

**History, Current Status, and Emerging
Issues in Public Outlook Program**

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INTRODUCTION

The issues with which I am to deal are not new ones. There is a long history of public involvement in the providing of economic information, and an equally long controversy over whether the public should be involved and, if it is, how that involvement should manifest itself.

There is a need, then, to make some choices and impose some constraints on the coverage of the history of public involvement in economic information in general and outlook information in particular. I conclude there is only limited current value to the writings, dialogue, and analyses surrounding this broad issue prior to the 1970s. It was in the decade of the 1970s that risk and uncertainty, especially price and market-related risk and uncertainty, burst onto the scene in American agriculture. When the intra-year price range for corn in a particular year in a specific market is \$.10 per bushel or less, as was often the case in the 1950s and 1960s, there is no great urgency associated with efforts to improve access to, and the quality of, planning information. Policies to deal with issues surrounding public involvement are not the first priority. When the intra-year price range exceeds \$1.00, as was sometimes the case during the 1970s and 1980s and perhaps in 1993-94, production, stocks, flows, and marketing information becomes much more important.

In an overall appraisal in the 1970s, James Bonnen identified a number of reasons for growing concern. The marketplace had changed, had become much more variable, but the information system serving the markets had not changed. Bonnen was concerned that some observers treated data and information as one and the same, that conceptual obsolescence was rampant in that "concepts" that fit earlier needs were no longer appropriate, and that survey techniques were not keeping pace with institutional and market structure changes. He closed his coverage with observations that would appear to be equally appropriate today, and they are repeated here as a baseline on which further discussion can be developed.

Information is an expensive commodity as well as a valuable one. Returns to careful decisions about data and information are high. In the search for an effective information system the economic and statistical models, the estimation and optimization procedures, and the corresponding inferences and choices are interdependent links in the information chain. The opportunity decision cost of considering any one of the above ingredients in isolation is very high The cost of poor decisions and subsequent lack of appropriate information is extremely high. The foundation of effective information management for agricultural decisions is careful design of data and information (Bonnen, p. 407).

The concerns that Bonnen voiced so eloquently are with us in 1994. The accuracy and reliability of USDA reports, the major source of data and information for outlook analyses and efforts, are being subjected to severe, often harsh, criticism. The marketplaces discovering corn and soybean prices for the weather-ravaged crops of 1993 waited, and waited, for "official" confirmation that the crops had in fact been significantly damaged. That information did not come until the mid-November report was released, after the bulk of the harvests, and showed significant decreases from earlier estimates, especially for corn. Since the December report involved no survey information, it will be the January 12, 1994, report that brings some closure to the issue and resolves some of the uncertainty.

The June 1993 quarterly Hogs and Pigs report shocked the market, showing a year-to-year increase of 1 percent in inventory numbers. Some incredulous analysts argued that the correct numbers were more nearly 3-5 percent below year-earlier levels. In the September report, the USDA lowered its estimates of sows farrowing in the December 1992-February 1993 and March 1993-May 1993 quarters that had been reported in the June report--and were a reason for the inflated numbers--by as much as 5.3 percent.

Continuing to list the ongoing problems is not extremely productive. It appears to be a case of persistence by many of the problems that Bonnen articulated in 1977. The institutional arrangement and organizational structure of the swine sector has changed dramatically since the mid-1980s, with that change accelerating in the early 1990s. The controversial June 1993 Hogs and Pigs report apparently used sampling procedures that had not been updated since 1988 at the latest, when the "who and where" of hog production was different and the industry was significantly different.

The importance of recognizing the interdependence in sampling, collecting, measurement, and estimation that Bonnen stressed is obviously still valid. Therefore, in contributing to the dialogue and to a base for policy decisions, there is a need to push beyond the conventional thinking that is already available and probe the issues of interest to the public at large that will be there during the remainder of this decade of the 1990s. In an effort to stimulate and extend our thinking, I will pursue several specific but surely not unrelated theses. In each case, the discussion will build on and extend issues that have been presented, discussed, and at least partially validated empirically in the literature of the 1970s, 1980s, and early 1990s. The theses include:

1. The impact of exposure to risk and/or uncertainty, an impact information such as economic outlook could presumably mitigate, on the level of production at the farm level;
2. The accuracy, effectiveness, and value of public involvement in economic information and public outlook efforts;
3. The implications of the effectiveness of public information and outlook efforts to the viability of price-based exchange and coordinating systems and to long-run market structure; and
4. The possible impacts of expanding and highly visible futures markets on the need for public information and on who the targeted audience for such information should be.

