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PRICING AND GRADING IN LIVESTOCK AND MEAT: ECONOMIC ISSUES

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Introduction

The issues surrounding prices, pricing, price discovery, and grades in livestock and meat are old issues. It may be particularly appropriate, however, that we revisit those issues in mid-1995. If one reflects a moment on what is happening in the economic world of livestock and meat, it is not difficult to formulate an hypothesis that suggests the effectiveness of our pricing mechanism is a determinant of what type of structure or industry organization that will prevail. In the livestock and meat sector, if we would prefer to see continuance of the structure that features the individual entrepreneur, it may be the case that an effective pricing mechanism is a necessary condition for the long-term survival of that type of traditional marketplace.

The objective here is to look at the economic issues surrounding the pricing topic at a very basic level. There is a lot of talk about price discovery, pricing efficiency, and related discussion as to what type of marketing infrastructure we must have to have effective price discovery. Such terms as "price discovery" are economic jargon and can be abstract. But these concepts do not need to be treated in a complicated and abstract manner. It is important that we all understand what pricing efficiency is and that we understand what price discovery is all about. We will find that grades, grading, and product attribute identification will be critically important to those pricing processes.

Price Discovery

Price discovery refers to that dynamic process by which buyers and sellers analyze the available information and attempt to discover the price that balances supply and demand. It is truly a dynamic process; prices can and will change over time as the information changes. But, price movement over time is not of particular interest here. What I want to deal with here is how grades, grading, and product description comes into that very important price discovery process.

It is a tautology that you cannot price a product attribute that has not been identified. If there is an attribute that should have value in the marketplace, then it has to be identified if it is to have a price attached to it. <u>This is the very important role that grades play in the price discovery process</u>. We do not discover prices for cattle or hogs or lambs. Instead, we discover prices for a particular class and grade of cattle, hogs, or lambs.

There is still a great deal of discussion about value-based pricing. The National Cattlemen's Association has a long history of looking at what needs to be done to accomplish more effective value-based pricing. The hog sector has, on several occasions, tried a system of grading and descriptive terminology that would better allow pricing consistent with the final value of the product. In mid-1995, we are starting to see pricing systems that focus on the lean cutout from the hog. If you get involved with producers and processors in slaughter lambs, it is not very long before there will be a discussion about the fact that lamb prices still tend to be tied to dressing percentage. The lambs must dress a certain level, say 50 percent, or they will be discounted. Somebody else will comment, correctly I think, that such pricing is inconsistent with today's need for attaching a price premium to the leaner product, the higher cutability lamb carcass. Dressing percentage and cutability tend to be negatively correlated.

The entire area becomes difficult, and it becomes somewhat controversial. It clearly is an area in which it is difficult to make a great deal of what might be called progressive change. What we need, in a very basic context, is a marketing mechanism that can identify the product attributes, and through the price discovery process, attach an appropriate price premium or price discount to that particular grade of the product.

It is worth emphasizing that the system cannot price an attribute that has not been identified and brought into the price negotiation process. For grades or any other descriptive terminology to work, both buyer and seller have to understand them, have to attach a common interpretation to that grade or descriptive term, and those descriptions have to be brought into the price discovery process.

If we focus for moment on the beef sector by way of illustration, it is obvious that prices are discovered for different products and at different levels in the system. A retail, the retailer makes a price-product offering to the consumer and the consumer effectively makes a yes/no decision on that particular offering. If the product stays in the meat case and does not move, the retailer is inclined to want to cut price or do something to enhance movement, and we have a price discovery process going on. If it is a cut of beef that is full of seam fat and is still carrying a fairly heavy external fat cover, it may be that consumers are saying that is not the product that they want in the mid-1990s and the system discovers a lower price for that product. This process of adjusting prices is a very important part of the pricing mechanism. It is, theoretically at least, how the pricing system changes what is produced to keep it correctly aligned with what consumers want.

Move below the retail level and we find prices being discovered for boxed beef as the packer buyer offers the boxed product to the retail chain or to the hotel or restaurant in the Hotel-Restaurant-Institution (HRI) trade. The price is not independent of the retail price because the retail chain is going to try to buy boxed beef such that the stores can realize a desired margin per pound. There is thus an identifiable price discovery price process in boxed beef. There is also still some price negotiation and price discovery processes going on for carcass beef, although most beef is now distributed in boxed form.

