Beef Economics and the Bovine Practitioner

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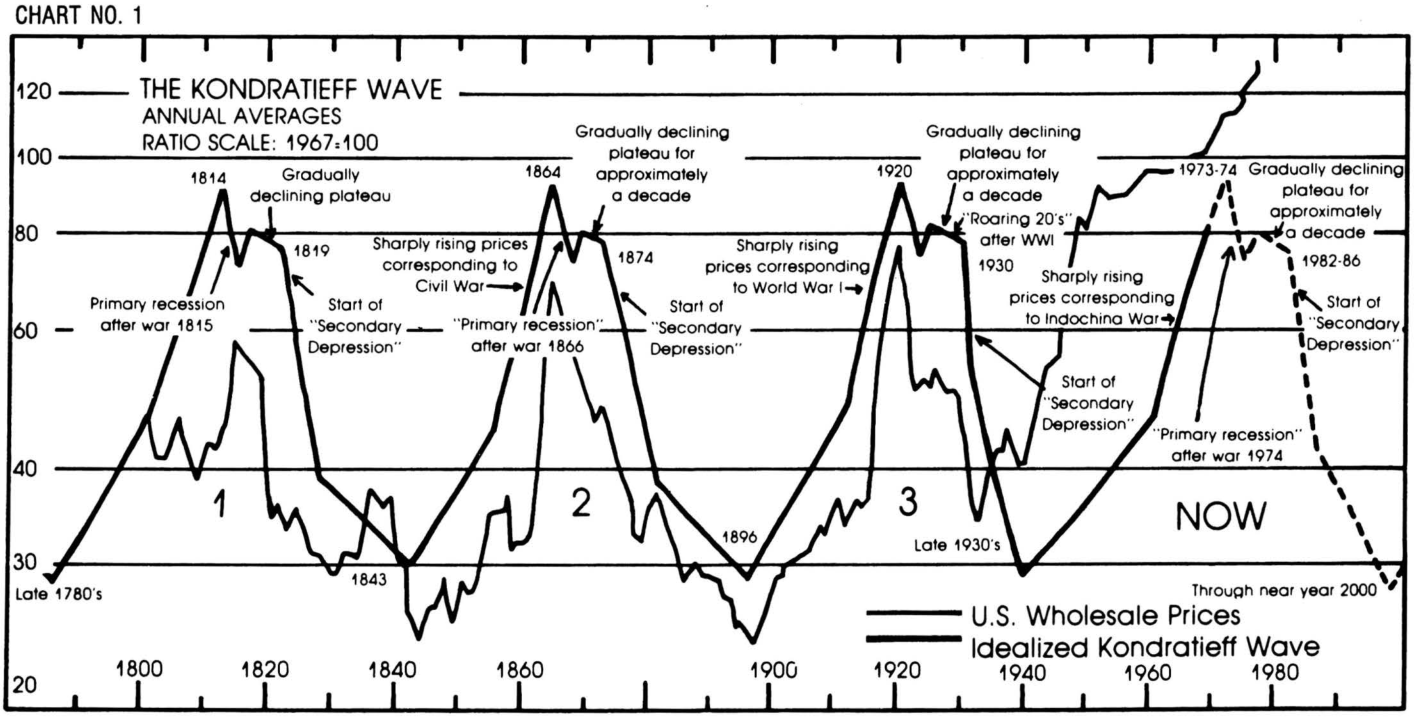
The practicing veterinarian routinely faces decisions which have to be made in a short time frame. Most disease problems need a quick decision and a quick response. Thus it may be difficult to study the economy from a long term perspective, however this needs to be the first approach to making decisions on your economic future. The good news is that most economic decisions do not have to be made quickly and can be studied over a period of time using available reference data before a decision has to be made. The bad news is that many of the decisions made in this arena have long term ramifications.

It is thus advantageous to make some assessment of the long term economic trends as a basis for further investigations into today's economic climate. The old cliche that history repeats itself has been formalized into the study of cycles. These studies have identified many interacting and overlapping cycles of various lengths. One of the most interesting cycles was described by the Russian economist Kondratieff in the early 1920's prior to his death in a Siberian labor camp in 1927. From his study of the capitalistic societies of Europe and North America, he was able to identify a 54 year economic cycle (chart no. 1) which is known as the Kondratieff Wave. Since the introduction of his theory, the economy has fairly closely followed his theoretical predictions, through the depression years of the 30's and the hyperinflation of the 70's.