IMPACT OF RISK ON PRODUCTION, PRODUCERS' DECISIONS

Most analysts have reached what would appear to be an intuitive conclusion--that production levels decrease as exposure to risk, especially price risk, increases. In a 1971 effort, Sandmo showed that a risk-averse firm produces less output when there is significant exposure to price risk than it would in the absence of risk. In a 1977 publication, Ishii proved that an increase in price uncertainty is associated with a reduced output level if the firm involved exhibits decreasing absolute risk aversion. Similar results were found for crop production by Lin in 1977, by Traill in 1978, and by Just in a 1974 article. In a 1982 article, Hurt and Garcia showed that sow farrowings are reduced by exposure to increased levels of price risk, leading to reduced supplies of slaughter hogs.

Brorsen, *et al.*, extended the scope and implications of this basic thesis to an examination of the relationship between the size of marketing margins extracted by middlemen and the level of exposure to price uncertainty. Their examination of the U.S. wheat market suggests that price spreads between the farm and milling levels and from the milling level to retail both increased when the price variability of the 1970s exploded onto the scene. The increase in margins meant lower prices to wheat producers, which would in turn mean a lower level of production other things equal, and therefore increased prices to consumers for given levels of consumer demand.

To the extent that more and better (more accurate) information and related improved outlook analyses reduces the level of price risk exposure at the producer level, it would therefore appear that supplies of food and

fiber products will be higher. Increased supplies that are prompted by improved economic information will, in turn, reduce prices of consumer-level products. The public at large has, therefore, a fundamental and perhaps largely irrefutable reason to be involved in supporting the collecting and disseminating of economic information. Since there continues to be a controversy surrounding public efforts in the providing of an information base for economic outlook activities and in the providing of economic outlook, it would appear issues surrounding accuracy and value of reports and of related outlook prescriptions and/or other and perhaps more indirect impacts of public involvement are also present. The theses discussed below continue this line of reasoning.

ACCURACY, EFFECTIVENESS, AND VALUE OF ECONOMIC PLANNING AND OUTLOOK INFORMATION

Bradford and Kelejian looked at the value of improved information in crop forecasting efforts. Better or more accurate crop forecasts would translate directly, of course, into better planning and outlook information. The authors found that gains from improved information in the presence of relatively sophisticated forecasting agents extend in a very significant way to farmers.

Bullock, Ray, and Thabet found that farmers themselves do not necessarily believe they are helped by public reports and publicly supported information. In a survey of North Dakota and South Dakota farmers, 78 percent of the farmers felt USDA releases of information on their current and planned production results in a transfer of wealth from them to grain buyers, processors, and futures or cash market speculators. The authors suggested the farmers were responding based on at least three basic misconceptions: (1) USDA reports must be perfectly accurate to be of value to producers and inaccurate forecasts transfer wealth away from producers; (2) if no USDA reports on crop size were released, prices would be higher, and (3) inaccurate USDA reports are a major cause of resource mis-allocation in agriculture. The authors' analysis, on the other hand, found USDA reports are generally socially "good" if they help move quantity produced closer to the underlying equilibrium quantity.

Hayami and Peterson, in the early 1970s, estimated social returns to improving information. They found that social returns were net positive over a wide range of scenarios even after adjusting for possible over estimation of benefit-cost ratios from any errors in supply and demand elasticities.

Hirshleifer had examined the available literature at about the same time Hayami and Peterson reported their work. He concluded that most researchers have found favorable externalities in the discovery and dissemination of market information and that such activities should be encouraged by public policy.

