



Executive Summaries

Eliciting and valuing market preferences with traditional food crops: the case of chickpea in India

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India is the world's largest producer and consumer of chickpea. During the past decade the Indian chickpea industry underwent a dramatic structural shift following the implementation of market-oriented policies by the GOI. Relative to other commodities, such as wheat, rice, vegetables, oils and milk products, demand for chickpea (and pulses generally) has actually weakened in India over time. Some of this can be explained by the paucity of technological progress in pulse production in India relative to advances in production of cereals, oilseeds and milk production resulting in relatively lower prices for the latter. Despite the slackening in per capita demand for chickpea over time, frequent shortfalls in domestic production of chickpea in India—combined with a more liberal trade policy environment opened up interesting possibilities for surplus chickpea producing countries. Despite the size and potential of this market (5–6 million metric tonnes of chickpea consumed annually in India alone), little is known about preferred quality characteristics and associated price premiums for this commodity.

This study evaluates the market preferences of consumers of chickpea in India. A hedonic price model for chickpea is specified and estimated using data from auction markets to derive the implicit values of quality characteristics of chickpea in India and to examine whether consumers differentiate between chickpea varieties based on specific quality characteristics. Results indicate that for desi-type chickpea, the factors influencing price are seed shape, color, weight, splitting recovery and foreign matter content. For kabuli chickpea, the most important factors influencing price are foreign matter content and seed weight. The chemical quality characteristics of chickpea, represented by ash and protein content, appear unimportant in influencing the price.

Knowledge about implicit values of quality characteristics indicates which characteristics should be concentrated on and which characteristics could be safely ignored or de-emphasized or allowed to vary. The implicit values of quality characteristics of chickpea reported in this study are important for breeders and policymakers because it provides strategic information and aids in the efficient allocation of scarce resources. This study

provides strong empirical evidence to support the assertion that consumers in India do indeed discriminate between varieties of chickpea based on preferred seed quality traits and purity considerations. This provides a basis and incentive for chickpea breeders and producers, both domestic and export-oriented, to improve the physical quality characteristics of chickpea and purity standards to position themselves more advantageously in this potentially lucrative chickpea market. For exporting countries, it is important to anticipate the potential reaction of market participants to changes in quality characteristics of chickpea before developing new chickpea varieties and appropriate agronomical practices. This is because the success of any marketing strategy will depend on the ability of traders and consumers to differentiate between quality characteristics whether they be imported or domestically produced. With increasing awareness of the beneficial nutritional and other non-nutritional values of a diet rich in pulses there will be an even greater tendency for consumer discrimination of chickpea varieties in India.

Does the producer have an incentive to sell fed cattle on a grid?

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The traditional industry practice of selling fed cattle at an average price has been identified as the principal barrier in the marketing supply chain to the transmission of consumer preferences for particular types of beef product back to the producer. Market inefficiencies (excess fat production, inconsistent meat quality, etc.) associated with selling fed cattle by the pen at an average price, relative to selling cattle individually on a value-based marketing system, have been subjects of academic research and industry concern for over a decade.

The continued dominance of average pricing over valued-based pricing in the cash market for fed cattle, despite intensive efforts by industry and extension services to endorse and promote value-based marketing alternatives, is hypothesized to be the result of the interaction of incomplete information about carcass quality and the aversion of buyers and sellers of fed cattle to risk. These hypothesized cash market attributes result in disparities between pricing systems: (1) price differentials between grid and average pricing alternatives, and (2) increased price variability associated with grid pricing relative to average pricing. These disparities constitute barriers to the broad adoption of grid pricing by fed cattle producers. The research in this paper investigates if the barriers to the adoption of grid pricing by fed cattle producers are empirically verifiable over time.

The empirical results reported in this study are based on two data sets containing 1,500 head of slaughter steers each. One set is 33% quality grade select and 67% quality grade choice. The other set is the opposite quality grade mix. Each set is evaluated using weekly USDA-AMS reported grid price data and hot carcass weight price data. Weekly pen level average per-head revenue and pen level price per cwt. data were collected over a 4-year period. Simple hypothesis tests were conducted using weekly summary statistics. A two-stage recursive regression model was used to analyze variability in the weekly price differential over time.

The empirical analysis finds: (1) the price differential between grid and average pricing of fed cattle is persistent over time, (2) per-head revenue variability over time is higher when fed cattle are sold on a grid relative to being sold at an average price, (3) packers are sending

consistent signals concerning the type of cattle they are willing to pay a premium for and the type of cattle they will penalize, (4) both the discount for below-average quality cattle and the premium for above-average cattle have been increasing over time, (5) the price differential is subject to seasonal variation and this characteristic needs to be considered by producers when making marketing decisions, and (6) empirical evidence indicates that packers adjust grid premiums and discounts to changes in the market price for slaughter cattle.