It is interesting that the cycles have existed through various types of governmental organization, the industrial and technological revolutions, and as global theory long before it was recognized that we were living in a global economy. It will be noted that the predicted cycle in the 1920's called for a topping of our economy, a decline, and then a short plateau before the primary decline into the 1930's. It is surprising how close it followed the theoretical. This particular depiction of his theory was prepared about ten years ago and seems to be still indicating the broad direction of the economy. The cycle theroists are quick to point out that there are standard deviations from their average cycle length and thus every occurrence is not necessarily on the exact predicted date. If the timing is correct as depicted, here in 1986 we should be about ready to leave the secondary plateau and start the rest of the downward slide. One can only speculate if the recent elections giving one party the control of the Congress and the other party the control of the Whitehouse, can produce such a stalemate that the predictions of Kondratieff's Wave would be fulfilled. I would suggest that you take time to plot the major military conflicts of this nation since the Spanish American War on this graph and identify their effects on this cycle.

One can also speculate that the basic reason that cycles have any credence is that human behavior tends to continue

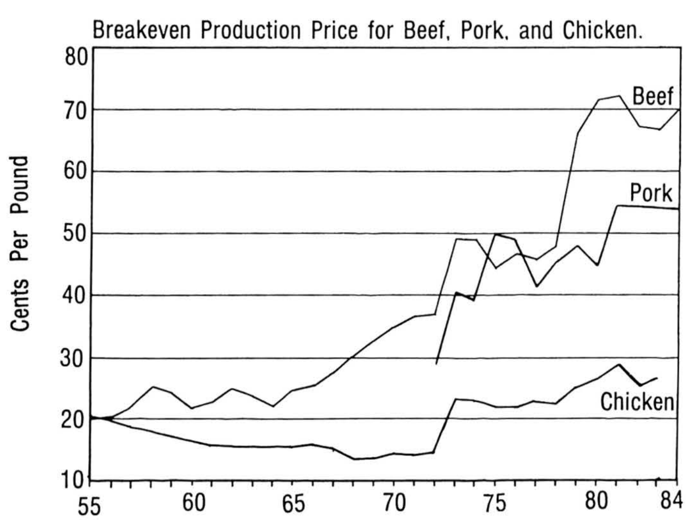
CHART NO. 1



to make the same response to a given set of conditions from generation to generation and century to century. It is likewise interesting to speculate why Kondratieff's cycle of 54 years continues. If we assume that the generation interval is 20 years and that the portion of the population that makes the majority of the decisions are between the ages of 30 and 60, it becomes obvious that this group has not previously experienced in their adult life the economic climate which they now face. Probably the best example of this behavior is the predominate age of those in agriculture who extended their credit to expand and purchase land in the 1970's. It seems that the agricultural producers in the 40 to 50 year age bracket are the ones who are the most at risk in the present financial crisis. It is obvious that we as a nation could profit by being better students of economic history. Whether we would make different decisions with a better understanding can be debated since it is said most of our economic decisions are made either from fear or greed.

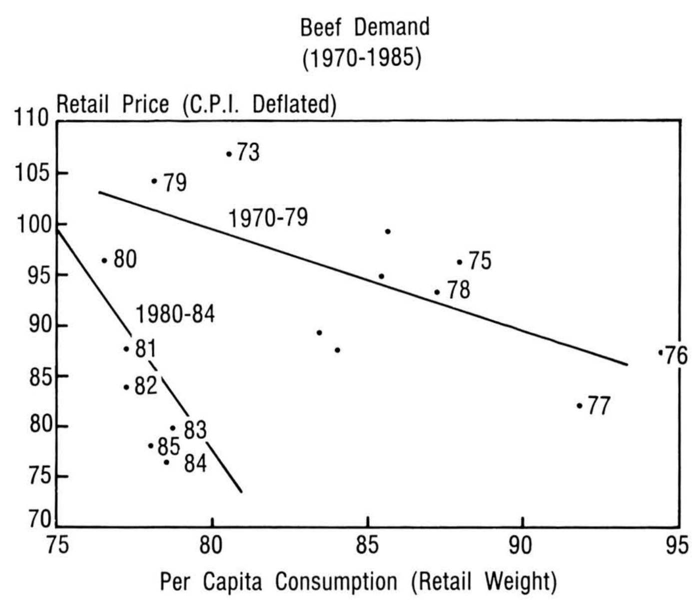
If we accept Kondratieff's theory, it follows that we have 20 years ahead of very slow growth in the economy and a basic change in the attitude of our citizenry to low expectancy for change. Those of you who expect to be in business in 20 years may want to sit down and write yourself a letter for delivery in 2007 to the effect that times are fixing to improve and that it is time to risk a few more of the family jewels by going into debt to invest in a new business, real estate, and even agriculture. If past behavior is an indicator, by 2007 we will have passed through a period in which it will be increasingly more difficult to pay down debt and the general goal of the populace will be to become free of debt. Under those conditions bankers will be reluctant to make loans unless there is overwhelming evidence that the cash flow will be in place to make the payments. Banks will have the money to loan but will not be able to find enough good loans to fill their needs. These excess funds will gradually pressure interest rates lower than they are today.