Moussa and Murota add an interesting dimension to the discussion of "value" surrounding public information, a dimension that will be explored in more detail later in the more nearly prescriptive portion of this paper. The authors conclude that the more nearly perfect (i.e., more effective and efficient) a market becomes in dealing with uncertainty, the greater the social value of public information. Related, the incentives to provide information increase with the effectiveness of the user markets in incorporating the information and registering its influence.

Roe and Antonovitz analyzed the value of accurate price forecasts for cattle feeders. They found that the value of information embodied in highly accurate forecasts range from zero up to \$2.97 per hundredweight for fed cattle. An interesting and useful finding, the authors provide an important caveat to their work: the results should apply only to a situation in which the involved producers are too small, individually or in aggregate, to influence market prices by their marketing actions.

In a more recent effort, Irwin and Gerlow look specifically at the value of outlook economists' price forecasts. They review briefly an earlier and widely quoted effort by Just and Rausser that compared the accuracy of price forecasts by the USDA and four private consulting firms to those offered by discovered prices in futures markets. Just and Rausser had found that, for most crops and livestock commodities, the futures prices were just as effective as the econometric models being used by the USDA and the consulting firms. The Just-Rausser effort used a very short time span, however, and Irwin and Gerlow extended their analysis to a much longer time period and, therefore, to a much larger sample. As a baseline, the authors used what they called a naive long position in the underlying futures markets, and they compared the outlook efforts of the USDA, the University of Illinois, and the University of Missouri for comparable time horizons. The authors conclude that the three outlook programs, for hogs and cattle, do not provide users substantial economic value. As an indirect result, the authors conclude that the hog and cattle futures markets are semi-strong form efficient. Said another way, the outlook forecasts were of little value to users because the informational value they might otherwise have provided had already been incorporated in the discovered prices in the futures markets. Again, a theme emerges that will be extended later in the prescriptive part of the paper.

The Irwin-Gerlow findings raise an interesting issue. If the public (and private) forecasts were more accurate, then they would have more value to users. But they were no more accurate than the futures markets, a price discovery mechanism that is not structured to generate forecasts. It is true that current quotes for distant futures contracts are generally viewed as statistically unbiased estimates of prices for those futures periods. But the futures market has an additional and important function of providing a risk transfer mechanism, and it is easy to demonstrate that the futures market does not have to be an accurate forecasting mechanism to be an effective risk transfer mechanism.

In a 1979 appraisal, Dobson claimed that the then-employed system was operating far below the level permitted by the state of the art. He was concerned that the USDA's record for accurately identifying turning points in prices, an admittedly difficult task, was only about as good as would be produced by chance. Also included in his "need list" was better information on expected future demand, a probability distribution for prices (similar to widely used weather reports), and information on prices under contractual and formula pricing mechanisms.

Without attempting a major effort to update Dobson's work, I wonder whether his criticisms are not still largely valid. The Irwin-Gerlow work is recent, and their findings would suggest that either the "state of the art" is not as advanced as many professional agricultural economists would like to believe or that the models being used are in fact far below the prevailing state of the art. It is an interesting question or dilemma, and it is pursued at a very simplistic level in the following.

In their Livestock and Poultry Situation and Outlook Reports, the USDA provides a price forecast range for the quarter during which the report is released and for the next two calendar quarters. A November 1993 report, for example, would "forecast" prices for October-December 1993 and for January-March and April-June of 1994. For ease of exposition, let t = the current quarter and $t+1$ = the next quarter, January-March 1994 in the above illustration using a November 1993 report. The midpoint of the price prediction for quarter $t+1$ was compared to the eventual average price for the quarter. The forecast errors (actual-forecast) are shown in Figure 1 below. The average error is only \$.05 per hundredweight but the standard deviation is \$5.29. The range of the errors is from near -\$10.26 to +\$16.13 per hundredweight, and 22 of the 63 observations are \$5 or more in error.