If we move down to the live animal level, it is immediately apparent that the price discovery process is charged with uncertainty. Most fed cattle in the country are sold on some type of liveweight basis. They may be formula priced or they may be sold for delivery one week later, but price is typically on a liveweight basis. The packer buyers come to the feedlot with price guidelines in terms of where they need to be to be able to buy cattle on this particular day to realize the gross margin per head that the packing firm wants to achieve. We see again that price discovery at one level is tied to what is going on in another level in the system. The initial basis for determining the bid by the packer buyer will be a function of what is going on in the carcass or boxed beef market and what the hide and offal credit will be. It is then fairly easy to calculate a price at which the cattle have to be bought if the packing firm is to realize its desired margin.

It is abundantly clear that it is going to be difficult to discover a price at the producer or feedlot level that truly reflects final value when the fed steer or heifer is sold on a liveweight basis. Buyers and sellers become quite efficient in estimating dressing percentage, quality grade, and yield grade, but they do not know what the true value of cattle is going to be in terms of performance on the breaking table. The result has been continuation of a pricing system that is not highly conducive to the elusive target of value-based pricing.

The barriers associated with moving toward carcass-based selling, whether in cattle, hogs, or slaughter lambs, are probably going to have to be overcome before the system can discover a price that is truly a value-based price. But in mid-1995, there is no significant move away from liveweight selling, especially in the southern part of the cattle feeding industry. Too much mistrust and too many adversarial attitudes remain.

The concept of pricing efficiency is a reflection of how effective the communication processes in the system are at any point in time. The idea is that higher up in the system, prices will be discovered such that a premium is attached to the high-value product, given the consumer's desires at that particular point in time, and a discount is attached to the low-value product. In a very general sense, of course, this would mean that any product that has a high fat content and/or is not tender and palatable, should have a price discount associated with it. Conversely, any product that is high in lean, 96 percent fat-free for example, and tender and palatable should have a price premium attached to it. These price signals, premiums or discounts, will theoretically be passed back down through the system and eventually reach the producer. This is the way, theoretically again, that the marketing system discourages production of beef, pork, or lamb that is high in fat and encourages the production of leaner products.

Grades and descriptors are extremely important if you are going to have a high level of pricing efficiency. You are not going to be able to communicate effectively down through the system from the top, where the consumers reveal their preference pattern by their purchase decisions, to the producer unless there are grades or some way of identifying product attributes to which a price signal can be attached. This is part of the reasoning behind the move in the late 1970s, for example, to couple yield grading with quality grading in cattle so that if carcasses were to be graded, both had to be used. Yield grades (YG) 1 through 5 categorize the beef carcass in terms of its cutout of lean cuts. Since YG 2 would cut a higher percentage of total carcass weight in the form of lean boneless or semi-boneless cuts than would a YG 4, then a YG 2 carcass should have a substantial premium attached to it compared to the YG 4 carcass.

In fact, the system was never effective in terms of identifying the YG 2 carcasses and attaching a price premium to them. What has essentially evolved is a system that treats the YG 3 beef carcass as par and then attaches discounts to the YG 4s and the occasional YG 5s. We have seen periods in which cattle have been held in the feedlots too long and were too heavy and overfed. Yield grade 4 carcasses moved as much as $20 per cwt. below YG 3 carcasses. But we have never really seen a visible pricing mechanism and consistent widespread reporting in terms of attaching a premium to the YG 2. There is, of course, as the packer buyer bids on a pen of cattle, some perception of what the YG will turn out to be for that pen of cattle. But, once again, we are dealing with estimates and broad averages. We are not identifying and focusing on the high-value animal and pricing that animal at a premium. We are not likely to see this change so long as we continue to sell on a liveweight basis. While fully recognizing that there are major barriers to moving toward carcass merit selling, carcass selling is, nonetheless, a worthy objective that needs to be seriously examined by producers and producer groups.

Cutability has to be brought into price discovery if the communication back to the producer is to be effective. Tenderness, now starting to be recognized as a major issue, is not measured at all except indirectly via quality grades. The grade changes for beef being considered in 1995 are partly a reflection of the "tenderness problem," but the system continues to generate about one in five steaks that are so tough they are basically inedible.

Implications to Industry Structure

If you look at the current livestock and poultry industries, you see the polar extremes in terms of industry structure. Structure ranges from a system largely characterized by separate ownership of the economic activity at various identifiable levels in the system (hogs, cattle,

lambs) all the way to a totally integrated system in which all levels of economic activity are owned by the same management center (broilers, turkeys). Historically, the cattle market has been an open exchange system characterized by separate ownership at the cow-calf, stocker, feedlot, and packer/fabricator levels. The poultry industry has long been integrated, and the integrator makes decisions on how many birds to place, on rations, on medication, and on all of the dimensions of the program that would have an impact on overall profitability.