CHART NO. 2



With this gloomy forecast, let us look at the beef cattle situation in the next 1-5 years. The beef producer has had difficulty in competing for sales at the meat counter during the last 10 to 11 years. Although there are multiple reasons for the problem, the price relationship of beef to poultry and pork is at the top of the list. Chart #2 reveals that the cost of production of beef and poultry were the same in 1952 and beef has steadily lost the race ever since. From 1952 to 1973, factors which caused the divergence included the vertical integration and technological improvements in the poultry industry and the increases in land values which had to be recovered eventually in the price of the beef. In 1973, Russia made their great grain purchase and the increase in grain prices escalated the production costs of all meats. By the late 1970's land prices and interest rates were both escalating out of control and the interest rate was much more of a factor when it required 18 months to get beef cattle to market and only 7 to 8 weeks for broilers to reach market. The consumer found that they had less money to spend at the grocery store as they had to spend more of their income for rising costs of housing and fuel. During this time they found that instead of using 24% of their "take home pay" to make payments on their home, they were using up to 32% due to inflating real estate values and higher interest rates. Since these pressures were also present in rented dwellings, the consumer tightened their budget in other areas and reduced their spending for beef from 2.5% down to 1.6% of "take home pay". Since beef cannot be stored like grain, we sell all that we produce at whatever price the consumer will pay. The economist plots the average price against the supply and refers to it as demand. Over time he can develop a coefficient of regression and plot a line that he calls the demand curve. Chart 3 demonstrates that the demand has been moving to the left and decreasing since the 1970's.

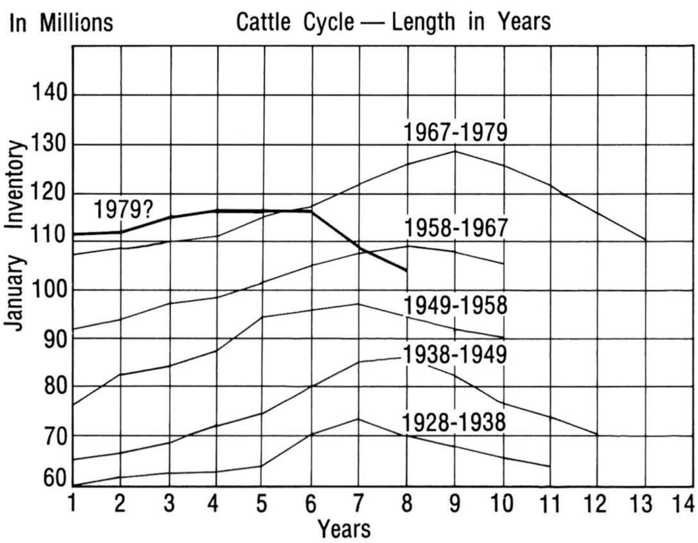
CHART NO. 3



One must be careful to differentiate between demand and consumption. Consumption merely measures the amount of beef per capita which is sold in the United States and is a function of the cattle population and rate of slaughter; it does not say anything about price. Recently statements have been made about beef consumption being down to support the thesis that the consumer is turning away from beef. These statements usually compare beef consumption of 1975-76 to the present time, a period when cattle numbers and available beef supplies have been reduced by over 20%. Thus consumption has gone down; and although demand has gone down as well, the two are not the same. Demand is down because the consumer is paying less for the amount of beef that they are buying. If demand were equal to the level of the seventies, beef prices would be 35% higher.