Some analysts have criticized using statistical measures such as standard deviation of forecast errors to evaluate effectiveness since a positive error, as defined here, is favorable to a producer as a seller. But we should keep in mind that a buyer is also involved, and a positive error means the buying firm paid more than the forecast

price. So, without getting too deep into the issue, it would appear that looking at the variation, the extremes, and the frequency of errors of various size is in fact useful.

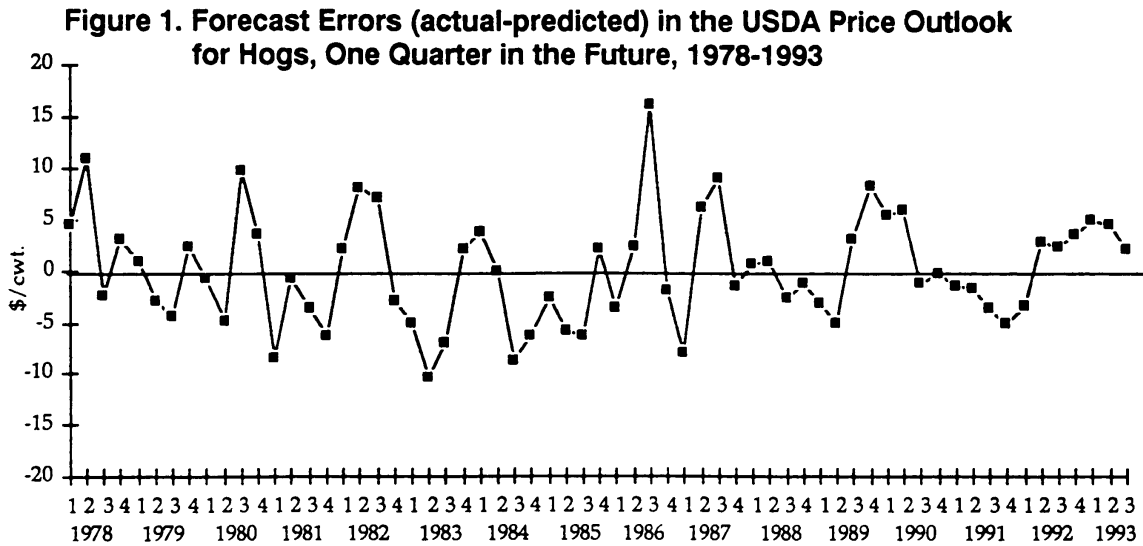


Figure 2 shows a plot of forecast errors across the same time horizon used in Figure 1 using a simple seasonal index as a forecasting mechanism. The average error is $-.01$ per hundredweight and the standard deviation is $\$4.75$. The range in errors was $-\$10.58$ to $\$13.15$, and 22 of the 61 errors were greater than $\$5.00$ in absolute value. It would appear using a simple seasonal index does as well in predicting hog prices one quarter into the future as does the USDA forecasts. In Figure 2, the price was forecast using

$$\frac{SI_t}{P_t} = \frac{SI_{t+1}}{P_{t+1}}$$

and solving for P_{t+1} for known values of the other measures.

Figure 2. Forecast Errors (actual-predicted) in Price Outlook for Hogs Using a Seasonal Index, 1978-1993