It is interesting to reflect on the inherent differences in these types of systems. In the open exchange system in cattle, hogs, and lambs--at least the majority of cattle, hogs, and lambs are still sold that way--it is the price mechanism that is relied upon to bring the needed interlevel coordination. If you visualize what goes on from the original point of production up to the final act of consumption in the meat production-marketing systems, it is useful to think about it all as an assembly line. Every station in an assembly line adds value to the product and passes it on up the line. That is the way automobiles are made, the way most things are assembled, and in a very realistic sense, that is what is going on in the beef industry--it is a value-adding process that "assembles" the final product offering.

We start with the calf by running him through some type of stocker or background program, put him in the feedlot, and move him on to the packer as a fed steer. The packer, increasingly the same firm that does the fabricating, moves the boxed beef to the retail outlet or to the HRI trade and we eventually reach the point of final consumption.

In an assembly line you have different work stations, but you have somebody watching over the entire process to make sure those stations work together. In an open marketing system, as we have in cattle, hogs, and lambs, there is really no one that is overseeing the process and making sure these various levels of economic activity work together and are effectively coordinated. It is the price mechanism that is supposed to bring the coordination. It is supposed to use an identification system like grades, attach price premiums and discounts as appropriate, and transmit those price signals down through the system to the producer--and prompt the needed change to correctly service the consumer.

It is relatively obvious that those price signals in a production-marketing system like cattle, hogs, or lambs have a tough path to follow. The top end, the retailer, has to decipher all of those consumer decisions, figure out what they are saying, and then reflect that message in terms of bids on beef or pork or lamb that have different attributes such as fat level, bone-in/bone-out, internal versus external fact, etc. If all that gets done effectively, then the retailer will bring the packer/fabricator into the process by adjusting bids for the meat they buy. Retailers may turn increasingly to a box that is trimmed more closely or that has other characteristics that would suggest it more nearly fits the emerging desires of the consumer, and then pay a premium for that particular boxed offering. Increasingly, there are indications this will extend to tray-ready retail packaging. They would take alternatives or other lines only at a price discount since they would not fit consumer preferences as well. All this can occur, but it assumes close vigilance on the part of the retailer--a vigilance that may not be present.

The packer/fabricator has to read all this and reflect it in terms of bids for cattle, hogs, or slaughter lambs. Here, we see the big barrier that has already been discussed. With most everything being done on a liveweight basis, it is very difficult to attach price premiums and price discounts correctly to the live animal. That is especially true in the mid-1990s when we see a need for numbers to keep the high speed slaughter lines running. Some feedlots are pricing their entire showlist at the same price, and there is huge value variation within that showlist. By the time it gets back down to the original producer, only the most obvious and basic messages are going to survive, and the industry has picked up those messages. The cattleman and the hog producer and the lamb producer know that, in the 1990s, it is not fat that the consumer wants to buy. However, that message is so general and so lacking in terms of economic incentive in the form of price premiums and discounts that the producer has been understandably slow to change management and breeding practices. The signals have not been clear, and the producer who tries to respond may not be rewarded.

However, it is clear that an exchange system that relies on prices and pricing to accomplish the needed coordination of the various levels of activity will need grades and a highly effective description terminology to identify the value-related attributes. The system will also need enough competition at each level to make sure that those premiums and discounts get transmitted back through to their raw material supplier. A packer, for example, may clearly see that he can sell what are YG 2 carcasses when they go in the box at a higher dollar value compared to YG 3s. There is still no guarantee that the increased value in that YG 2 carcass will take the form of a higher bid for cattle that would grade YG 2. Once again, we have the problem of liveweight selling, and we have the obvious possibility that the packer may just try to buy YG 2 cattle at the same price as YG 3s and sell the carcasses or the box at a premium and keep the differential in the form of better margins. You have to have a high level of competition at any level in the system if those price signals are to be transmitted, even if they are identified.

If you look at the poultry sector, on the other end of the continuum, there are some useful contrasts. We may also see some of the reasons why the cattle, hog, and lamb markets--especially hogs--are changing. In the poultry sector, we see control and close coordination. The integrator goes to great effort to determine what is needed, what is in demand, and what consumers will pay for at the consumer level. They then proceed to organize and coordinate the activities all the way from the genetic decisions up through the packaging decisions to make sure that the consumer level need or preference is met. We have seen the broiler, for example, change dramatically in terms of dark versus white meat composition. We have seen rapid strides in feeding efficiency and in conversions. We have seen the move to value-added further-processing that brought tremendous growth to the poultry sector. In 1995, if you measure in retail weight equivalent per capita offerings (and therefore per capita consumption), broiler consumption greatly exceeds per capita consumption of beef.

