle programs, including most of ours, to be totally wiped out. The thing we missed was the absence of significant backlogs of grain when the grain sales to Russia

took place. Our historical model could not properly evaluate such an impact on prices of milo and other feed items. In May 1974, we had 25 percent of our money in cash and half of the equity in our cattle program intact. The number of cattle on feed had dropped substantially and we perceived a turn-around in the market. Most other cattle programs had pretty well gone under. The market did bottom out in June 1974 and rose to almost 50 cents in August of 1974. But we failed to anticipate the poor harvest year in 1974 and the lack of backlogs of grain. Increasing grain prices prompted a lot of cattle to come off grass and go directly to the packer. Our cattle programs were wiped out during the fall of 1974 and early winter of 1974-75.

To meet the guarantee commitments, we sold the broiler enterprise and skirted bankruptcy for several months. We had some lenders who believed in us and this helped tremendously.

As you might guess, a common question is -- "Why didn't you use the futures market?" We found the futures market to be a very difficult tool to use. If we used the futures market with our kinds of cattle programs we were essentially limiting the cattle feeders profits while he was already using us to protect against the downside risk. Since we were committed to make up 85 percent of any losses, he didn't want us hedging in the futures market to limit his potential profits. However, interestingly enough, when extremely adverse market prices occurred, the investors became concerned about our ability to meet the guarantees and many became more receptive to our use of the futures market in conjunction with guaranteed programs.

We experienced other problems with using futures markets. Suppose, for example, the cattle programs were down to 20 percent of their initial value. Then as prices go up we've got to meet the margin requirements and we've got to take the loss on the futures side in a rising market. The program

gains more equity and our guarantee problem two or three years in the future is abated. But the broker wants his margin money every single day and, unless you have substantial cash to cope with these margin requirements, it poses a substantial financing problem. In terms of general use of the futures market, one would expect that all kinds of clever things could be done. We have tried many things we hope were clever. Some of them have been successful and some not. Rapid moves are a big proglem. In chickens, for example, we would like to buy feed low and sell broilers short but sometimes the prices of both start moving up together. In a rapidly rising market it is easy to sell broilers but hard to buy grain and soybeans if limited moves are occurring daily. There is a risk of being short the broilers without being covered on the feed. The reverse can happen in a falling market. We have not really found the futures market as useful a tool as we originally thought it could be.

This is true despite the fact that we have been exposed to an incredible amoung of advice on using futures. When we were feeding nearly 500,000 head of cattle a year it seemed as though everyone in the commodity business was willing to provide us a service. So it wasn't for lack of suggestions that we have not had effective experience with the futures market -- maybe our lack of ability to make it work was at fault.

What have we learned? We learned that risks cannot be eliminated, they can possibly be transferred to other people. Some individuals prefer to take certain kinds of risks, for example, commodity speculators. There are others who are much better able to accept fluctuating results -- for example, individual investors, private companies or pension funds do not have to report even earnings to the public every quarter. The largest investor in our cattle funds was a pension fund.

Vertical integration is another example of risk management that often works well. An individual who is raising grain for feeding probably has some

advantage when feed costs rise very rapidly. He may choose to sell the grain instead of feeding it. There are probably risk-sharing abilities offered through vertical integration.

The basic thing we don't know about the cattle industry is the source of capital in the future. The typical investor who provided financing in the last few years is gone. Most of the professional cattle feeders who were so important to our business in the beginning as well as more recently have been wiped out. This is not the farmer feeder but the individual with an agricultural background who knows cattle very well, knows the markets, brought the cattle into feedlots like ours, fed them and sold them. These men were experts in cattle but as a group have been almost totally wiped out financially. Who then is going to supply the money to feed cattle? Knowing the answer would help us to organize our company in the future.

Currently, ranchers and packers are providing the funds to feed cattle in our lots. They are reluctant to supply the capital but there are currently no other viable sources of equity capital. Ranchers prefer to sell the cattle as they leave their ranch but a shortage of buyers encourages others to continue feeding. The rancher and packer are our customers today. We're now feeding about 84,000 head and are operating profitably but we do not know where the business will go.

The ideal cattle feeding company of the future will likely be private, will operate with a large amount of equity and low leverage, will grow a large amount of its feed, will have a very high return on the average but with enormous fluctuations in the profitability of cattle feeding.