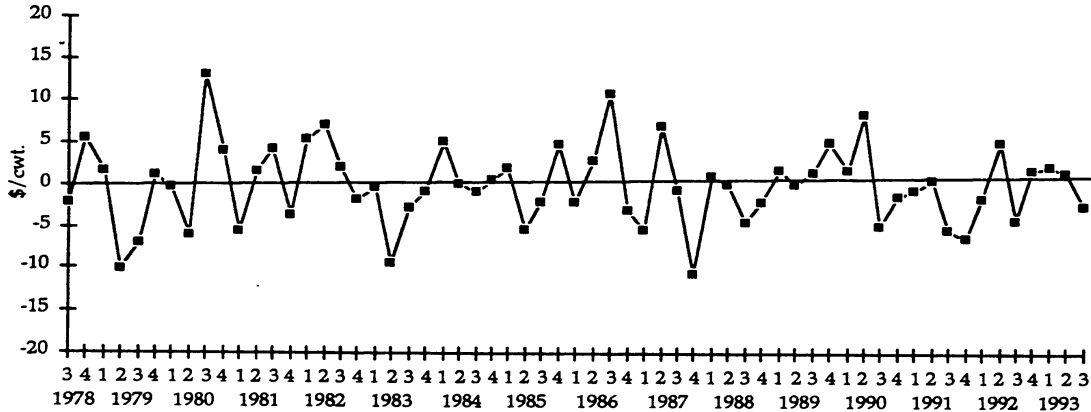
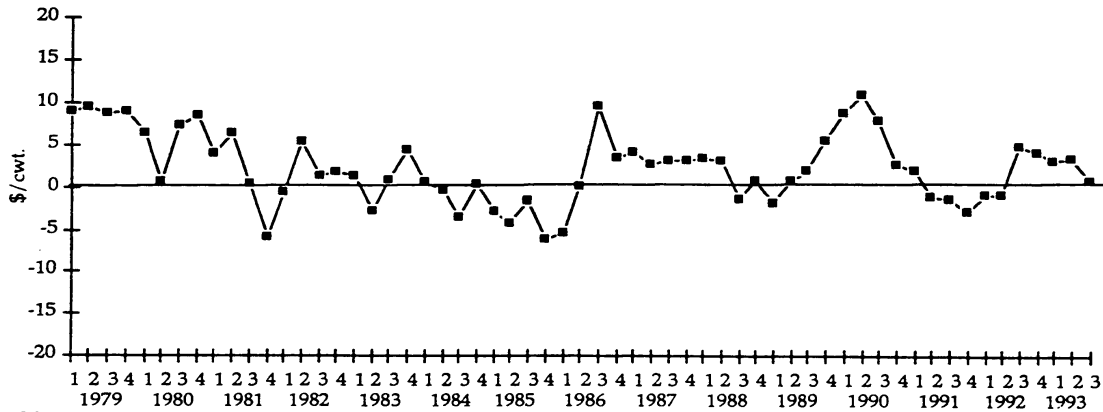


Figure 3. Forecast Errors (actual-predicted) Using Demand Elasticity of -.5 to Predict Year-to-Year Prices, 1979-1993



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Figure 3 shows the forecast errors for hogs for quarters using an elasticity framework. Elasticity of demand for hogs at the producer level was pegged at $-.5$, and year-to-year changes in supply for a given quarter were converted to price changes using the elasticity framework. The mean error is \$2.32 per hundredweight and the standard deviation is \$4.15. The range in the errors was $-\$6.03$ to $\$11.15$. Only 18 of the 59 possible estimates using this approach were \$5 or more in error. This simplistic approach clearly suggests prices were over estimated in 1984-85 when scatter plots suggest pork was experiencing significant demand problems and under estimated prices in 1986-87 and 1989-90 when demand for pork appeared to have improved. A caveat is in order here: The price estimates use actual year-to-year production changes. If production estimates for the $t+1$ quarters were used instead, the forecast errors would likely have been larger and may have been distributed differently. If the errors were adjusted for the \$2.32 mean, about 18 of the 59 observations would have been in error by \$5.00 or more.

But the important point is obvious. The price forecasts offered by the USDA are error prone and the errors are often of a financially disastrous magnitude. Across virtually any five-year period, the net margins to hog producers will average less than \$5 per hundredweight. This brief and anecdotal look at the accuracy of outlook information suggests major problems in the supply-demand data bases being used in the models,

ineffectual modeling and analytical efforts, or both. Performance like that documented in Figure 1 will always be criticized and will raise doubts as to the value of public information and outlook efforts.