The message coming from the integrated systems is clear: the ability to coordinate the activities is important and can be extremely profitable. If a change is needed in terms of the product offered to the consumer, that change is made and there are assurances that necessary adjustments will be made all the way back down through the system. The result has been an impressive ability to cater to a changing consumer demand and a growth industry in poultry.

It is interesting to consider an hypothesis that suggests that if the open exchange systems are not effectively coordinated via the price mechanism, that some other type of industry structure will assuredly evolve. It was not just the pressing need for high levels of coordination that brought consolidation to the beef industry, but there is little doubt that the need for better coordination was one of the factors during the 1980s and early 1990s.

Starting sometime in the late 1970s, beef, pork, and lamb started running into major demand-side problems. Consumers were increasingly concerned about cholesterol, fat levels, convenience in preparation, and what they were eating. Their lifestyles were changing and they started to move to different products. The price of U.S. Choice beef at retail, if you remove the influence of overall price inflation so that you can legitimately compare the various years, had to decline by over 30 percent between 1979 and 1986 to get the consumer to continue to take what was essentially a constant per capita offering. There were tremendous economic pressures on everybody in the system from those demand problems. The consumer would not pay any of the inflated costs of producing and processing the products, and much of the pressure was passed back down to the producer in the form of lower prices. But there was also tremendous pressure on the middleman, the packer/processor, to become more efficient. One of the ways they did that was to consolidate, move to larger size operations, and reap the economies that large-scale, large-size operations provide. But there was another very important change that came with the consolidation.

The packers in the beef, pork, and lamb sectors are aggressively pursuing what the trade has come to call "captive supplies." They are feeding cattle or hogs or lambs themselves, they are entering into business arrangements with producers so that the livestock move directly into the packing plant on a control-flow basis, they are contracting with producers for forward delivery, and they are making other efforts to get in a position to control and coordinate what comes into the packing plant.

What we are seeing in the exchange systems in beef, pork and lambs are moves to provide the same type of coordination that the integrated poultry firm has attained. If the price mechanism is not effective in its role of communicating and coordinating, then it is being replaced. In the move to captive supplies, we are seeing a negotiated approach to "pricing" and the traditional price discovery process in cattle, hogs, and lambs is being eliminated. The momentum is especially high in hogs, and some of the new players in the hog production/processing are Tyson and Seaboard Farms, historically poultry operations.

This all goes back to the earlier suggestion that how effective the pricing mechanism is may have a great deal of influence on what type of organizational structure the industry can sustain over time. It is increasingly clear that if the pricing mechanism cannot overcome the often adversarial relationships between the cattle feeder and the packer or between the hog and lamb producer and feeders and the packers, then those individual producers are at risk. As we see moves toward more consolidated, more concentrated industries that realize the needed coordination by management directive rather than by a price mechanism, the individual producer loses independence and loses his or her economic reason for existing.

Thus, it is not just the legitimate desire to move toward value-based pricing that is at issue. The very survival of the independent producer, especially the relatively small independent producer, may be at stake in cattle, hogs, and lambs.

If there are reasons to value an industry that is characterized by numerous producers and a reason to value the type of industry that allows the independent entrepreneur to exist, then there is reason to be concerned about our grading, pricing, and price discovery mechanisms. At a minimum, what type of industry structure we see evolve should be by choice and not be by default due to the failure of the open exchange pricing systems.

Some Possible Solutions

We need a two-fold attack on the problem. One the one hand, we need to recognize that the feelings run deep and that we will continue to see livestock sold on a liveweight basis. This suggests that we need progress in a technical domain in terms of sensors, probes, scanners, and other types of approaches that will not be major problems in the high speed lines of the large packers where we often see 350 head of cattle/hour and much higher levels in hogs and lambs. The larger packers are not going to readily accept technology to identify value if it slows their lines and interferes significantly with their operation.

A critic would suggest that the large packer is not going to be interested in that type of technology in any form. After all, if they can buy cattle, hogs, or lambs on the basis of estimates and if their bargaining position and estimates of value are better than those of the seller--and I suspect they often would be--why would they want to go to an approach that truly identifies value in an objective manner? The answer is to be found in the notion of competition, and I think we may still have a time window of a few years in duration here that will give us an opportunity--even in the highly concentrated cattle sector.

We now have about 103 million head (January 1 inventory) of cattle, all cattle and calves. In 1975 that number was up to 132 million and decreased to just above 95 million in 1990. We have had some excess capacity in the slaughtering and fabricating

functions of beef, and we historically have had excess capacity at the same levels in hogs and in lambs. When you acquire or build a large plant that is driven by volume, then you have to have those numbers in a consistent way. Across the next two to three years, therefore, it may well be that the packers are still not going to be in a position to be picky about whether or not they accept some new approach to evaluation.