We conclude that barriers to the adoption of grid pricing continue to exist and that average pricing will continue to dominate the cash market for fed cattle. Therefore, the problems of excess fat production and inconsistent meat quality associated with average pricing will continue to plague the industry. The segmentation of the market for beef into two submarkets, branded product versus commodity product, may be in the industry's future.

The impact of trust on cooperative membership retention, performance, and satisfaction: an exploratory study

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Research Question

The cooperative form of organization is widely used in the food and fiber chain to realize economic benefits that would not otherwise be available to individual producers, processors, retailers, etc. Relationships *among* members of agricultural cooperatives and *between* members and the management of such cooperatives are thus an important part of the food and fiber chain. Managers and scholars alike have recognized the importance of trust in these relationships. Therefore the attainment of the economic benefits of the cooperative form of organization hinges, at least in part, on the trust that exists in these cooperative relationships. This study is motivated by a desire to better understand the role and effects of trust in these relationships.

Study Description

A brief review of the management literature regarding trust is offered in this paper. Cognitive (thinking) and affective (feeling) dimensions of trust are explained. Distinctions are drawn between trust felt *among* members of cooperatives and trust felt *between* members and management of cooperatives. Hypotheses are developed which suggest the relative effects of cognition-based and affect-based trust on group cohesion (a measure of members' desire to remain part of the cooperative) and members' economic performance and satisfaction with their cooperative membership.

A survey methodology was used to test the hypothesized relationships. The memberships of two agricultural marketing cooperatives located in the Southeastern United States were surveyed. Cooperatives that were different in important ways were chosen in an effort to increase the generalizability of the results. One of the cooperatives markets grains while the other markets cotton fiber. The marketing services offered by the grain cooperative are relatively simple and straightforward while the marketing services offered by the cotton cooperative are more complex. Also, the geographic area served by the cotton cooperative is

much larger than the area served by the grain cooperative. Survey data were analyzed using multiple hierarchical regression.

Findings/Results

First, the question of whether the two types (cognitive and affective) of trust influence a member's desire to remain in the cooperative is addressed. Empirical results suggest that in both cooperatives trust *among* members (both cognitive and affective) was a significant predictor of group cohesion. However, the two cooperatives differed with regard to trust *between* members and management. In the grain cooperative affective trust was important, whereas cognitive trust was important in the cotton cooperative.

Second, the relative importance of affective versus cognitive trust was assessed. In the grain cooperative, affective trust was found to be a better predictor than cognitive trust of members' desire to remain in the cooperative both *among* members and *between* members and management. On the other hand, there was no difference in the effects of cognitive and affective trust *among* members. *Between* members and management of the cotton cooperative cognitive trust had an effect on members' desires to remain part of the cooperative while affective trust did not.

Third, in both cooperatives cognitive and affective trust had a positive effect on performance and satisfaction at both levels (*among* members and *between* members and management). However, in the grain cooperative affective trust had a greater effect than cognitive trust at both levels. In the cotton cooperative, cognitive trust had a greater effect than affective trust at both levels.

Management Implications

This research suggests that managers of cooperatives may benefit from recognizing that different types of trust are at work in different contexts. In general, cognitive trust will have greater influence under conditions of complex services and greater geographic dispersion. Thus, managers of cooperatives offering relatively complex services across a large geographic area would likely be better served by offering cooperative members objective information that can be cognitively processed.

Conversely, in cooperatives marked by more simple, straightforward services and lower geographic dispersion affective trust will likely be more influential in relationships. Managers of this type of cooperative would be better served by providing members with opportunities to have social interaction with other members and management so that affective trust is fostered.

Changes in market equilibria resulting from food safety regulation in the meat and poultry industries

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1. Research question: The primary research question to be addressed is what were the market equilibria impacts resulting from implementation of the HACCP "Mega-Reg."

Specifically regarding the meat and poultry sectors, who benefited and who paid for HACCP/food safety regulation—the producer, the retailer or the consumer.