IMPLICATIONS OF PUBLIC INFORMATION TO THE VIABILITY OF THE PRICE MECHANISM AND TO MARKET STRUCTURE

The conventional marketing systems for food and fiber products have been open market exchange systems. Prices and pricing signals have been the coordinating mechanism and have, presumably, been the agent of change or the catalyst to ensure that what is produced is consistent with what is in demand at the consumer level. To be effective in this important role, the prices developing from the competitive auctions and the one-on-one negotiations need to be based on good information. Grades must effectively categorize important value related product attributes, and both buyer and seller must be negotiating from a common understanding of what constitutes value. Any very importantly, the seller--especially the small producer of agricultural products--must have something approaching an equal knowledge of the underlying supply-demand forces that determine the "true" price. If these conditions are not met, then the price signals are not sharp, the communication effectiveness of the entire system slips, and we face the possibility of what Williamson and others started to identify as early as the 1970s as a "failure" of the open market price-based systems.

The efforts by Williamson, by Godwin and Jones, and by Purcell in the 1970s continued a theme, a warning, that other agricultural economists had raised in the 1950s and 1960s: If the price-based open exchange systems do not improve inter-level coordination of activity in our production-marketing systems, they will eventually be replaced by contracts or vertical coordination which allow coordination to be ensured by management directives. Purcell and Dunn and Rathwell and Purcell found evidence of goal conflicts and operational inconsistencies in the beef systems in the 1970s. Williams and Farris documented efficiencies and lower cost production in integrated production systems compared to systems where each level of activity involved a purchase and later sale in the open market. Other researchers have reached similar conclusions.

In the early 1990s, there is an abundance of evidence to suggest the long-standing warnings are coming true--that price-based markets that are not effective in achieving coordination across functions will be replaced by contractual arrangements and integrated structures. Alchian and Demsetz had put this issue forward in an interesting way over 20 years ago. They discussed types of cooperative action and organizations and advanced the idea that a firm, by bringing a number of the technically related inputs and functions under its control, starts to compete with the conventional markets. The firm becomes the coordinating mechanism, and it ensures a level of coordination the price mechanism is unable to achieve with available information and within existing market structures. The market structure then changes, and that is precisely what the pork processors of 1994 are doing as they control genetics, reduce quality variability, schedule slaughter from owned or contracted production programs, and bring an alignment between what is being produced and what modern consumers demand.

There is, then, a possibly compelling reason for public involvement in information and outlook, a reason that may not have received enough attention. If society values an atomistic structure in production agriculture made up of many relatively small producers, then there is reason to seek to improve the performance and effectiveness of the pricing mechanism by improving the information available to buyers and sellers. That could mean, for example, moving to pricing wheat more explicitly in terms of protein levels, pricing varieties of soybeans in terms of the quality of the oil they produce, pricing fed cattle and hogs on a carcass evaluation basis to eliminate the uncertainty that still characterizes liveweight purchases, especially in cattle. It would mean, perhaps, a more pervasive and more sophisticated system than now exists, but one can argue the added investments are worth it because our conventional market systems--which we have valued so highly in our farm and rural development policies--are arguably at risk.

The critic might object to public expenditures and argue that the private sector will provide the needed information. I doubt it. Gorham argued some years back that private services tend to "fill in the gaps" rather than compete with USDA and other public sources. He is probably right, and the need may reach crisis proportions before the private sector steps in. The current disastrous situation in reporting in the swine sector suggests this presumption is right. And before the crisis swells to proportions private reports do fill in, it may well be that the large firms in our increasingly concentrated markets become the "market" and eliminate reliance on prices--which is exactly what is happening in pork, beef, vegetables, and some grains and oilseeds today. It does in fact appear that there is a compelling reason for the public to ensure that quality information is available to buyers and sellers in our price-based systems.

IMPACT OF GROWING FUTURES MARKETS

In earlier discussion, the point by Moussa and Murota on the importance of information in "perfect" markets was examined. It has an interesting if indirect implication. If there is available a market and price discovery process that is highly efficient, where efficiency is related to how completely all available information has been incorporated and imbedded in the discovered price, then the value ascribed to other and separate outlook efforts might well be diminished. This appears to explain the findings of Irwin and Gerlow. Efficient hog and cattle futures markets were already offering, to every observer, the information presumed to be imbedded in the outlook efforts of the USDA and the universities studied. Is the same thing happening in the grain and oilseed markets, in cotton, in crude oil, in interest rates, in foreign currency exchange rates? Most analyses conclude these price discovery markets are relatively efficient. How many firms still pay private consulting firms for forecasts of prices, inflation rates, and interest rates?