If there is ever going to be an opportunity to put a new pricing system into place, it will come during a period when numbers are tight, especially in cattle. And if you look at this from the other side, you recognize that seeking progress in pricing to value has been especially important during a period like the past five years. With the overriding need for numbers, the buyer of cattle was going to try to buy numbers and not worry a great deal about being discriminating in terms of price premiums for the high-value animals and price discounts for the lower value animals. They tried to buy cattle to keep the operation going and then tried to deal with the heterogeneous population of carcasses and products they produce. We had an opportunity, a need, and some "bargaining power" that will not last forever, and we may be near the end of that time window of opportunity. Some observers believe cattle numbers will approach processing capacity in the next two to three years, and the slaughter capacity in hogs was definitely challenged during 1994.

The second and related dimension comes more nearly on the behavioral side. It does not do much good to have technology that allows you to estimate cutability accurately if producers, producer groups, and feeders are diagrammatically opposed to using the technology because there is such an adversarial relationship between the producer and the packer. After all, cattle, hogs, and lambs could be sold on the carcass grade and weight or other types of carcass evaluation basis now, yet it is not being widely done. We hear producers and leaders in producer groups referring to grade and yield as "grade and steal," testimony to the continuing adversarial relationship between the feeder and the packer.

It may require a change in attitude and some effective and aggressive leadership in the producer organizations before anything can be accomplished in terms of trying to move to value-based pricing and to a system that generates more coordination, less uncertainty, less guessing, and allows our entrepreneurs at various levels of the system to survive.

But Economics Will Dictate

It is important that we all recognize that, over time, economic forces will have their way in our livestock and meat systems. We saw this during the 1980s when we saw the major demand side problems help prompt an astounding consolidation in beef processing as there was a race to "get big and get cheap or get out." With that change is coming a still growing inclination on the part of the packers to impose their conditions on what they buy. They are tying up captive supplies. They are trying to set up business arrangements with large feedlots, and those business arrangements have value and price ramifications in the sense that there are premiums for the cattle that do well on the breaking table. But that amounts to increased disappearance of the open exchange system that is coordinated by the price mechanism, the system we have historically placed so much value on in our livestock sectors. It is important, then, to take a look at the economic pressures that are present and that are likely to materialize as we look to the 21st century.

One economic force that will continue to be important is consolidation. We have a four-firm concentration ratio at 80 percent or higher in boxed beef. That means that four firms do 80 percent or more of the boxed beef activity. Actually, as you well know, much of that is done by three firms. We have a highly consolidated lamb industry with four firms doing about 80 percent of the business. If you look at the numbers, the pork industry is not highly consolidated as yet with the four-firm concentration ratio around 40-45, but there are widespread expectations that we will see consolidation occur and a move to a more highly concentrated industry in pork across the next few years.

<u>This is important. In a highly concentrated industry, you have a few large firms that have enough market power or influence to impose the types of conditions they want</u>. In such circumstances, the need for and the use of grades changes. If you have a substantial part of your livestock needs met by your own feeding program, via business arrangements with feedlots, or by contracted cattle, those cattle do not go through a pricing process. Any identification of value-related attributes is internalized and is not publicly available as we seek to report prices and market activity to help inform the independent producer. As you extend your thinking, all this suggests that things are going to get more and more difficult for the independent producer. There is a "loop" of high-volume activity in cattle, cattle feeding, and beef packing. It is there to an extent in lambs and it is coming rapidly in hogs. If you are an independent operator and would prefer not to get involved in those contractual programs with the packer or, in other ways, want to protect your individual identify, you may find yourself outside that loop. As a producer, you then find you are struggling to find a market outlet for your livestock. <u>As the base of negotiated activity declines and the opportunity to report prices and market activity declines with it, the role played by grades and related descriptions of livestock and meat changes and perhaps diminishes over time.</u>

The second economic force that is going to be very important is the continuing and intensified struggle for market share. When you are in the growth phase of an industry such as beef and pork in the 1960s and into the mid-1970s, the notion of value-based pricing, effective pricing mechanisms, and high levels of pricing efficiency and effective price discovery processes are not really all that important. You do not worry as much about grades to get a really effective categorization of the value continuum because everything is being helped by the fact that demand for your product is growing. People are willing to pay a higher price for an increased quantity of product as compared to the previous year. There are no big concerns. "Growth covers up a lot of inefficiencies," is another way to put it. But that is not the case now in beef, pork, or lamb, and it is not likely to be the case as we move toward the year 2000. The demand problems that hit the industries in the late 1970s and continued through much of the 1980s have not been totally overcome. We can point to progress in demand for pork, we can point

to some favorable periods in lamb, but the data show that we are still on a much lower demand surface than we were in 1979 or 1980. That is true for any of the three commodities. It is the poultry sector that is now the growth sector, and what we used to call the red meats--beef, pork, and lamb--are going to have to struggle for market share.