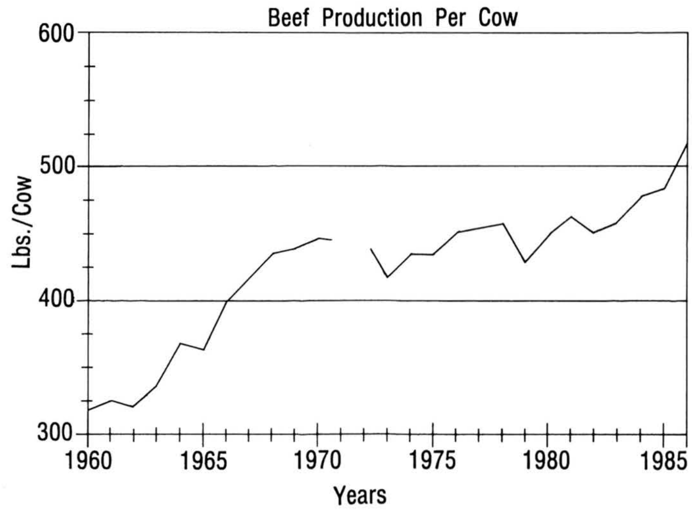
There is another lesson to be learned from the demand curve of the 1980's. The present slope is much steeper than the demand of the 1970's—indicating that small changes in supply can make greater changes in price. This was evident last spring when the sudden onset of the dairy liquidation program increased slaughter and quickly dropped prices. The reverse of this will be true, hopefully as total numbers decrease and beef tonnage eventually declines, prices should increase. However, there is no guarantee that this demand curve will be viable if per capita consumption is markedly reduced. As beef prices rise, some consumers may forget their beef preference and go to alternate protein sources and yet another demand curve will describe the market.

CHART NO. 4



The present cattle cycle breaks a rhythm which has existed in beef cattle numbers for at least a hundred years in this country. Chart 4 describes the last six cycles and demonstrates that this is the first cycle in which the total numbers failed to exceed the peak of the previous cycle. Whether this is due to lower prices from competition with poultry or consumer concerns of cholesterol, furnishes material for a lengthy discussion, but regardless, this cycle is a change from the normal, and we are definitely liquidating cattle. Current projections are that the U.S. cattle population will be near 100 million head on January 1, 1987.