2. Study description: This study presents a unique view on the USDA FSIS implementation of the so-called “Mega-Reg” authorizing establishment of regulatory HACCP procedures and the associated performance standards for *Salmonella* and zero visible fecal material on carcasses. Surveys were sent to plant managers of the 11 firms participating in the HACCP Roundtable at the University of Arkansas. Results of the survey were used to create HACCP implementation costs estimates for poultry kill plants and perform welfare analysis the using EDM. Welfare effects on the producers, retailers and consumers of beef, pork and broiler meat were estimated.
3. Findings/results: Results show average welfare losses of up to 35 million a year for the broiler industry. Consumer mean welfare losses are higher than those for producers (up to \$197 million per year) but are contingent on reduction in foodborne illness. However, even these underestimated costs of HACCP compliance result in a substantial decrease in social welfare. More information on human health improvement has to be gathered to assess total consumer gains and losses. Results of this study indicate that social welfare loss (a sum of consumer, producer, and retailer surplus changes) for all meat products exceed \$2 billion per year.
4. Management implication: An intervention policy to enable production efficiencies to offset regulation expense for the industry might be necessary to compensate for these welfare losses. An example of such a policy intervention is the recently implemented HIMP for processors of young poultry, market hogs and fed cattle. Dollars saved from the government inspection function could be reallocated for other purposes, such as food handling and food preparation education initiatives. In addition, efficiency gains in the plants would help to offset the additional costs to processors of “Mega-Reg” implementation. Find out more effective methods to fight foodborne illness, e.g., education.

The derived demand for imported cheese in Hong Kong

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The Federal Agriculture Improvement and Reform Act of 1996 (FAIR Act) legislated a phase out of dairy price supports by January 1, 2000. This phase-out was recently extended through 2001. As a result of the General Agreements on Tariffs and Trade (GATT), subsidized U.S. dairy exports, as well as exports from other countries, were reduced 21 percent by the year 2000 with more reductions expected as trade negotiations continue. These changes in policy and the reduction of the number of dairy farms have made gaining a larger share of world dairy exports more important to U.S. producers/processors. Of all international markets investigated by USDEC, Hong Kong had been identified as having significant growth potential in demand for U.S. dairy products.

The objective of this article was to provide the U.S. dairy industry with empirically estimated elasticities of Hong Kong’s derived demand for imported cheese differentiated by country of production. These estimates were used to assess the relative competitiveness of

cheese imported from the U.S. with cheese imported from other countries. The elasticities also were used to simulated the effects of EU subsidy reductions on the U.S. share of Hong Kong cheese imports.

The results indicate that when total cheese imports into Hong Kong change, U.S. cheese imports will change by a larger percent than that of other exporting sources. This means that as Hong Kong's per-capita income changes and/or population increases, the percentage change in the United States' exports into Hong Kong will change by more than any other country and the U.S. market share will increase.

The derived demand for U.S. and EU cheese in Hong Kong is highly elastic, with the demand for U.S. cheese being the most elastic of all the exporting sources. This means that a change in the U.S. price will cause a larger change in the quantity consumed of U.S. cheese than that of any other country. If the U.S. reduces the price of its cheese, the total revenue for the U.S. will increase because the quantity sold will increase by a larger percentage than the decrease in price. Furthermore, when the U.S. lowers price, this reduces the quantity sold by the EU and the ROW. This will increase the market share of the US. Oceania is not likely to lower price because this will decrease its total revenue.

A competitive relationship between exporting sources for cheese imports into Hong Kong exists between the U.S. and the EU and ROW. Thus, if the price of EU or ROW cheese were to change, the quantity of U.S. cheese demanded will also change in the same direction as the EU and ROW price. Therefore, as EU cheese price increases as the EU reduces its export subsidies, the U.S. will increase imports into Hong Kong. A competitive relationship does not exist between the U.S. and Oceania. This indicates that the U.S. is not competitive with Oceania, the largest imported in Hong Kong.

Finally, the U.S. will gain a larger market share in Hong Kong when the EU decreases its export subsidies which will increase the price of EU cheese imported into Hong Kong. In terms of percentages, Hong Kong imports of cheese from the U.S. will increase by approximately 12 percent if policy continued and approximately 21 percent if reductions in subsidies were twice the current rate. Oceania imports will increase approximately 6 and 10 percent, respectively. Thus, the U.S. will increase its market share.

In conclusion, the U.S. does not compete with Oceania, the largest cheese importer in Hong Kong. Oceania is not likely to reduce price because it will reduce total revenue and the quantity increase will be marginal. In fact, a price change by Oceania does not change the quantity of U.S. cheese demanded. The demand for U.S. cheese and the demand for Oceania cheese are independent. The U.S. competes with the EU and the ROW in the Hong Kong cheese market. The U.S. has incentive to decrease price in order to increase total revenue and increase market share. The implications are that the U.S. must compete on the basis of price. Second, the U.S. must determine the characteristics of the cheese that is sold by Oceania and compare them to the U.S. cheese. This will help the U.S. to become competitive with Oceania through product characteristics.