As that struggle goes on and intensifies, we are going to see a parallel struggle over what type of industry will emerge and prevail. The battle for market share may move us to the point that we have more vertical integration and more contractual activity so that the packer/processor in beef, pork, or lambs can control the situation and do a better job of aligning offerings with the changing and developing consumer demands. With more control over the flow of raw materials, the integrated firm might be able to do a better job of merchandising value-added and further-processed product. It may be that the pressures to survive and keep some reasonable level of capacity in the industry will bring with them pressures to move even further toward the highly consolidated, vertically integrated industry that we saw start emerge during the 1980s in beef and we now see exploding on the scene in pork in the mid-1990s.

All this says something about our private and public activities in grades, grading, and pricing. Those activities span the continuum from the meat scientist who works on cutability and quality studies in the lab to the public agencies in Washington that provide support for the generation and reporting of market news. We have periodically fought battles over what the grades should be, and we have changed them on occasion. It is a complicated process as we go through a proposed change in the grade standards, put it through the Federal Register, and look for public comment. Often, we have seen different segments of the same industry on different sides of the issue, and we see those adversarial relationships crop up and be accentuated during such periods. The proposed changes in the beef grades in 1995 are seeing the same type of varying and often adversarial reactions.

If the more nearly privately owned, private entrepreneur approach to an industry structure is going to survive during this battle for market share, <u>the open exchange type of system simply has to get more efficient and be more effective</u>. You cannot continue to have a relatively high percentage of small-framed calves in an era when there is little or no demand for, or need for, a fed steer or heifer that comes from a small-framed calf. Yet, we have them around the country in substantial numbers. We simply have not had a grading system and a related price discovery system for the stocker and feeder calf that is done anything approaching an adequate job of penalizing the producer of the small-framed calf and rewarding the producer of the medium-framed calf and the workable large-framed calves via price discounts and price premiums. It takes competition, it takes awareness, it takes knowledge, and we still do not have it. If that situation continues, the segment of industry that is getting control over livestock flows and specifying quality (because it has integrated vertically, because it has moved to contracting which in the future will not only specify quantity and delivery dates but will start to specify quality and value-related dimensions), will start to dominate. If they are doing a better job, then they are going to be able to out-compete the other non-integrated segment in terms of how the industry is going to operate. It appears that the choice is rather clear in the cattle sector, and increasingly it is becoming clear in hogs and in lambs.

We either move toward a better research base, a better knowledge base, a better intelligence base in the grades, grading, pricing, and price discovery dimensions so that the industry can continue to operate with separate ownerships at the various levels, but be efficient and be coordinated, or we will see a move toward integrated and controlled activity. Management directive then replaces the price mechanism as the coordinating mechanism and the need for publicly supported, publicly visible, publicly established grades and grade standards may disappear.

A third and related economic force that will be there during this decade is the growing realization that the consumer <u>will</u> be served. For a long time in the 1960s and into the 1970s, we were too complacent where the consumer is concerned in our red meat industries. Every basic marketing book you ever picked up, especially the ones written two or three decades ago, talk about the consumer being "king." What that means is that, in the final analysis, you must meet the needs of the consumer or ultimately the economic base for your program and for your industry is going to start to erode and disappear. Across the past 20 years, the consumer has changed dramatically in the United States. Most of the households now have a microwave oven. Over 50 percent of the households have at least two wage earners. As we move toward different lifestyle, a more mobile, on-the-go lifestyle, and as we move toward increased awareness of our diets, increased awareness of cholesterol, fat levels, and all of those things, the consumer has changed dramatically. But our fresh products, in many respects, have not changed. Beef, pork, and lamb will have to meet emerging desires for convenience and for the type of product that provides the nutritive value that the modern consumer wants, a product that is not high in fat, not high in cholesterol, and does not bring up those negative images during the consumption process.