The possibilities are intriguing. Have the persistent and, some would say, growing criticisms of public efforts in providing economic information and outlook paralleled the growth in futures markets offerings and trade? Is there cause and effect, or is there just association? The answers to such questions are not apparent, but the dilemma they raise may deserve attention. It would appear that the quality and accuracy of information and outlook efforts will have to be improved if public involvement in such is to have obvious value over and above the information embodied in futures trade. If that improvement is not to be forthcoming because of a lack of funding, a lack of interest, or a lack of ability, then the other and perhaps complementary side of the coin emerges. Activities might instead focus on the information needs of analysts, traders, and market participants who are active and involved in discovering the futures prices. The needed information then flows somewhat indirectly to the small producers or entrepreneurs, but the viability of their operations and the viability and effectiveness of the open exchange systems might still be effectively protected and enhanced. This theme will be pursued in the prescriptive portion of the paper that is developed below.

A LOOK AHEAD

The discussions about public involvement in information gathering and dissemination will continue as we move toward the year 2000, and they will intensify. The criticisms of recent months and years will not disappear and they are likely to become more strident. We are caught up in an era of change, pursuing often elusive issues that are somewhat new to us, and this recipe for volatile times will not go away. It behooves us, then, to try to focus attention on the truly important issues and to move the dialogue about policy formation and policy change into the arenas where the public interest is or should be most apparent.

It will not be easy. We need a broad and analytical treatment of an area that has not been, historically at least, conducive to breadth and analytical rigor. In the collection and dissemination of economic information, the public involvement spans the land grant universities, state agencies, the Department of Commerce at the federal level, and many agencies within the bounds of the U.S. Department of Agriculture. It is, then, not difficult to see why actions and policies are often fragmented and micro in orientation when a broader, more nearly macro, and analytical approach that ties all the pieces together is what is needed.

Having recognized it will not be easy, it is imperative that we get it done. The public interest in the 1990s goes far beyond the historical thrusts of getting information to the small producer to level the playing field and to try to ensure producers will be protected by at least a modicum of competition between and across buyers. Those were and still are admirable goals and we should not ignore them. But in the 1990s, the public efforts are being carried forward in a significantly different operating environment. Markets for food and fiber products are concentrated to an extent without historical parallel. There are huge and powerful players, especially at the processing level, who are becoming increasingly impatient with perceived inadequacies in our traditional exchange-oriented and price-driven marketing systems. If those price-oriented systems do not become more effective as coordinating mechanisms, the predictions that have been a persistent thread in the literature since the 1950s will come true--the price-based systems will be replaced.

There are numerous and clear signals in our farm and rural development policies that the public is interested in perpetuating an economic structure characterized by a number of aggressive, innovative, and competitive independent entrepreneurs. That type of structure typically relies on transaction prices to move the food and fiber product from the producer as a profit center to the processor as a separate (but technically related) profit center, and on up toward the final consumer. If the large processor in our increasingly concentrated markets gets the raw material inputs it needs from independent producers when needed and at a consistent quality, the incentive to integrate vertically into production and/or control production by closely specified contractual arrangements is diminished. It is reduced to the incentives associated with being more efficient in production, and there are numerous indicators that an independent producer who is large enough to spread machine costs over at least modest production levels and can put together a truckload lot of consistent, high quality hogs, for example, can compete in production efficiency. The same is true for other food and fiber commodities. It will be the lack of inter-level coordination--the wrong quality, high levels of quality variation, poor or unscheduled timing in the quantity dimension--that will then drive the processor toward coordination by non-price means.