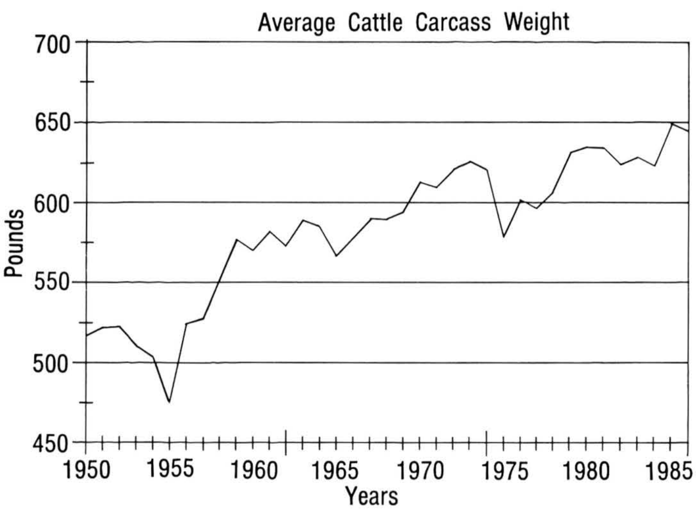
CHART NO. 5



However as Chart #5 demonstrates, total cattle numbers are not a reliable indicator of the amount of beef available to consumers. As new technology, genetics, and management systems have been adopted, we have slaughtered more cattle as yearlings rather than as two year olds or weanling calves. Now a very high percentage of each year's calf crop is fed to a yearling weight thereby increasing the beef produced per cow. The significance of the feeding industry on beef production can be highlighted when one realizes that a fourteen month old steer weighing 750 pounds will double the amount of beef produced when he is placed on full feed for 4.5 months. The introduction of new beef breeds from the continent of Europe has also increased carcass weights, both from animals coming out of feedlots as well as cows culled from the breeding herd. A third factor which increased the pounds of beef per cow during the 1974 to 1978 period as well as the last two years is liquidation of the cow herd. As the cattlemen of this nation reduce their herd size, they slaughter more cows and heifers and retain fewer heifers as replacements. To say it another way, we are slaughtering a higher percent of out total inventory each year. This one factor has added an estimated 10% to the beef supply in 1985 and 1986. One only has to refer back to Chart #3 to observe the effect that this increase in the supply of beef from liquidation has had on price. Of course, liquidation does not come entirely from the beef herd, but also from the dairy herd. With the present excess in milk production, the expected yearly increases in production due to improved genetics, better management, and new feed additives one must expect a continual liquidation of dairy cows. The biggest unknown in this section of our crystal ball is when will somatotrophin be approved and widely used and thus require the liquidation of another 20-30% of the dairy herd.

There has been a liquidation of some degree in the middle of each of the last three decades as shown by Chart #6. This is evidenced by the drop in average carcass weights due to the slaughter of more calves at weaning rather than their

CHART NO. 6



consignment through stocker and feeding programs. All indications are that the present liquidation will not see this drop in weights as the last two years have seen an increase in weights during a period of marked liquidation. This can probably be explained by: (1) the decrease in total numbers which resulted in the availability of more pasture per animal retained and this encouraging stocker operators to graze their yearlings to heavier weights, (2) widespread crossbreeding programs with the liberal use of the exotic breeds producing animals which gain faster and are ready for market at heavier weights, (3) lower feed grain prices which decrease the cost of producing the added weight, (4) two mild winters when gains have been greater than normal as less of the consumed feed was committed to body warmth, and (5) the 1985 price debacle when cattle feeders' financial losses were so severe that they attempted to feed their cattle a few more days, hoping for a better market.

With all of this background, it should be possible to make some assessments of the future:

1. First, it should be recognized that the price of cattle is not an isolated market but interdependent with consumer spending, the price of other meats, the price of feed grains, and most important the expectations of those producers in the industry who are making marketing decisions. This last element is the reason that most intermediate term (4 to 8 months) market predictions tend to be erroneous. The most visible market forecasters of cattle prices now have sophisticated computer models which recognize the relationship of these various variables which influence cattle prices, and they usually publish very similar forecast. Unfortunately there is enough flexibility in cattle production systems that we all try to market our animals during the periods projected to have the higher prices. Thus often times, agreement by all of the forecasters as to when prices will be good will have more cattle being offered for sale and the forecasts will be self defeating.
2. Liquidation of the beef cow herd will likely continue until such time as the cow-calf producer can realize a profit. Obviously this point of profitability varies from one region to another depending on land costs, winter feed needs, etc. However, it will probably require that weaning calves sell for $80 to $90 per hundredweight over most of the nation. The financial situation in agriculture is so bleak that it may take more than one year of profitability before a substantial number of producers will decide to retain additional heifers in order to increase the size of their cow herd.
3. Once the cow-calf producer suspects profitability and chooses to expand, the best supply in the United States will decrease by the 10% which is now being furnished by liquidation plus an added 2-5% as fewer heifers go to the feedlot due to their retention in the breeding herd instead.
4. The extent that this reduction in the supply of beef raises cattle prices will be dependent on how much the consumer is willing to substitute pork, poultry, and fish for their purchase of the higher priced beef—both at home and when they eat out.
5. If cattle cycles continue to last 8 to 12 years, there is a high probability that the next two cycles will be completed in difficult times and during a period of decreased optimism.
6. Since the urban investor no longer has the incentive to buy land as a hedge against hyperinflation, it is expected that land prices will seek a level at which the production from the land will pay for the purchase. Declining commodity prices may thus lower land values further.
7. An old axiom which will be valid during the next few years is "never try to pick the bottom in a market, make it prove itself." When the turn around occurs, there will be plenty of time to buy agricultural land as there will not be that many people wanting it. If you are interested in this type of investment, be sure that the price is not going to deteriorate further before you enter the market.
8. **Any increase in cattle prices which result in better practice opportunities and income for the bovine practitioner should probably be used to reduce debt and decrease mortgage payments during the next 15 to 20 years.**