This relates back to the market share issue. In many respects, what type of industry we will see and what type of grading system we will see, and how much it will get used in the pricing process and reporting process, is going to be determined by how well the industry adjusts to meet those changing consumer demands. If we again look at the poultry sector, the integrated sector, they have had no problem with adapting. When the consumer started saying "I want white meat because white meat is preferred over dark meat," they bred turkeys with breasts so large that often, as they approach market weights, they can no longer stand. They bred broilers that provide a much higher percentage of white breast meat than was the case just 10 years ago. When the consumer was saying "I am willing to pay for convenience, for pre-cooking, for a microwavable product that meets the type of lifestyle I want to follow," the industry responded. The percentage of total chicken, for example, that is value-added and further processed is 4 to 5 times what it was just 10 years ago. Only a small percentage of chicken is bought as whole birds in 1995.

These same types of adjustments are going to be needed in beef, pork, and lamb. It remains to be seen whether those types of adjustments can be made when we have separate ownership at the retail level, at the packer/fabricator level, at the feedlot level, at the stocker level, and at the cow/calf level. When you have that type of structure, there is a great deal of tendency for people, all of those operators in front of the packer/fabricator, to think that worrying about the consumer is not their problem. "Why," the producer will ask, "should we be concerned about product development and getting more convenience in our product and getting something different offered to the consumer? We are livestock producers. It is not our problem, is it?" But it is the producer's problem, in the final analysis.

If the consumer continues to walk away from the product and the industry has to continue to downsize to maintain prices and maintain an acceptable margin for the remaining operators, it is clearly the producer's problem. It is producers that get forced out as middlemen maintain their margins and/or divert their investment into a more diversified program.

It may be that the beef industry will integrate further and that pork and lambs will integrate further, and all will become even more concentrated and consolidated precisely because that is the only way the changing needs and demands of the consumer will be met. If that hypothesis has any merit at all, and I think it does, especially in the pork sector of 1995, it has several things to say about the broad issues of grading and pricing. Whatever the industry, however it is structured, and however it operates in terms of whether it is an integrated firm or a coalition of independent entrepreneurs, grades in the future will have to make sure that they identify any product attributes that are important to consumers and get those product attributes identified all the way down through the system to the producer. It is not as simple as just saying consumers want lean beef. Consumers really want a product that looks lean and red, shows little fat, and has the taste of a U.S. Choice cut with some marbling and the palatability and taste appeal that the U.S. Choice (or higher) grade of beef apparently brings.

I do not know precisely what type of grades or other descriptive terminology that we should have in beef, pork, and lamb. I do know that they ought to be related to what is demanded by the consumer, and that they must be then related to product attributes back down through the system. It may well be that there is reason to think about publicly supported and publicly offered grades or other descriptive terminology that extends beyond what we now have. I am no expert in terms of the grading process, *per se*, and I do not really know how to solve the dilemma that is present when consumers might choose U.S. Select grade beef in a visual preference test and U.S. Choice grade beef in a blind-folded taste test. However, I do know that we need to get those issues resolved.

We need to make sure that we know what is needed at the consumer level, and then we need to develop an appropriate set of grades, keep it as simple as we can, and extend it back down through the system such that it has at least the potential to have a price signal attached to it when it gets back to the producer. Meeting this basic need is a necessary condition to the continuation of the traditional price-based marketplace.

The fourth economic issue, one that is related to the market share dimension and to the notion that in the final analysis the consumer will be served, is quality control. If it is in fact the case, and the evidence says it is, that there is a substantial quality variation within the existing grades for beef, pork, and lamb, then we have to reflect upon how much damage has been done to acceptability at the consumer level over time. If it is in fact the case that a U.S. Choice beef sirloin from a store one week can be significantly different from a sirloin from that same store the previous week, then we have a problem of quality control, or a problem of "consistency." Before that problem and that dilemma is going to be resolved, somebody in the system has to see it as being important to them and to their profit potential and/or market share objectives.

Continuing our line of thought with regard to how the industry might be structured, it is a bit more difficult to see how you are going to get that quality control accomplished in the open exchange system. Can the industry, characterized by separate ownership at the various levels of production and relying upon the pricing mechanism to bring the needed coordination and cooperation, do anything effective about quality control? Or, is this another dimension along which we see pressures for even further moves toward consolidation and integration? Clearly, the need to control quality variation has been one of the motivations for vertical integration in pork. And it is interesting to note that the firms in pork processing who are controlling genetics and reducing quality variation are the ones who are willing to invest in market and product development--and to brand and promote cuts of fresh pork.

It goes without saying that grades and grading are critically important in issues of quality control. If you have a grade categorization that is broad, with a significant and recognizable variation within that grade, then you have a problem. Is it possible that if beef grades, for example, are changed in the future, they should be changed toward increased refinement and increased specification rather than moving toward broader categories? Do we have a grade that the restaurant can use when they want to buy a product that will guarantee satisfaction for their consumers? What do they buy today? Do they buy U.S. Prime? Do they buy U.S. Choice? And what type of experience do they have in terms of consistency? (The proposed changed in 1995 appear to be prompted at least partly by these concerns.)