It is essentially a tautology that pricing, price discovery, pricing accuracy, and pricing efficiency are tied closely to the available information base. Price cannot be effective as a coordinating mechanism if the information on which it is based is inaccurate, inappropriate, or comes up short along important dimensions. A soybean processor/exporter who is developing a market in Japan for high quality soy oil must have the right type of soybean, of consistent quality, and when he needs the soybeans. A pork processor who is responding to the consumer market by offering a high quality cut of branded fresh pork that reduces preparation times in the kitchen must have the right hogs consistently if brand identification, promotion, and guarantees of satisfaction are to be extended. But if the independent soybean or hog producer is to meet those needs, what the processor needs must be made clear during the pricing process and all significant value-related dimensions of the product offering must be brought into the pricing process.

The need, then, is for quality information along a broad continuum. Grades and product descriptors must be refined and highly specific. If there is still lots of value variation within #1 barrows and gilts weighing 230-250 lbs., we need (and we are getting) much more refined grades and descriptors. If high protein wheat is of value to a miller producing a particular bakery product, then we must have a pricing mechanism that clearly rewards the producer of high protein for at least a part of the increased value. If sampling errors in our Hogs and Pigs reports, our Cattle of Feed reports, our Crop Production reports and our Stocks reports are so large the data

collected lead to error prone planning and poor price forecasts, they need to be improved. If a critical report like the Prospective Plantings report, released before planting, which establishes the first estimate of planted acreage (and therefore supply) for each year is ever based on a questionable or out-dated sample, then it needs to be fixed. The final outlook effort will be no better than the base information that goes into the effort.

The first charge, therefore, is to recognize the interdependence of the sampling, modeling, analytical, and distribution efforts and to do all these things well. If we have lacked the public will to make the investment needed when the traditional reasons for public involvement were examined, perhaps the willingness will be there if we recognize that we are also setting the stage for the organizational structures we will see in decades ahead. We clearly do care, as a collective public, how our markets are structured. And anyone who does not recognize that failures in our pricing mechanisms, which I submit can be traced at least in part to inadequacies in our information base and our outlook capabilities, have contributed to the demise of our pricing systems in many sectors of our economy has not been paying attention to the real world developments of the past 10 years and particularly the early 1990s.

The second charge, and it is related, is to recognize the now widely available futures trade as a source of planning and outlook information. But public involvement in information and the existence of growing futures trade are not necessarily competitive. The one should not be seen as a replacement for the other. In fact, the two may be highly complementary. Spilka argued that the massive efforts of the USDA in collecting and disseminating information is a reason for the successful introduction and trade in commodity futures, and he is assuredly right. When analysts argue the futures market offers planning information that makes outlook information of low value, we have to recognize what is in fact happening. It is the public data, in large part, that has allowed the hog, cattle, corn, cotton, or orange juice futures to discover that useful price for some future month. One might argue this makes the public outlook effort somewhat redundant, but this argument surely cannot be extended to the base of information on which prices are being discovered. If that wealth of public information were to be withdrawn, the futures markets themselves would falter and be far less effective as a price discovery mechanism.

This second "charge" needs to be extended to look at taking advantage of the complementarity which may be present. If the futures prices do in fact contain much or most of the useful information, then given its ease of accessibility, public efforts to enrich the information base being pulled into the futures markets ought to be considered. The distribution of at least price information is made easy--everyone has or can get access to futures quotes at zero or nominal costs, depending on how much detail you want. Then why not make those prices and the underlying price discovery process as good as they can possibly be? Policies and planning surrounding public collection and dissemination might seek and pay close attention to the information needs or wants of professional market analysts in the brokerage and advisory firms, hedgers who use the futures markets, and speculators who contribute to the price discovery process. The partnership can be extended to futures contract design and modification, to changes in delivery procedures, to moves to cash settlement using public price series, etc. The possibilities are many.

But the first charge will always be there as a necessary condition for improvement. We must have high quality information that is not fraught with error and is not presented in such a way that still allows for widely varying interpretation by users. Whatever the distribution mechanism, this need has to be met and we have to do what is necessary to ensure it is met. If there is no other overriding message in the literature, there is one that points to net value for public involvement to help ensure competitive prices and economic activity. If that persistent message is not sufficient to prompt us to fix a system that appears to be broken along several dimensions, then I hope my extending the reasons to one of helping ensure the viability of pricing systems we have valued as a society will prompt the needed actions.

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