My interaction with people in the HRI trade suggests that they have a problem with consistency. A friend who was a consultant with a restaurant chain in the western part of the country that specialized in steaks once told me that he found management felt like things were okay if they had a complaint rate from the customers that was below 5 percent. My immediate reaction was that if they had a 3 to 4 percent verbal complaint rate, they probably had at least 5 times or maybe 10 times that many customers that were not really satisfied but who were just

reluctant to offer any verbal complaint. In a 1991 survey I conducted, respondents said that, on average, they ran into eating quality problems for beef in nice restaurants 32 percent of the time.

In pork, in lamb, and in beef, I do not necessarily have the answers as to what we need to think about doing to refine descriptions at the consumer level so that there is little discernible quality difference remaining. Perhaps we just need further labeling within the existing U.S. Choice or U.S. Select grades for beef. Perhaps we need to add another dimension to our existing grades. I do know it is an issue and that it deserves thought and attention.

If we get some resolution about what it is that we really need to do for consumers to help them make more informed decisions, and decisions that are less likely to turn out to be viewed as mistakes, then we need to find a way to grade the boxes or the carcasses or the live animals and get that message back through the system to the producer in the form of a price signal. It is very difficult to see how that can be done effectively with live-based sales--unless we find a practicable way to scan the live slaughter animals.

Some Closing Observations

Grades, grading, and pricing processes for livestock and meat have a long history. They have been roundly discussed, grades have been changed over time, there has been change in the way they have been used, and pricing processes have definitely changed. It could be that it is time for a new and intensive round of discussions with regard to grades and the related pricing and price discovery functions, a round of discussions that spans the continuum and puts every possibility back on the table.

It would be unfortunate if we see further consolidation and vertical integration in beef, pork, and lamb because we do not have adequate grading systems and pricing mechanisms to provide the type of coordinated activity that the industry simply must have. Without taking a pro or con viewpoint about consolidation and high levels of concentration or vertical integration, it would appear that it would be unfortunate if the only reason we see moves toward vertical integration is because that is the only way that effective quality control and effective interlevel coordination of activity can be accomplished in beef, pork, or lamb production and processing.

In a very realistic sense, therefore, I think where we go with regard to grades and pricing will determine in a substantial way where the industry goes in terms of how it is structured and how it operates. If there is reason to value the continued long-term existence and survival of the independent entrepreneur, the type of individual who has characterized the livestock industry for decades, then there is definitely reason to be concerned about whether we have effective pricing processes. Perhaps we need a continued dialogue and a resurgence of attention and interest in this area. Perhaps we need the scientists who are interested in and concerned about this area to establish a more effective dialogue with the commodity groups, trade groups, and the producer groups to see what, if any, changes might need to be proposed--and who would or could follow through and make sure the new system works.

It is the case that the economic forces that are going to prevail in the 21st century are going to intensify the importance of this issue and this discussion. Few would question, I think, whether the consolidation and integration and the moving toward something other than open market and open exchange processes with "prices" being internalized has implications to grades and grading. Few would question whether the move away from the open exchange systems was a response to the need for more effective inter-level coordination in cattle, hogs, or lambs during the 1980s. And we would all agree that if a market share issue is still there---and it is--then the need to adjust to a changing consumer is still there. Those forces will be felt and they will largely determine what type of industry evolves by the beginning of the next century. Those of us who are interested in this area would not like to see the continued demise of the open-market exchange system if the only reason was that the pricing mechanism just could not provide the type of coordination that was needed or because the grades and standards were not what was needed for effective open-market pricing processes.

The critic and the cynic might argue that no matter what we do, in a consolidated industry with a few large firms dominating in terms of importance and power, there are no guarantees that any price signals are going to get transmitted even if the products are adequately graded. That is true. There are reasons to be concerned about how effective the competition will be in a highly consolidated industry. But that type of discussion is for another forum, and hopefully it will be conducted and the needed dialogue will be carried forth. The interest here is with grades, grading, and pricing. The emphasis here is on the notion that effective grading is a necessary condition for an effective marketing mechanism.

If price and the pricing system are to achieve the needed coordination in the industry, the grades have to be aligned with the needs of the year 2000 and beyond. If that is not done, then we are likely to see moves toward an industry structure that eliminates the problems associated with imprecise pricing and the lack of coordination in open exchange pricing-based systems. But that industry structure will not look like the structure the livestock producer has valued for decades, and it will not be the type of industry with which public agencies can work comfortably and effectively.